YOUTH-INFORMED SEXUAL HEALTH EDUCATION: A SYSTEMATIC REVIEW AND STUDY TO EXPLORE THE SCHOOL-BASED NEEDS AND INTERESTS OF YOUTH

A Dissertation

by

JENNIFER LEIGH FARMER

Submitted to the Graduate and Professional School of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Chair of Committee,	Kelly Wilson
Committee Members,	Adam Barry
	Patricia Goodson
	Lisako McKyer
Head of Department,	Adam Barry

December 2021

Major Subject: Health Education

ABSTRACT

This 3-paper dissertation examines the school-based sexual health education needs and interest of youth. To illustrate what is currently known regarding this topic area, the first paper presents findings from a systematic literature of studies from around the world that directly asked youth what they want to learn in school about sexual health. As shown in this paper, youth desire relevant and respectful sexual health education that covers a comprehensive range of physical, emotional, and social content. Findings from this review also revealed a significant need for additional research regarding this topic area as the limited number of included studies often lacked sufficient detail to guide educators in the selection and facilitation of specific content. The second and third papers of this dissertation present a study designed to identify how important youth believe it is to learn in school about content and skills represented within the National Sexuality Education Standards (NSES). The second paper provides a detailed overview of the survey development process, as well as the level of importance youth place on learning in school about pregnancy, sexually transmitted infections, and related influencing factors. The third paper focuses on level of importance for learning about relationships, identity, and safety, in addition to instructional preferences for learning about sexual health. Findings from the study revealed overwhelming support for the content and skills represented within the NSES. All topics were considered on average to be “important,” “very important,” or “extremely important” to learn in school; however, statistically significant differences did emerge based on age, gender, race, ethnicity, and

sexual experience. School-based instruction was also identified by youth as their top preferences for where, how, and from whom they would like to learn about sexual health.

ACKNOWLEDGEMENTS

I would like to thank my committee chair, Dr. Wilson, and my committee members, Dr. Barry, Dr. Goodson, and Dr. McKyer, for their guidance and support throughout the course of this research. Thank you to Patti Van Tuinen for your early mentorship as I entered the field of health education and for igniting my passion for youth voice and empowerment. Thanks also go to my fellow grad students who patiently listened to my ideas and offered valuable advice. Finally, I want to say thank you to my family. Words cannot express how thankful I am to my husband for his continued patience and support and to the rest of my family for their love and encouragement.

CONTRIBUTORS AND FUNDING SOURCES

Contributors

This work was supervised by a dissertation committee consisting of Dr. Kelly Wilson, Dr. Adam Barry, and Dr. Patricia Goodson of the Department of Health and Kinesiology and Dr. Lisako McKyer of the Texas A&M School of Public Health.

All other work conducted for this dissertation was completed by the student independently.

Funding Sources

LifeWorks Youth and Family Alliance in Austin, TX supported this study by providing youth and young adults seeking services through LifeWorks with an opportunity to participate in the cognitive interview process used to revise the instrument developed for this study. In addition, LifeWorks provided meeting space to host two cognitive interviews.

NOMENCLATURE

ANOVA	Analysis of Variance
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
EFA	Exploratory Factor Analysis
RMSEA	Root Mean Square Error of Approximation
SRMR	Standardized Root Mean Square Residual
NHES	National Health Education Standards
NSES	National Sexuality Education Standards

TABLE OF CONTENTS

Page

LIST OF FIGURES

Page

LIST OF TABLES

Page

1. INTRODUCTION

1.1. Abstract

This dissertation presents findings from a study to identify the school-based sexual health education needs and interests of youth. Youth have traditionally been excluded from decisions related to what they learn in school; however, dissatisfaction with the current educational experience and significant health disparities strongly support listening and responding to the needs of youth to ensure sexual health education is effective. To illustrate what is already known, a systematic literature review representing two decades of similar research from around the world is presented. Results also include findings from a survey developed for this study and implemented with high school-age youth to assess perceived level of importance for learning specific sexual health content and skills in school. This dissertation concludes with recommendations for application of findings and future research.

1.2. Background and Rationale

As a society, we hold youth accountable for their actions yet too often fail to ensure they acquire the essential information and skills needed to make informed decisions regarding their health and well-being (Keller, 2020; SIECUS, 2020). This paradox of navigating adolescence without a proper roadmap is epitomized by the current state of adolescent sexual health and school-based education. A patchwork of policies and practices has resulted in a diverse range of educational experiences for youth in the United States (Constantine, 2008). While some youth benefit from

inclusive, fact-based information, others receive inaccurate and/or insufficient information (Elia & Tokunaga, 2015; Wiley & Wilson, 2009). Most concerning, a significant number of youth experience harm from stigmatizing, ideology-driven education (Hauser, 2005; Santelli et al., 2017).

At the center of this distressing reality is the fact that adults have traditionally assumed the role of decision maker regarding the sexual health knowledge, skills, and resources youth need to learn (Cook-Sather, 2002). As such, education-related decisions are made based on adult perceptions of risk, need, and appropriateness of content (Millstein & Halpern-Felsher, 2002). Furthermore, adults are responsible for determining standard measures of effectiveness (Allen, 2005). Given the breadth and depth of possible outcomes associated with such decisions, it isn't surprising that sexual health education often fails to meet the needs of youth (Hall et al., 2016), especially the needs of youth who have been marginalized by society (Elia & Eliason, 2010).

Little is known about what youth want to learn in school about sexual health (Kimmel, 2013); however, youth dissatisfaction with previous educational experiences is well documented. Research has shown that youth believe existing sexual health education: 1) begins too late, 2) isn't relevant to their life, 3) is unengaging in format and instruction, 4) narrow and negatively focused, 5) heteronormative, and 6) taught by underqualified, untrustworthy educators (Corcoran et al., 2020; Pound et al., 2016). Despite this review, school is still identified by youth as a primary and preferred source for learning about sexual health (Coleman, 2008). Together, these findings strongly

support the need for youth guidance to ensure all youth receive an effective school-based education (Byers, 2013).

The need for youth to play an active and meaningful role in the development, implementation, and evaluation of sexuality education has also been recognized within a growing body of literature (MacDonald, 2011). Youth participation in this process is vital to ensuring sexuality education centers the current lived experiences of youth rather than relying on preplanned, adult-driven educational agendas (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2018). Furthermore, respecting and valuing the educational needs of youth is rooted in the belief that access to effective, inclusive, and comprehensive sexual health education is a basic human right (Lowe, 2018).

While the United States continues to support the implementation of programming proven to be inaccurate, unethical, and ineffective (Santelli et al., 2017), significant progress has been made to improve school-based sexual health education. The National Sexuality Education Standards (NSES) are a prime example of this effort, helping educators to provide instruction that is inclusive, age and developmentally appropriate, and medically accurate (Future of Sexuality Education [FoSE], 2012 & 2020). Given this movement is designed to benefit the health and wellbeing of all youth, now is the ideal time to gain insight and understanding from youth regarding their educational needs and interests as well as a good time to evaluate and leverage their support for existing educational practices such as the NSES.

1.3. Specific Aims

The long-term goal of this dissertation is to enhance the health and wellbeing of adolescents through relevant and engaging school-based sexual health education. I hypothesized this study would provide a thorough understanding of youth's needs and interests regarding sexual health education at school. The immediate objectives of this study were to: 1) identify what youth believe is important to learn in high school about sexual health, 2) determine if age, grade, school, gender, race, ethnicity, or sexual experience influenced the level of importance students placed on different sexual health topics, and 3) identify where, how, and from whom youth prefer to learn about sexual health. I proposed three specific aims to meet these objectives.

Specific Aim 1: Conduct a systematic literature review to identify what is already known about the school-based sexual health education needs and interests of youth.

Specific Aim 2: Develop a survey instrument designed for high school students to identify how important they believe it is to learn, in school, about the sexual health content and skills represented within the National Sexuality Education Standards.

Specific Aim 3: Implement a survey to identify how important high school students believe it is to learn, in school, about the sexual health content and skills represented within the National Sexuality Education Standards.

A primary responsibility of health educators is to assess the needs of their intended priority population and examine influencing factors related to the learning process (National Commission for Health Education Credentialing [NCHEC], 2015);

however, this critical component for determining appropriate educational activities often does not occur with students (Cook-Sather, 2002). This research study addresses this gap in practice by directly assessing what youth consider to be important and of interest to learn about sexual health in a school setting. Findings from this study support educators and other youth serving professionals in the selection and implementation of relevant and practical information. As a result of centering the needs of youth, sexual health education can help provide the knowledge, skills, and resources students need to make informed decisions about their own health and wellbeing (Cook-Sather, 2002; Kimmel et al., 2013).

1.4. Approach & Findings

1.4.1. Specific Aim 1: Conduct Systematic Literature Review

Given the current lack of information available related to the school-based sexual health education needs and interests of youth (Kimmel, 2013), this study began with a systematic literature review to identify and consolidate what is already known about this topic area. To the best of my knowledge, this systematic review represents the first of its kind. Studies published around the world between 1997-2018 were eligible for review if they were published in English, included youth 19 years old or younger, and did not include individuals over the age of 25 years. In addition, this review specifically focused on studies that asked youth for guidance regarding their educational needs and interests rather than studies that evaluated previously received sexual health education or studies that were not specific to the school setting. A total of 23 studies representing 8 countries were included in the final review.

Chapter 2 within this dissertation presents findings from the systematic literature review, including needs and interests related to content, educator characteristics, classroom environment, and instructional methods. Described in detail within paper 1, youth desire sexual health education that provides relevant, practical, and holistic content related to the physical, emotional, and social aspects of sexual health. Furthermore, youth desire to learn from qualified, trustworthy, and respectful educators in a safe and supportive learning environment through a variety of engaging and interactive teaching methods. This review also revealed the need for additional youth elicitation research as the overall findings lacked sufficient detail needed to guide educators in the selection and facilitation of specific sexual health content. More specifically, this review identified a substantial need for youth elicitation research within the United States given that only 2 of the 23 studies took place within the United States over the two decades represented by this review.

1.4.2. Specific Aim 2: Develop Survey Instrument

The next phase of this study was designed to gain deeper insight and understanding regarding the specific content and skills youth believe are important to learn in school. A new survey instrument was developed using psychometric theory as an existing instrument capable of collecting detailed information could not be identified through a review of the existing literature. It was determined the National Sexuality Education Standards (NSES) would serve as the base for the survey instrument as it would provide the needed breadth and depth for content descriptions as well as allow students to indicate overall support for the NSES. Each NSES performance indicator was

represented by one or more survey items, resulting in 62 items total. A 5-point Likert-scale was used to provide youth with a range of options for indicating level of importance for learning about the different topics in school. The survey included an additional 15 questions to assess student demographics and educational preferences. Demographic information included age, grade, gender, school, race, ethnicity, and previous sexual experience, including oral sex, sexual intercourse, and sexual contact with someone of the same and/or opposite gender. Educational preference questions were designed to identify from whom, where, how students prefer to learn about sexual health. Response options included a range of common educational settings and instructional methods for sexual health education both within and outside of the school setting.

Once the survey was drafted, cognitive interviews were conducted to review and revise items. Interview participants were recruited from clientele of a non-profit organization in Central Texas focused on supporting youth and families on their path to self-sufficiency. The Institutional Review Board at Texas A&M University determined youth ages 14 - 18 were at high risk due to the nature of services provided by the recruiting organization. As such, a total of 6 young adults ranging in age from 18 - 22 years participated in the audio recorded cognitive interview rather than the intended high school-age participants. Once revised, the survey instrument was reviewed by professionals with working knowledge of the NSES. Chapters 3 and 4 of this dissertation present more information related to the survey development process, including: 1) how the National Sexuality Education Standards were used as the foundation for item

development; 2) process for establishing face and content; as well as 3) factor identification and model fit.

1.4.3. Specific Aim 3: Implement Survey

The final phase of this study was to implement the survey with high school students to identify how important they believe it is to learn about the sexual health content and skills represented within the National Sexuality Education Standards in school. The survey was implemented with a convenience sample from 4 high schools in Central Texas during health class and was available in both an online and paper format. A total of 258 students ranging in age from 14-18 years old completed the survey and all students received a gift card for their assistance.

Data analysis began with descriptive statistics, followed by factor analysis to determine construct validity. It was necessary to begin with exploratory factor analysis (EFA) given the survey instrument was newly developed for the purposes of this study (Thompson, 2004). The EFA process included: 1) calculating Cronbach's alpha to assess internal consistency for each factor, 2) using principal component analysis to inform reduction of survey items (Netemeyer et al., 2003), and 3) factor analysis to identify the best factors to explain latent constructs within the survey (Burton & Mazerolle, 2011). Items were deleted from the survey that did not meet the item requirement for factor formation (DiStefano & Hess, 2005). Confirmatory factor analysis (CFA) was then used to assess model fit acceptability. Four model fit indices were used, including chi-square (χ^2), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI),

and Root Mean Square Error of Approximation (RMSEA) as measures of model fit (DiStefano & Hess, 2005). One-way ANOVAs using post hoc tests were conducted after the factor analysis to determine if there were statistically significant differences in the level of importance students placed on sexual health content based on age, grade, gender identity, school, race, ethnicity, or sexual experience.

All sexual health content represented within the survey was considered on average to be "very important" or "extremely important" to learn in school, with just one item considered "important." Statistically significant differences in level of importance placed on learning content did occur for 11 of the 15 factors. While different depending on factor, statistically significant responses emerged based on race, gender, age, grade, as well as experience with oral sex, sexual intercourse and sexual contact with someone of the same and/or opposite gender identity.

It was expected a total of 7 factors would be identified through the analysis process given there are 7 key topic areas within the NSES; however, a total of 15 factors, or scales, were ultimately identified. Overall, findings indicated good reliability and good overall fit between the model and data. Two of the fit indices, SRMR and CFI, suggested good fit for all 15 factors; however, RMSEA values were considered poor for 2 of the scales and chi-square was significant for 10 of the scales.

Given the scope of information represented within these factors, findings are shared in the form of a companion manuscript series consisting of chapters 3 and 4 within this dissertation. Chapter 3 presents findings related to pregnancy, sexually

transmitted infections, and related influencing factors, and chapter 4 presents findings related to healthy relationships, identity, and safety. Findings are organized by factor alignment and include mean response regarding level of importance as well as statistically significant findings.

Findings related to the instructional preferences of youth strongly support school-based sexual health education. As described in chapter 4, youth desire to learn from teachers and with interactive teaching methods in a school setting. These findings also offer comparison to other alternative settings, educators, and instructional formats.

It is also important to note that chapters 3 and 4 are purposefully structured to shift the conversation around the need for sexual health education. Rather than using the traditional narrative focused on prevention of negative health outcomes at the individual level (Brener et al., 2017), these chapters present the need for broader, holistic sexual health education from a rights-based approach capable of driving social change (Berglas et al., 2014; Braeken & Cardinal, 2008; Sanjakdar et al., 2015). More specifically, chapters 3 and 4 reflect a growing movement within the field of sexuality education to: 1) understand the impact of structural inequities, 2) acknowledge the historical and current role sexual health education plays in harming marginalized populations, and 3) use education to dismantle systems of power and oppression (Elia & Eliason, 2010; Portes, 2005).

1.5. Implications for the Future

Findings from this study and other youth centered research enhances school-based sexual health education in a variety of ways. The clear support of youth for implementation of the NSES within a school setting can help the development, revision, and implementation of policies and practices. In addition, these findings should inspire and inform future health, education, and research related initiatives that prioritize adolescents to directly and meaningfully involve youth in design, implementation, and evaluation activities. Continued youth participatory research and application of findings is critical to ensuring adolescents receive the education they need and deserve - an education that provides the necessary knowledge, skills, and resources to make informed decisions rather than an education that is censored, inaccurate and leads to misguided, risky decisions. Additional research will help identify how educational needs and interests differ based on age, race, ethnicity, gender identity, sexual orientation, or sexual experience. Furthermore, continued research in this area is essential to compare and contrast how youth and adults perceive the importance of specific educational content, as well as describe criteria for effectiveness. In partnership with adolescent serving professionals, youth have the potential to guide and support the evolution of school-based sexual health education in the United States.

1.6. Limitations

Over the course of this study, several limiting factors emerged that should be considered as the reader interprets study results and implications. The systematic literature review consisted of over two decades of research from around the world;

however, the limited number of studies ultimately included, the publication dates, and the fact that only 2 studies have been published in the United States during this timeframe all limit generalizability of findings. Survey development, implementation, and analysis were also influenced by a variety of limiting factors. The survey development process was also influenced by lack of review by youth within the intended age range and the inability to pilot the survey prior to implementation. Data analysis was restricted by the use of one-way ANOVAs as well as sample size, both impacting the ability to better understand similarities and differences between groups. Sample size potentially also influenced the poor model fit values that emerged for RMSEA and chi-square.

1.7. Conclusions

Findings from this study represent the most detailed review to date of what youth consider to be important to learn about sexual health in a school setting. As such, this study makes a significant contribution to a larger effort to ensure all adolescents – regardless of race, ethnicity, sexual orientation, gender identity – receive accessible, equitable, and inclusive school-based sexual health education. In addition, this study demonstrates the ability of youth to partner with youth serving professionals to inform and enhance their educational experience. This study ultimately provides a glimpse into what could be possible if education directly and respectfully responded to the needs of youth within a safe and supportive learning environment.

1.8. References

Allen, L. (2005). 'Say everything': exploring young people's suggestions for improving sexuality education, *Sex Education, 5*:4, 389-404. https://doi.org/10.1080/14681810500278493

Berglas, N. F., Constantine, N. A., & Ozer, E. J. (2014). A rights-based approach to sexuality education. *Perspectives on Sexual and Reproductive Health, 46*(2), 63 - 72. https://www.jstor.org/stable/10.2307/48576658

Braeken, D., & Cardinal, M. (2008). Comprehensive sexuality education as a means of promoting sexual health. *International Journal of Sexual Health, 20*(1-2). 50-62. https://doi.org/10.1080/19317610802157051

Brener, N.D., Demissie, Z., McManus, T., Shanklin, S.L., Queen, B., & Kann, L. (2017). *School health profiles 2016: Characteristics of health programs among secondary schools*. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/profiles/pdf/2016/2016_Profiles_Report.pdf

Burton, L. J., & Mazerolle, S. M. (2011). Survey instrument validity part I: Principles of survey instrument development and validation in athletic training education

research. *Athletic Training Education Journal, 6*(1), 27-35. https://doi.org/10.4085/1947-380X-6.1.27

Byers, E. S., Sears, H. A., & Foster, L. R. (2013). Factors associated with middle school students' perceptions of the quality of school-based sexual health education, *Sex Education, 13*(2), 214-227. https://www.tandfonline.com/doi/abs/10.1080/14681811.2012.727083

Coleman, L. (2008). Preferences towards sex education and information from a religiously diverse sample of young people. Health Education, 108(1), 72 - 91. https://doi.org/10.1108/09654280810842148

Constantine, N. A. (2008). Converging evidence leave policy behind: Sex education in the United States [Editorial]. *Journal of Adolescent Health, 42*, 324-326. https://doi.org/10.1016/j.jadohealth.2008.01.004

Cook-Sather, A. (2002). Authorizing students' perspectives: Toward trust, dialogue, and change in education. *Educational Researcher, 31*(4), 3-14. https://doi.org/10.3102/0013189X031004003

Corcoran, J. L., Davies, S. L., Knight, C. C., Lanzi, R. G., Li, P., Ladores, S. L. (2020). Adolescents' perceptions of sexual health education programs: An integrative

review. *Journal of Adolescence, 84*, 96-112. https://doi.org/10.1016/j.adolescence.2020.07.014

DiStefano, C., & Hess, B. (2005). Using confirmatory factor analysis for construct validation: An empirical review. J*ournal of Psychoeducational Assessment, 23*(3), 225-241. https://doi-org.srv-proxy2.library.tamu.edu/10.1177/073428290502300303

Elia, J. P., & Eliason, M. (2010). Discourses of exclusion: Sexuality education's silencing of sexual others. *Journal of LGBTQ Youth, 7*(1), 29-48. https://doi.org/10.1080/19361650903507791

Elia, J.P. & Tokunaga, J. (2015), Sexuality education: Implications for health, equity, and social justice in the United States. *Health Education*, *115*(1), 105-120. https://doi.org/10.1108/HE-01-2014-0001

Future of Sex Education (2012). *National sexuality education standards: Core content and skills, K-12.* https://answer.rutgers.edu/file/national-sexuality-education-standards.pdf

Future of Sex Education (2020). *National sexuality education standards: Core content and skills, K-12* (2nd edition). https://advocatesforyouth.org/wp-content/uploads/2020/03/NSES-2020-web.pdf

Hall, K. S., Sales, J. M., Komro, K. A., & Santelli, J. (2016). The state of sex education in the United States. *Journal of Adolescent Health, 58*(6), 595–597. https://doi.org/10.1016/j.jadohealth.2016.03.032

Hauser, D. (2005). Teens deserve more than abstinence-only education. *Virtual Mentor: Ethics Journal of the American Medical Association, 7*(10), 710 - 715. 10.1001/virtualmentor.2005.7.10.oped2-0510

Keller, L. H. (2020). *It's time for congress to give all young people the sexual health resources they need to thrive* [Policy analysis]. Guttmacher Institute.

Kimmel, A., Williams, T., Veinot, T., Campbell, B., Campbell, T., Valacak, M., & Kruger, D. (2013). 'I make sure I am safe and I make sure I have myself in every way possible': African-American youth perspectives on sexuality education. *Sex Education, 13*(2), 172-185. https://doi.org/10.1080/14681811.2012.709840

Lowe, M. (2018). *Sex ed is a human right. It's time we start treating it like one*. Sexuality Information and Education Council of the United States. https://siecus.org/sex-ed-is-a-human-right-its-time-we-start-treating-it-like-one/

Millstein, S., & Halpern-Felsher, B. (2002). Perceptions of risk and vulnerability. *Journal of Adolescent Health*, *31*(1), 10-27. https://doi.org/10.1016/S1054-139X(02)00412-3

National Commission for Health Education Credentialing, Inc. (2015). *The health education specialist: A companion guide for professional Excellence* (7th ed.). National Commission for Health Education Credentialing, Inc. https://www.nchec.org/publications

Netemeyer, R. G., Bearden, W.O., Sharma, S. (2003). *Scaling procedures: Issues and applications*. Sage.

Portes, P. R. (2005). *Dismantling educational inequity: A cultural-historical approach to closing the achievement gap*. Peter Lang Publishing, Inc.

Pound, P., Langford, L., & Campbell, R. (2016). What do you people think about their school-based sex and relationship education? A qualitative synthesis of young

people's views and experiences. *BMJ Open, 6*(9): e011329. https://dx-doi-org.srv-proxy1.library.tamu.edu/10.1136%2Fbmjopen-2016-011329

Sanjakdar, F., Allen, L., Rasmussen, M. L., Quinlivan, K., Brömdal, A. & Aspin, C. (2015). In search of critical pedagogy in sexuality education: Visions, imaginations, and paradoxes. *Review of Education, Pedagogy, and Cultural Studies, 37*(1), 53-70. https://doi.org/10.1080/10714413.2015.988537

Santelli, J. S., Kantor, L. M., Grilo, S. A., Speizer, I. S., Lindberg, L. D., Heitel, J. Schalet, A. T., Lyon, M. E., Mason-Jones, A. J., McGovern, T., Heck, C. J., Rogers, J., Ott, M. A. (2017). Abstinence-only-until-marriage policies and programs: An updated position paper of the Society for Adolescent Health and Medicine. *Journal of Adolescent Health, 61*(3), 273-280. https://doi.org/10.1016/j.jadohealth.2017.05.031

SIECUS. (2020). Sex ed and state law policy chart. https://siecus.org/wp-content/uploads/2020/05/SIECUS-2020-Sex-Ed-State-Law-and-Policy-Chart_May-2020-3.pdf

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications.* American Psychological Association.

United Nations Educational, Scientific, and Cultural Organization. (2018). *International technical guidance on sexuality education: An evidenced informed approach (revised ed.)*. https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

United Nations Educational, Scientific, and Cultural Organization. (2018). *International technical guidance on sexuality education: An evidenced informed approach (revised ed.)*. https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

Wiley, D., & Wilson, K. (2009). *Just say don't know: Sexuality education in Texas schools*. Texas Freedom Network. https://tfn.org/cms/assets/uploads/2015/11/SexEdRort09_web.pdf

World Health Organization. (2015). *Sexual health, human rights, and the law*. https://apps.who.int/iris/bitstream/handle/10665/175556/9789241564984_eng.pdf

If you are adding references at the end of each chapter (rather than as a single reference section at the end of your main text), then place it under a first-level subheading like this one.

2. A SYSTEMATIC REVIEW: YOUTH-INFORMED SCHOOL-BASED SEXUAL HEALTH EDUCATION

2.1. Introduction and Background

The support of health professionals, educators, researchers, and parents for comprehensive school-based sexual health education is well documented (Barr et al., 2014; Byers et al., 2013; Herrman, 2013; Kantor & Levitz, 2017). Despite this growing body of evidence, we know far less about the needs and interests of youth (Kimmel, 2013). Without an explicit understanding of the content and instruction youth believe is relevant and engaging, adults alone determine the criteria for effective sexual health education (Allen, 2005; Wilson, 2018). This adult-driven model of education is deeply concerning as it often results in youth being denied access to the information and skills needed to make informed decisions regarding their health and wellbeing. A review of existing literature specifically focused on youth identified needs and interests related to school-based sexual health education represents an opportunity to assess our current understanding of effectiveness and strengthen our ability to provide all youth with the meaningful educational experience they deserve.

The inconsistent implementation of school-based sexual health education clearly shows variation in how effectiveness is defined by adults and epitomizes the need for youth to provide clarity and direction (Guttmacher Institute, 2020). Due to state- and local-level decision-making authority fueled by a “long, complicated history,” sexual health education in U.S. schools currently represents a broad spectrum of content,

quality, and pedagogical approaches (Barr et al., 2014, p. 397). As a result, some students do not receive information of any kind, some experience tailored education limited in scope and/or guided by cultural and religious values, and yet others receive quality instruction that is comprehensive and evidence informed (Hall et al., 2016; Herrman, 2013; Lindberg et al., 2016). This diversity in content and instructional methods is disconcerting, as many sexual health education programs do not align with current recommendations for developing and maintaining healthy physical, emotional, and social habits (Kocsis, 2020).

Powers and Tiffany (2006) noted "like many disenfranchised groups, young people have suffered from misinformed decisions and policies intended to help them but designed without their input" (p. S80). Evidence of this reality is reflected in the fact that youth often consider school-based sexual health education to be insufficient despite their preference for learning about this topic within the school setting (Akers et al., 2010; Gardner, 2015; Rose & Friedman, 2017). A qualitative synthesis of 48 studies assessing youth perceptions regarding school-based sex and relationship education experiences conducted by Pound et al. (2016) outlined several common criticisms cited by students, including: 1) education does not begin early enough, 2) instruction is not relevant or engaging, 3) information is limited in scope and heteronormative, 4) content is overly focused on biology and the negative consequences of sex, and 5) teachers are not trustworthy or comfortable teaching content. This powerful summary clearly documents the need for youth-informed modifications as students are less likely to engage in the

learning experience, retain knowledge and skills, or perceive their instruction as high quality when their education does not align with their needs and interests (Byers, 2013).

The importance of acting quickly to identify and address the unmet needs of youth is further underscored because adolescents in the U.S. continue to experience poor sexual health outcomes such as sexually transmitted infections (STIs), teen dating violence, and unplanned pregnancy. Described as a growing epidemic (Shannon and Klausner, 2018), STI rates among adolescents have seen staggering increases since 2014. This unprecedented increase is a serious cause for alarm as adolescents in the U.S. already account for approximately half of all new STI cases in the nation annually (Centers for Disease Control and Prevention [CDC], 2018). There is also significant concern regarding the imbalance of power and lack of respect and consent within some relationships given that approximately 1 in 4 females and 1 in 7 males currently experience some form of intimate partner violence by the age of 18 (CDC, 2020). While there has been a recent and steady decline in teen pregnancy rates, positive outcomes associated with such an improvement are overshadowed because the rate of teen pregnancy in the U.S. remains extraordinarily high compared to other developed countries (Sedgh et al., 2015). Compounding this complex reality, significant sexual health disparities continue to exist for racial, ethnic, and sexual minority youth, resulting in disproportionately higher risk for negative outcomes (Szydlowski, 2015).

Despite the current state of sexual health education and poor behavior-related outcomes within the U.S., public support and guidance for quality school-based sexual health education has continued to grow on a national and international scale as

awareness has increased regarding the benefits associated with comprehensive, evidence-informed instruction (Brener et al., 2017; Haberland & Rogow, 2015; Sexuality Information and Education Council of the United States [SIECUS], 2018). Over the last decade, a variety of standards have been released within the U.S. to help prepare and assist educators in their selection and delivery of effective sexual health information (Future of Sex Education [FoSE], 2014, 2018, 2020). Internationally, UNESCO's recently revised technical guidance on sexuality education offers countries across the world an overview of the essential components of effective education to assist with policy, planning, and implementation (United Nations Educational, Scientific, and Cultural Organization [UNESCO], 2018). This progressive trajectory represents a promising opportunity for youth voice to be valued and applied as a "roadmap for the future" (Akers et al., 2010, p. 9).

UNESCO (2018) described the importance and benefit to embracing youth as partners in their school-based experience:

> Learners are not the passive recipients of sexuality education, but rather can, and should, play an active role in organizing, piloting, implementing, and improving the content of sexuality education. This ensures that sexuality education is needs-oriented and grounded in the contemporary realities within which young people navigate their sexualities, rather than simply following an agenda determined in advance by educators (p. 90).

Advocating for youth to play an active role in their education is rooted in the belief that all individuals, regardless of age, have a basic human right to make informed choices regarding their own health and wellbeing (Lowe, 2018). In addition, empowering youth to make autonomous decisions about their own bodies has the potential to impact larger issues related to gender, equity, and rights (World Health Organization [WHO], 2015). Strategic and engaging youth-adult partnerships have the potential to transform the future of sexual health education, as well as improve a range of academic, social, and health-related outcomes within the broader school system (Mitra, 2009).

The need to improve school-based sexual health education to ensure all students have access to high-quality education is well documented; however, current disparities represent an opportunity for innovative approaches and solutions that have the potential to create real and meaningful change (Hall et al., 2016). This systematic review aims to fill the gap by giving a collective voice to youth from around the world regarding what they need and want from school-based sexual health education. Together, this combined narrative has the potential to disrupt the current status quo of adult discourse and debate by serving as an amplified platform for youth directly advocating for their own educational needs and interests. Given that research exploring this topic area is limited, especially within the United States, this systematic review also serves as a catalyst to inform and inspire future research.

2.2. Methods

This systematic review used the Principles of the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) as guidance for the data collection and reporting process

2.2.1. Literature Scoping

A scoping review of research literature was conducted to determine if a systematic review had been conducted on this topic. This search focused on identifying existing published reviews and studies consistent with this review's aim and purpose. While a search of electronic databases (CINAHL, MEDLINE, ERIC, PsycINFO) confirmed that a previous systematic review of this specific topic has not been conducted, we identified a separate review with common similarities.

A qualitative synthesis of young people's views and experiences with school-based sex and relationship education was published in 2016 by Pound et al.; however, this synthesis specifically focused on qualitative studies that assessed perceptions of previously received school-based sexual health education. While the qualitative synthesis and current systematic review include several of the same studies, it is important to note the difference in eligibility criteria also resulted in including studies unique to each review. Despite this difference, many of the key findings from the qualitative synthesis align with and support key findings from this systematic review.

2.2.2. Eligibility Criteria

This search focused on identifying studies that assessed the needs and interests of youth regarding school-based sexual health education. Studies published in English

between 1997 and 2018 were eligible for review and we placed no geographical limitations on the search. Participants had to include youth 19 years or younger and could not include participants older than 25 years of age. Studies that did not include information specific to school-based education, as well as studies that only assessed perceptions of previous education, were excluded. For example, studies that solely focused on what youth thought about their previous school-based sexual health education and studies that focused broadly on sexual health education without specifying the educational setting as school-based were not included. We outline the inclusion and exclusion criteria for this search in Table 2.1 below.

Table 2.1 Eligibility Criteria.

Parameters	Inclusion Criteria	Exclusion Criteria
Timeframe	Studies published between 1997 & 2018	Studies published prior to 1997
Language	Studies written in English	Studies not written in English
Age	Studies included youth 19 years and younger	Studies that did not include youth 19 years and younger; Studies that include participants over the age of 25.
Study Type	Scholarly publications, literature reviews	Dissertations, opinion pieces
	Studies included information specific to school-based sexual health education	Studies did not include information specific to school-based sexual health education
	Studies identified specific school-based sexual health education needs and interests	Studies did not identify specific school-based sexual health education needs and interests

2.2.3. Search Strategy

A search of CINAHL, MEDLINE, ERIC, PsycINFO was conducted in August 2018 to identify relevant articles published between 1997 and 2018. The primary aim of the search was to identify articles that documented the school-based sexual health education needs and interests of youth. A range of search terms (Table 2.2) related to the inclusion criteria were used to identify articles eligible for screening.

Table 2.2 Systematic Review Search Terms.

Adolescent perspective
Adolescents' opinions and self-perceived needs
Youth perspective
Student perceptions
Student viewpoints
Young people's views/views of young people
What boys want to learn
Preferences towards sex education
Exploring young people's suggestions
Youth voice

Studies were initially screened by title and abstract within Rayyan and then eligible studies were exported to RefWorks for full text review. The citation list of each study included in the final review was also reviewed to identify additional studies eligible for screening.

2.2.4. Data Collection Process

A google form was used to collect relevant information regarding the methods and results of each study included in the full text review. Research aims, participant

demographics, study setting and design, and recommendations were also recorded. Upon completion of this process, we reviewed data to confirm final review eligibility.

2.2.5. Critical Appraisal

A series of critical appraisal questions based on the Joanna Briggs Institute Checklist for Qualitative Research tool was incorporated within the data collection form to assess each study's methodological quality and risk of bias (Lockwood et al., 2015). Most studies provided sufficient information to positively respond to 7 of the tool's 10 questions; however, only three of the studies provided a coherent statement to locate the researcher culturally or theoretically and four studies provided an explicit statement to address the influence of the researcher on the research and vice versa. In addition, approximately one-third of the studies did not include a statement to document ethical approval of the research by an appropriate body. The potential risk of bias associated with this lack of documentation suggests the results should be interpreted with caution.

2.3. Results

A total of 3,292 records were identified through the database search. After screening 2,711 by title and abstract, as well as reviewing citation lists of relevant articles to identify additional articles eligible for screening, 127 potentially relevant records were identified for full-text review. A flowchart of the systematic review is presented in Figure 2.1. Most studies were excluded due to wrong study design, including studies that broadly explored sexual health education without specific reference to school-based education and studies that only explored the perceptions of youth regarding previous education rather than exploring educational needs and

interests. Twenty-three articles were eligible to be included in the final systematic review.

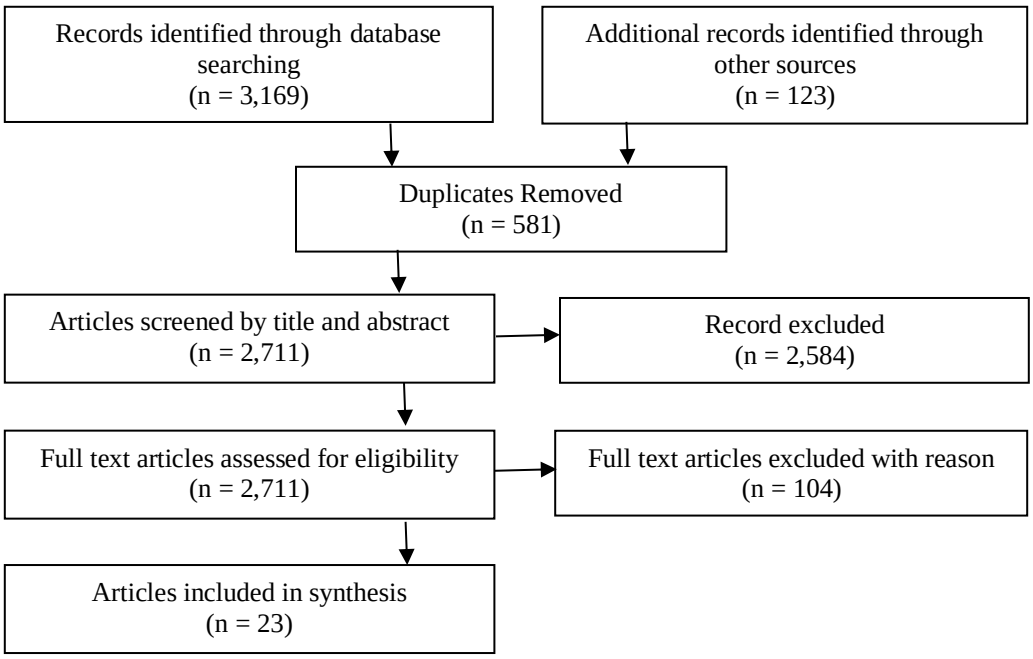

Figure 2.1 Flowchart Summary of Search Results.

2.3.1. Study Characteristics

The studies took place in eight countries across the world, including Australia (n=1) (Helmer et al., 2015), Canada (n=3) (Byers et al., 2003a, 2003b; McKay & Holowaty, 1997), Malaysia (n=1) (Kennedy et al., 2014), New Zealand (n=1) (Allen, 2005), Sweden (n=2) (Ekstrand et al., 2011; Makenzius et al., 2009), Tanzania (n=2) (Mkumbo, 2010, 2014), United Kingdom (n=11) (Aranda et al., 2017; Coleman, 2007; Forrest et al., 2004; Hilton, 2007; Hyde et al., 2005; Jones, et al., 1997; Lester & Allan, 2006; Newby et al., 2012; O'Higgins & Gabhainn, 2010; Reeves et al., 2006; Suter et

al., 2012), and the United States (n=2) (Eisenberg et al., 1997; Gowen & Winges-Yanez, 2014). Participants ranged in age from 8 to 25 years, with 20 studies only including participants 19 years and younger. Across studies, participants also represented a diverse group of racial, ethnic, religious, sexual, and gender identities (Table 2.3).

Table 2.3 Participant Characteristics.

Race	White, Black, Asian, Latino, Pacific Islander
Ethnicity/ Country of Origin	British, Irish, Asian, African, Caribbean, indigenous and non-Indigenous Australians, Indian, Pakistani, Bangladeshi, Chinese
Religion	Catholic, Protestant, Islam, Muslim, Hindu, "Don't believe"
Gender Identity	Male, Female, Cisgender, Transgender
Sexual Orientation	Heterosexual, Gay, Lesbian, Bisexual, Questioning

Most studies included both males and females; however, one study focused on females (Ekstrand et al., 2011), two studies focused on males (Makenzius et al., 2009), and one study that focused on lesbian, gay, bisexual, transgender, and queer or questioning (LGBTQ) youth did not describe gender identity (Gowen & Winges-Yanez, 2014). Participant and setting characteristics for all studies included in this review are depicted in Table 2.4. Sample sizes ranged from 307 (Hilton, 2007) to 4353 (Forrest et al., 2004) for mixed method studies (n=5), 29 (Eisenberg et al., 1997) to 394 (O'Higgins & Gabhainn, 2010) participants for qualitative studies (n= 9), and 81(Suter et al., 2012) to 3,334 (Newby et al., 2012) participants for quantitative studies (n=10).

Table 2.4 Participant and Settings Characteristics.

First Author (Year)	Country	Age/Grade	Gender	Setting	Sample Size
Helmer et al. (2015)	Australia	19 – 25 yrs	Male and Female	Northern Territory, Western Australia and in South Australia; urban and rural non-school settings	171
Byers et al. (2003a)	Canada	9th – 12th grade	Male and Female	Rural & Urban Schools in New Brunswick	1663
Byers et al. (2003b)	Canada	6th – 8th grade	Male and Female	Rural & Urban Schools in New Brunswick	745
McKay & Holowaty (1997)	Canada	7th – 12th grade	Male and Female	Rural Ontario School	406
Kennedy et al. (2014)	Malaysia (Vanuatu)	15 -19 yrs	Male and Female	Urban and rural; main secondary schools and boarding schools	341
Allen (2005)	New Zealand	16 – 19 yrs	Males and Females	Schools throughout New Zealand	1180
Ekstrand et al. (2011)	Sweden	13 – 25 yrs	Female	Youth and student health clinics	225
Makenzius et al. (2009)	Sweden	18 yrs	Male	School	192
Mkumbo (2010)	Tanzania	8 – 20 yrs	Male and Female	Urban and rural primary and secondary schools	715
Mkumbo (2014)	Tanzania	10 – 20 yrs	Male and Female	Urban and rural primary and secondary schools	715
Aranda et al. (2017)	United Kingdom (England)	11 – 19 yrs	Male and Female	Academy, community college/school, youth club/center, faith school	74
Coleman (2007)	United Kingdom (England)	15 – 18 yrs	Male and Female	Greater London schools	3,007
Forrest et al. (2004)	United Kingdom (England)	13-14 yrs	Male and Female	Secondary Schools	4353
Hilton (2007)	United Kingdom (England)	16 – 17 yrs	Males	Inner and outer London comprehensive and public boarding schools	307

Table 2.4 Continued

Hyde et al. (2005)	United Kingdom (Ireland)	15 – 16 & 18-19 yrs	Male and Female	Urban and rural schools	226
Jones et al. (1997)	United Kingdom (Whales)	14 – 15 yrs	Male and Female	Schools	61
Lester & Allan (2006)	United Kingdom (Whales)	14 – 15 yrs	Male and Female	Urban	*32*
Newby et al. (2012)	United Kingdom (England)	13 – 17 yrs	Male and Female	Urban and Suburban secondary schools	3,334
O'Higgins & Gabhainn, (2010)	United Kingdom (Ireland)	15 – 18 yrs	Male and Female	Urban and rural schools	394
Reeves et al. (2006)	United Kingdom (Wales)	15-16 yrs	Male and Female	Secondary schools	360
Suter et al. (2012)	United Kingdom	16 – 25 yrs	Male and Female	Deaf Service Providers	81 (27 deaf, 54 hearing)
Eisenberg et al. (1997)	United States	9th – 12th grade	Male and Female	Public School	29
Gowen & Winges-Yanez (2014)	United States	16 – 20 yrs	Gender not identified	Urban, Suburban, and Rural community centers	30

2.3.2. Content Needs

Youth called for a diverse range of content to meet their sexual health education needs and interests (Table 2.5). Topics commonly identified across studies included sexual orientation, gender identity, STIs (prevention, signs/symptoms, and treatment), contraception, reproduction, birth, pregnancy (prevention, signs, options), sexual coercion and assault, personal safety, relationships and communication, sexual decision making, emotional side of sex, puberty, and sexual pleasure. While many studies shared

common findings, study specific recommendations emerged relevant to certain target population needs.

2.3.2.1. Population-Informed Content

2.3.2.1.1. Male and Female Youth

Byers et al. (2003a) found that while all ten sexual health education topics presented within their survey were important to various degrees, female students rated sexual coercion, assault, and abstinence as more important than males and rated sexual pleasure and enjoyment as less important than males. Compared to males, Hyde et al. (2005) also found that female students expressed an additional interest in covering topics of emotions and relationships in sex education classes, while males wanted practical information related to the mechanics of sex and for sexual health education to further affirm their masculine identity. Another study by O'Higgins and Gabhainn (2010) found that females needed more information on all contraception methods, while males specifically expressed a need to learn about condoms. In this same study, females were also more likely to express the need for sexual confidence-building. Aranda et al. (2017) noted that females requested guidance on how to manage "young men's boasting of sexual exploits" (p. 380).

2.3.2.1.2. Deaf and Hearing Youth

Suter et al. (2012) uniquely explored the school-based sexual health education needs of both deaf and hearing youth. This study found that both groups viewed a variety of topics related to feelings and emotions, sex, and relationships as important to learn. Specific content of common interest to deaf and hearing study participants

included safe sex, having sex for the first time, building confidence to say no to sex, relationships involving abuse and pressure, contraception, and STIs. Among the topics considered being most important, both groups identified teachers who are less embarrassed by content; however, deaf students also identified accessible information related to sexual and reproductive health while hearing students desired more information about relationships. Timing of sexual health education was also a topic in which they identified different needs. Overall, deaf participants preferred for sexual health education to begin at a later age than hearing participants.

2.3.2.1.3. LGBTQ Youth and LGBTQ Content

In contrast to other studies within this review, Gowen and Winges-Yanez (2014) specifically focused on identifying the needs and interests of LGBTQ youth to develop an LGBTQ-inclusive educational framework. Participating youth expressed the need for and importance of sexual health education moving beyond the traditional heterocentric lens to an inclusive approach that applies to everyone, regardless of their gender identity or sexual orientation. They also stressed the benefit of learning in an environment in which they can ask questions and openly discuss LGBTQ-related issues. Findings from this study are further supported by seven other studies in this review that identified LGBTQ-related content as an area of need for school-based sexual health education (Allen, 2005; Eisenberg et al., 1997; Ekstrand et al., 2011; Forrest et al., 2004; Hilton, 2007; Mkumbo, 2010; Suter et al., 2012). Most studies described the need for more information related to same sex-relationships and homosexuality, with two studies also calling for more information related to gender identity and “transgender issues” (Allen,

2005, p. 398; Ekstrand et al., 2011). Despite this call for inclusive education, five studies considered LGBTQ-related content to be less important (Makenzius et al., 2009; McKay & Holowaty, 1997; Mkumbo, 2014), with at least a portion of participants from two of the five studies specifically requesting for content related to this topic area be excluded altogether (Hilton, 2007; Reeves et al., 2006).

2.3.2.1.4. Religion

Coleman (2007) explored the sexual health education preferences of a religiously diverse population of youth who identified as Christian, Muslim, Hindu, non-believer, and other. Within this study, Hindu youth least preferred educators of the same religion, while Muslim participants preferred to learn from an educator of the same faith. This same study also found several similarities across the different religious groups, including the desire for more information about STIs and how to make sex more satisfying. Mkumbo (2014) explored the sexual health education needs of students within Tanzania and found that youth who identified as Catholic or Protestant were more likely than Muslim youth to rate masturbation, homosexuality, and condoms as favorable topics for school-based sexual health education.

2.3.2.2. Practical and Responsive Content

Besides specific educational content recommendations, many studies offered guidance on the timing and approach and emphasized the importance of practical and relevant information (Byers et al, 2003b; Eisenberg et al., 1997). Eight studies called for school-based sexual health education to begin at an earlier age (Byers et al., 2003a; Eisenberg et al. 1997; Helmer, 2015; Hilton, 2007; Jones et al., 1997; Mkumbo, 2014;

Reeves et al., 2006; Suter et al., 2012). Suggested start times varied by study and content of focus; however, all studies identified either elementary or middle school as the essential time period to begin school-based sexual health education. In addition to timing, students also asked for accurate content (Kennedy et al., 2014) that responds to the developing emotional and sexual maturity needs of adolescents (Eisenberg et al., 1997; Hester et al., 2015; Lester & Allan, 2006).

2.3.3. Educator Needs

2.3.3.1. Training and Expertise

Nearly half (n=10) of all studies identified specific needs and interests of youth regarding sexual health educators (Allen, 2005; Coleman, 2007; Eisenberg et al., 1997; Ekstrand et al., 2011; Helmer et al., 2015; Hilton, 2007; Lester & Allan, 2006; O'Higgins & Gabhainn, 2010; Reeves et al., 2006; Suter et al., 2012). Overall, youth emphasized the need for educators with subject expertise who are comfortable teaching, facilitating open discussions, and responding to questions. The need for well-trained educators was further emphasized by a lack of interest in peer educators (Lester & Allan, 2006) and the call for classroom instruction from outside professionals (Allen, 2005; Reeves et al., 2006).

2.3.3.2. Trust and Respect

Several studies highlighted the importance of how teachers treat and interact with students. O'Higgins & Gabhainn (2010) explored trust, noting that students desire an educator they can trust to provide factual information with confidence and confidentiality. In a study conducted by Lester and Allan (2006), youth expressed the

need for educators to be less patronizing towards students, emphasizing they do not want educators to tell them how to think or act. The desire for respect was echoed by Eisenberg et al. (1997), with youth emphasizing the importance of not lecturing at them during class.

2.3.4. Classroom Needs

2.3.4.1. Environment

Building on the desire for respect, five studies also identified specific needs related to the classroom environment. Students called for a positive and non-judgmental educational environment (Eisenberg, Wagenaar, & Neumark-Sztainer, 1997) that is safe and supportive of students (Hilton, 2007). Youth also call for classroom environments that are inclusive of everyone regardless of their sexual orientation or gender identity (Gowen & Winges-Yanez, 2014), provide a sense of openness (O'Higgins & Gabhainn, 2010; Hilton, 2007), and space in which myths can be dispelled (Helmer et al., 2015).

2.3.4.2. Single Gender vs. Mixed Gender

Preference for gender-based classroom separation varied across the few studies that explored this topic area. Newby et al. (2012) and Byers et al. (2003a) both found that girls are more likely than boys to express preference for a gender separated learning environment. Two studies (Byers et al., 2003a & Hilton, 2007) documented most youth preferred mixed gender classes; respectively, 57% and 68% of participants preferred mixed gender classes, while 11% and 32% of these study participants preferred single gender classes.

2.3.5. Instructional Needs

2.3.5.1. Strategies

A variety of instructional methods recommended by youth for sexual health education were discussed across 9 studies included in the review. Desired classroom strategies included learning in smaller groups (Hilton, 2007), providing opportunities for discussion of content and problems (Hilton, 2007; Eisenberg, 1997; Byers et al. 2003a; Jones et al., 1997), asking questions (Jones et al., 1997), as well as using active (Hilton, 2007) and practical hands-on approaches (O'Higgins & Gabhainn, 2010). According to Reeves et al. (2006), youth want to learn in small, self-chosen groups and desire an opportunity for students to speak individually with sexual health experts that visit their classroom.

2.3.5.2. Tools

Youth suggested incorporating the use of media and technology (Byers et al., 2003a), real-life storytelling (O'Higgins & Gabhainn, 2010), relatable characters in teaching materials (Jones et al., 1997), and a question box (Byers et al., 2003a) to support their learning experiences. A few studies also identified instructional methods youth did not prefer to be used by educators. O'Higgins & Gabhainn (2010) specifically noted opposition to scare tactics. Peer teaching was not preferred because it was scary (Hilton, 2007) and students would rather learn from experts (Lester & Allan, 2006). In addition, role play was considered babyish (Hilton, 2007) and lecture-based teaching was considered not engaging (Eisenberg, 1997).

Table 2.5 Participants and Settings.

Study Name	Content Needs	Educator & Classroom Needs	Instructional Needs
Australia			
Improving sexual health for young people: making sexuality education a priority (Helmer et al., 2015)	Less focus on physical aspects of sex, more emphasis on social and emotional aspects; Relationships, first sexual experiences and negotiating condom use; How to handle break-ups; Birth control, pregnancy, and condoms	Environment in which myths could be dispelled	
Canada			
An adolescent perspective on sexual health education at school and at home: I. High school students (Byers et al., 2003a)	Viewed all SHE topics as important • *Extremely Important* - STDs and birth control methods • *Very Important* - Sexual coercion & assault; Personal safety; Sexual decision making; Reproduction; Puberty		Most helpful (question box, videos, and group discussion) 11% preferred single sex classes; 57% preferred males and females taught together
An adolescent perspective on sexual health education at school and at home: II. Middle school students (Byers et al., 2003b)	More practical information & skills for a variety of SH topics • *Extremely important* – STDs • *Very important* - birth control; personal safety; puberty, reproduction; sexual coercion/assault; and sexual decision-making		
Sexual health education: A study of adolescents' opinions, self-perceived needs, and current and preferred sources of information (McKay & Holowaty, 1997)	• *Highest Importance* - Sexual assault/rape; STD prevention, testing & treatment; Birth control methods; Pregnancy, conception, birth • *Intermediate Importance* - Building good/equal relationships; Making decisions about sexuality and relationships; Saying no to sex; Parenting skills; Talking with girlfriends/boyfriends about sexual issues; Peer pressure, & Puberty • *Lowest Importance* - "Gay/lesbian issues"		

Table 2.5 Continued

Malaysia (two islands of Vanuatu)			
'These issues aren't talked about at home': a qualitative study of the sexual and reproductive health information preferences of adolescents in Vanuatu (Kennedy et al., 2014)	Correct condom use; How to have sex and what it means to have sex; How to know when it is the "right time" to start having sex and to avoid unwanted sex; How to deal with peer pressure and sexual harassment; How to negotiate relationships, pregnancy prevention and family planning		
New Zealand			
'Say everything': exploring young people's suggestions for improving sexuality education (Allen, 2005)	Contraception; Details about actual sex/intercourse; What could make a sexual experience safe and fun; Wider range of information, not just the standard stuff (biological aspects of reproduction and STIs); Sexual orientation; Transgender issues	Open, candid, and comfortable talking about sexual issues	Interactive activities; Experiential Learning
Sweden			
Sex education in Swedish schools as described by young women (Ekstrand et al., 2011)	STIs; LGBT and gender issues; Sexual assault; Pornography, including its influence on sexual behavior; More "open," with a greater emphasis on sexual diversity and less focus on the heterosexual norm	Knowledgeable; Able to approach difficult subjects regarding sex and sexuality.	
Male students' behaviour, knowledge, attitudes, and needs in sexual and reproductive health matters (Makenzius et al., 2009)	In decreasing order of importance: Anatomy and physiology of the female reproductive system and of the male reproductive system; STIs; Personal relationships; Self-esteem and identity; Contraceptives; Erection and erectile dysfunction; and Homo-, bi- and trans-sexuality		
Tanzania			
What Tanzanian young people want to know about sexual health: implications for school-based sex and relationships education (Mkumbo, 2010)	Facts and information (condom use, masturbation, HIV/AIDS, puberty, menstruation, wet dreams, pregnancy, masturbation, and orgasm); Relationships and skills (safe sex practices, sex techniques, sexual decision-making, and peer-pressure management); Attitudes and values (homosexuality)		

Table 2.5 Continued

Students' attitudes towards school-based sex and relationships education in Tanzania (Mkumbo, 2014)	• *Very Important* - personal safety, puberty, reproduction and birth, abstinence, sexual decision making, condom use and STDs and HIV/AIDS • *Not Important* - sexual pleasure, enjoyment, and homosexuality	
United Kingdom		
Listening for commissioning: A participatory study exploring young people's experiences, views and preferences of school-based sexual health and school nursing (Aranda et al., 2017)	More information on sexting; Consequences of not following sexual health advice (e.g., becoming pregnant at a young age); Young women want more information on managing young men's boasting of sexual exploits	
Preferences towards sex education and information from a religiously diverse sample of young people (Coleman, 2007)	STIs; How to make sex more satisfying • *Highest Importance* - STIs for all groups, except for the "Don't believe" males who preferred more information on sexual behavior • *Lowest Importance* - Biology	*Hindus* - someone of similar age, least preference for someone of the same religion *Muslims* - higher preference for religious compatibility on the premise that such a person could "identify with" their own religious and cultural beliefs
What do young people want from sex education: The results of a needs assessment from a peer-led sex education programme (Forrest et al., 2004)	Concrete information and advice on issues related to physical development and puberty; Transmission of sexually transmitted diseases; Accessing and using condoms and other contraception; Using sexual health services; Managing relationships and dealing with jealousy, love, and sexual attraction; How people have sex; Sexual pleasure; Masturbation; and Homosexuality	

Table 2.5 Continued

Listening to the boys again: an exploration of what boys want to learn in ex education classes and how they want to be taught (Hilton, 2007)	Learn what it's like to be a girl' from girls themselves, about things such as periods and PMT so that 'we can be more understanding; How to give pleasure; How to talk about feelings and fears; Concentrate on feelings, emotions, love and help boys to discuss, acknowledge and cope with these feelings; Stop bullying and name calling, especially related to homosexuality; Address homosexuality (except for a group from a religious school that thought is wrong and shouldn't be discussed); Peer pressure (how to resist); Pornography; Masturbation; STIs (second most united request); Contraception (more information and practical experience); {parenting information (budgeting and responsibilities)	Take the feelings of students seriously Provide a safe and supportive environment open to discussion	*S*maller classes, active teaching methods (up to date and short videos) but remember the need to maintain the 'street cred' Peer teaching was not popular and seen as scary; Role play was considered babyish Varied responses on single sex vs. mixed sex classes
Masculinities and young men's sex education needs in Ireland: problematizing client-centered health promotion approaches (Hyde et al., 2005)	Psychomotor and physical dimensions of sex; Using condoms correctly; How to conduct themselves in sexual encounters; How to sexually please a partner; STIs		
Teenage sexual health through the eyes of the teenager: a study using focus groups (Jones et al., 1997)	Resistance and assertiveness skills training; Emotions and relationships; How to talk about sex with a partner; Accessing contraceptives; Contraception advice services for teenagers; More opportunities to ask questions and addressing common problems; More information for boy and girls about periods		Relatable materials (characters in the films, pamphlets, etc.); opportunity to ask questions and discuss problems

Table 2.5 Continued

Teenage sexual health needs: asking the consumers (Lester & Allan, 2006)	Emotional side of sex; Begin earlier; Organized visit to a sexual health/contraceptive clinic	Expert; Mature, not peer educator	Treated with respect; Not told how they should think and act; Less patronizing and more relevant; Sensitive to their increasing emotional and sexual maturity
A survey of English teenagers' sexual experience and preferences for school-based sex education (Newby et al., 2012)	Most endorsed topics - STIs; Relationships; Contraception; Sex and the law; Sexual abuse		
Youth participation in setting the agenda: learning outcomes for sex education in Ireland (O'Higgins & Gabhainn, 2010)	How to establish healthy respectful, communicative relationships; knowing how babies are made; when one is ready physically and emotionally for sex; how to put a condom on; contraceptive methods; who to go to for information; how best to talk about sexual issues	Trustworthy; Accurate; Confidential; Expert; Not embarrassed by subject matter	Practical hands-on approaches; Openness; No scare tactics; Use of media and technology; Use of real-life stories
Sexual health services and education: Young people's experiences and preferences (Reeves et al., 2006)	Contraception, relationships, STIs Small number of respondents suggested excluding homosexuality and rape.	Want to be taught about contraception and STIs by experts in the field and not by teachers.	Want to learn in small, self-chosen groups; opportunity for individual discussions with visiting experts

Table 2.5 Continued

The views, verdict and recommendations for school and home sex and relationships education by young deaf and hearing people (Suter et al., 2012)	Relationships, including abusive relationships, pressure, how sex changes a relationship, & same-sex; Feelings and emotions; Safe sex; First time to have sex; Confidence-building to say "no" to sex; Contraception; Pleasure; & STDs
	• *Most Important*
	  • Hearing Respondents – Relationships
	  • Deaf Respondents – Easily accessible information
		Not embarrassed	

United States			
Viewpoints of Minnesota Students on School-based Sexuality Education (Eisenberg et al., 1997)	Address the social, emotional, and values-related aspects of human sexuality • *Ideal Topics* – "basics" such as sexuality and reproduction, consequences of sexual activity (unwanted pregnancy and STDs), "sensitive" topics such as homosexuality and abortion. Wanted detailed information on: 1) prevention of unwanted pregnancy and STDs, 2) options for birth control and STD prevention, 3) options if pregnancy did occur (parenting, adoption, and abortion), 4) sexual violence (rape, incest, and sexual harassment), 5) referral information to resources available to them outside of school, and 6) tips for talking with parents about sexuality	Trained in SHE; talk with students rather than lecture to them Nonjudgmental, non-negative environment - an emotionally "safe" environment.	Non-lecture teaching methods, prefer discussion format
Lesbian, gay, bisexual, transgender, queer, and questioning youths' perspectives of inclusive school-based sexuality education (Gowen & Winges-Yanez, 2014)	Directly discussing LGBTQ issues; Emphasizing sexually transmitted infection (STI) prevention over pregnancy prevention; Addressing healthy relationships, including how to keep yourself safe and set boundaries with sexual partners; Healthy and unhealthy relationships; Anatomy; Resources		Inclusive environment focusing on topics relevant to all young people, regardless of sexual orientation or gender identity

2.4. Discussion and Recommendations

The purpose of this review was to identify and describe the school-based sexual health education needs and interests of youth. To avoid limiting youth insight regarding this topic area, this review specifically focused on studies that directly asked youth for guidance regarding their education, rather than focusing on studies that explored youth feedback on previous educational experiences. To my knowledge, this is the first systematic review to examine youth recommendations for school-based sexual health education. This review of the literature found 23 studies from across the world published between 1997 and 2018.

Across the studies included in this review, youth called for a diverse range of practical and relevant content to be taught as part of their school-based sexual health educational experience. Findings represented a holistic approach to sexual health education and emphasized the need to cover many topics related to relationships, identity, personal safety, STIs, contraception, pregnancy and reproduction, anatomy and physiology, and adolescent development. In addition, youth identified an obvious interest in learning about the social and emotional aspects of sexuality and asked for content to respond to their developmental needs. Youth also called for well-trained and respectful educators, engaging and developmentally appropriate instruction, and safe and supportive classroom environments.

The studies included in this review represented eight countries across four different continents around the world. Study participants also represented a diverse range of racial, ethnic, and religious groups, as well as a range of gender identities, sexual

orientations, and ages. Despite this diversity, the amount of research is limited to only 23 studies published over a 21-year time span. Half (n=11) of the published studies were conducted in the United Kingdom and the majority (n=14) were published between 1997 and 2010. Additional research is needed to update and expand the literature base to include a broader geographic and cultural representation of the current needs of youth regarding this topic area. With only one U.S.-based study published within the last 20 years (Gowen & Winges-Yanez, 2014), the need for additional youth elicitation research specific to school-based sexual health education within the U.S. is critically important to inform and strengthen educational policies, practices, and initiatives.

Findings from this review suggest that youth broadly desire comprehensive school-based sexual health education, as an overall group. While some differences emerged based on gender, grade, religion, culture, race, ethnicity, and geographic location, the lack of consistency across studies made it difficult to compare results and understand differences. Examples of variation include the level of detail regarding participant characteristics, setting of study implementation, research design, and documented findings. Roughly half of the studies (n=11) did not provide information related to participant race or ethnicity (Byers et al., 2003a; Byers et al., 2003b; Ekstrand et al., 2011; Hilton, 2007; Jones et al., 1997; Kennedy et al., 2014; Lester & Allan, 2006; Makenzius et al., 2009; McKay & Holowaty, 1997; O'Higgins & Gabhainn, 2010; Suter et al., 2012). The mixture of qualitative and quantitative research methods resulted in a spectrum of data available for review, ranging from a predefined list of sexual health education topics ranked by level of importance by students to broader educational

suggestions that emerged through discussion-based experiences. It is recommended that future research studies include a sufficient level of detail regarding the characteristics and findings of their study to strengthen future study comparisons.

While studies included in this review identified a diverse and holistic range of needs and interests, the level of detail regarding content was limited. Most study results broadly represent sexual health education concepts; however, more thorough information is still needed to guide educators in the selection of specific content, framing, and timing. There is a need for additional research related to several topics areas that are often not included in sexual health education. Topics of interest identified by youth include pleasure (Forrest et al., 2004; Hilton, 2007; Suter et al., 2012), pornography (Ekstrand et al., 2011; Hilton, 2007), masturbation (Forrest et al., 2004; Hilton, 2007; Mkumbo, 2010) as well as sexual harassment, assault, and rape (Eisenberg et al., 1997; Ekstrand et al., 2011; Kennedy et al., 2014; McKay & Holowaty, 1997). These topics represent an area of potential growth for school-based sexual health education; however, additional information is needed to ensure content is developmentally appropriate, trauma informed and responsive to youth needs.

This systematic review also revealed an unexpected outcome. Given the specific aim of the review was to identify the school-based sexual health education needs and interests of youth, the expectation was to find studies with content specific suggestions. While all studies included findings related to content, 15 studies also included youth identified needs related to the educator, instructional methods, classroom environment, and/or timing of information received. Since this review did not specifically search for

studies that included these additional findings, there could be other published literature available to provide further insight. This is an area in which additional literature exploration and research is needed, as these educational aspects are clearly important to youth. A specific area of need is learning more about the desire of youth to learn from an expert, rather than their teacher or peers (Lester & Allan, 2006; O'Higgins & Gabhainn, 2010; Reeves et al., 2006). Further research is needed to explore whether this preference is because of perceived or realistic lack of expertise, or if youth prefer to learn from outside experts within the school setting.

2.4.1. Limitations

Only two of the studies included within this review were conducted with youth from the United States. While one of these studies was published in 2014, the other was published in 1997. Together, these two studies have a combined sample size of only 59 youth. As a result, findings might have limited application to the U.S. education system. Another limitation is that this systematic literature review was completed by one person. A second individual taking part in the literature search, selection of articles, and data abstraction could strengthen findings from this review. Last, given this review specifically focused on identifying peer reviewed published literature, it is possible for other studies examining this topic area to exist as books, dissertations, or other gray literature.

2.5. Conclusions

This systematic review found that youth overall desire comprehensive, relevant, and engaging school-based sexual health education. Educator qualifications and character, instructional methods, and classroom environment are all critically important components of creating an effective educational experience. The findings produced through these studies suggest that youth desire to play an active role in their own education and they can provide educators with valuable guidance to improve the health and well-being of adolescents. If given the chance, youth can become powerful partners for advancing national and international efforts to provide effective school-based sexual health education.

2.6. References

Allen, L. (2005). 'Say everything': exploring young people's suggestions for improving sexuality education, *Sex Education, 5*:4, 389-404. https://doi.org/10.1080/14681810500278493

Akers, A., Youmans, S., Lloyd, S., Smith, D., Banks, B., Blumenthal, C., Albritton, T., Ellison, A., Smith, G., & Adimora, A. (2010). Views of young, rural African Americans of the role of community Social Institutions in HIV Prevention. *Journal of Health Care for the Poor and Underserved 21*(2), 1-12. http://proxy.library.tamu.edu/login?url=https://www.proquest.com/docview/603850618?accountid=7082

Aranda, K., Coleman, L, Sheriff, N. S., Cocking, C., Zeeman, L., & Cunningham, L. (2017). Listening for commissioning: A participatory study exploring young people's experiences, views and preferences of school-based sexual health and school nursing. Journal of Clinical Nursing, 27, 375-385. https://doi.org/10.1111/jocn.13936

Barr, E. M., Goldfarb, E.S., Russel, S., Seabert, D., Wallen, M., & Wilson, K. L. (2014). Improving sexuality education: the development of teacher-preparation standards. *Journal of School Health, 84*(6), 396-415. https://doi.org/10.1111/josh.12156

Brener, N.D., Demissie, Z., McManus, T., Shanklin, S.L., Queen, B., & Kann, L. (2017). *School health profiles 2016: Characteristics of health programs among secondary schools*. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/profiles/pdf/2016/2016_Profiles_Report.pdf

Byers, E. S., Sears, H. A., & Foster, L. R. (2013). Factors associated with middle school students' perceptions of the quality of school-based sexual health education, *Sex Education, 13*(2), 214-227. https://www.tandfonline.com/doi/abs/10.1080/14681811.2012.727083

Byers, E.S., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A. D. (2003a). An adolescent perspective on adolescent sexual health education at school and at home: I. High school students. *The Canadian Journal of Human Sexuality, 12*(1), 1-17. https://www.researchgate.net/profile/Angela_Weaver/publication/285688129_An_adolescent_perspective_on_sexual_health_education_at_school_and_at_home_II_Middle_school_students/links/56728e2108ae3aa2fcf0bd99/An-adolescent-perspective-on-sexual-health-education-at-school-and-at-home-II-Middle-school-students.pdf

Byers, E.S., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A. D. (2003b). An adolescent perspective on sexual health education at school and at

home: II. Middle school students. *The Canadian Journal of Human Sexuality*, *12*(1), 19-33. https://www.researchgate.net/profile/Angela_Weaver/publication/285688129_An_adolescent_perspective_on_sexual_health_education_at_school_and_at_home_II_Middle_school_students/links/56728e2108ae3aa2fcf0bd99/An-adolescent-perspective-on-sexual-health-education-at-school-and-at-home-II-Middle-school-students.pdf

Centers for Disease Control and Prevention. (2018). *STDs in adolescents and young adults*. https://www.cdc.gov/std/stats18/adolescents.htm

Centers for Disease Control and Prevention. (2020). *Preventing teen dating violence*. https://www.cdc.gov/violenceprevention/pdf/ipv/TDV-factsheet_2020.pdf

Coleman, L. (2008). Preferences towards sex education and information from a religiously diverse sample of young people. Health Education, 108(1), 72 - 91. https://doi.org/10.1108/09654280810842148

Eisenberg, M. E., Wagenaar, A., & Neumark-Sztainer, D. (1997). Viewpoints of Minnesota students on school-based sexuality education. *Journal of School Health, 67*(8), 322-326. https://doi.org/10.1111/j.1746-1561.1997.tb03465.x

Ekstrand, M., Engblom, C., Larsson, M., & Tyden, T. (2011). Sex education in Swedish schools as described by young women. *The European Journal of Contraception and Reproductive Health Care*, *16*(3), 210–224. https://doi.org/10.3109/13625187.2011.561937

Forrest, S., Strange, V., Oakley, A., & The RIPPLE Study Team (2004). What do young people want from sex education? The results of a needs assessment from a peer-led sex education programme. *Culture, Health, & Sexuality*, *6*(4), 337-354. https://doi.org/10.1080/13691050310001645050

Future of Sex Education. (2014). *National teacher preparation standards for sexuality education*. https://advocatesforyouth.org/wp-content/uploads/2019/09/teacher-standards-1.pdf

Future of Sex Education. (2018). *Professional learning standards for sex education.* https://advocatesforyouth.org/wp-content/uploads/2019/04/PLSSE-FINAL.pdf

Future of Sex Education. (2020). *National sex education standards: Core content and skills, K-12* (2nd ed.). https://advocatesforyouth.org/wp-content/uploads/2020/03/NSES-2020-web.pdf

Gardner, E. (2015). Abstinence-only sex education: College students' evaluations and responses. *American Journal of Sexuality Education, 10*(2), 125-139. https://doi.org/10.1080/15546128.2015.1015760

Gowen, K. L., & Winges-Yanez, N. (2014). Lesbian, gay, bisexual, transgender, queer, and questioning youths' perspectives of inclusive school-based sexuality education. *Journal of Sex Research, 51*(7), 788 - 800. https://www.tandfonline.com/doi/abs/10.1080/00224499.2013.806648

Guttmacher Institute (2020). *State laws and policies: HIV and sex education* [Policy Brief September]. https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education#

Haberland, N., & Rogow, D. (2015). Sexuality education: Emerging trends in evidence and practice. *Journal of Adolescent Health, 56*(1), S15-S21. https://doi.org/10.1016/j.jadohealth.2014.08.013

Hall, K. S., Sales, J. M., Komro, K. A., & Santelli, J. (2016). The state of sex education in the United States. *Journal of Adolescent Health, 58*(6), 595–597. https://doi.org/10.1016/j.jadohealth.2016.03.032

Helmer, J., Senior, K., Davison, B., & Vodic, A. (2015). Improving sexual health for young people: making sexuality education a priority. *Sex Education, 15*(2), 158–171. http://dx.doi.org/10.1080/14681811.2014.989201

Herrman, J.W., Solano, P., Stotz, L., & McDuffie, M. J. (2013). Comprehensive sexuality education: A historical and comparative analysis of public opinion. *American Journal of Sexuality Education, 8*(3), 140-159, https://doi.org/10.1080/15546128.2013.828342

Hilton, G. L. S. (2007). Listening to the boys again: an exploration of what boys want to learn in sex education classes and how they want to be thought. *Sex Education, 7*(2), 161-174. https://doi-org.srv-proxy1.library.tamu.edu/10.1080/14681810701264508

Hyde, A., Howlett, E., Drennan, J., & Brady, D. (2005). Masculinities and young men's sex education needs in Ireland: problematizing client-centered health promotion approaches. *Health Promotion International*, 20(4), 334–341, https://doi.org/10.1093/heapro/dai021

Jones, S., Hopkins, S., & Lester, C. (1997). Teenage sexual health through the eyes of the teenager: A study using focus groups. *Ambulatory Child Health, 3*, 3-11.

Kantor, L., & Levitz, N. (2017). Parents' views on sex education in schools: How much do Democrats and Republicans agree? *PLoS ONE, 12*(7): e0180250. https://doi.org/10.1371/journal.pone.0180250

Kantor, L., & Lindberg, L. (2020). Pleasure and sex education: The need for broadening both content and measurement. *American Journal of Public Health, 110*(2), 145–148. https://doi.org/10.2105/AJPH.2019.305320

Kennedy, E. C., Bulu, S., Harris, J., Humphreys, D., Malverus, J., & Gray, N. J. (2014). "These issues aren't talked about at home": a qualitative study of the sexual and reproductive health information preferences of adolescents in Vanuatu. *BMC Public Health*, *14*(770), 1-12. https://link.springer.com/article/10.1186/1471-2458-14-770

Kirby, D., Coyle, K., Alton, F., Rolleri, L., & Robin, L. (2011). *Reducing adolescent sexual risk: A theoretical guide for developing and adapting curriculum-based programs.* ETR Associates. http://ipp.jsi.com/Docs/Reducing_Adolescent_Sexual_Risk.pdf

Kimmel, A., Williams, T., Veinot, T., Campbell, B., Campbell, T., Valacak, M., & Kruger, D. (2013). 'I make sure I am safe and I make sure I have myself in every

way possible': African-American youth perspectives on sexuality education. *Sex Education, 13*(2), 172-185. https://doi.org/10.1080/14681811.2012.709840

Kocsis, T. (2020). *A critical analysis of sexuality education in the United States: Toward an inclusive curriculum for social justice.* Routledge.

Lester, C., & Allan, A. (2006). Teenage sexual health needs: Asking the consumers. *Health Education, 106*(4), 315-328. https://doi-org.srv-proxy1.library.tamu.edu/10.1108/09654280610673490

Lester, C. (2007). Preferences towards sex education and information from a religiously diverse sample of young people. *Health Education, 108*(1), 72-91. https://doi.org/10.1108/09654280810842148

Lindberg, L., Maddow-Zimet, I., & Boonstra, H. (2016). Changes in adolescents' receipt of sex education, 2006–2013. *Journal of Adolescent Health, 58*(6): 621–627. https://doi.org/10.1016/j.jadohealth.2016.02.004

Lockwood, C., Munn, Z., Porritt, K. (2015). Qualitative research synthesis: methodological guidance for systematic reviewers utilizing meta-aggregation. *International Journal of Evidence Based Healthcare, 13*(3),179–187. doi: 10.1097/XEB.0000000000000062

Lowe, M. (2018). *Sex ed is a human right. It's time we start treating it like one*. Sexuality Information and Education Council of the United States. https://siecus.org/sex-ed-is-a-human-right-its-time-we-start-treating-it-like-one/

Makenzius, M., Gadin, K. G., Tyden, T., Romild, U., & Larsson, M. (2009). Male students' behaviour, knowledge, attitudes, and needs in sexual and reproductive health matters. *The European Journal of Contraception & Reproductive Health Care, 14*(4), 268-276. https://doi.org/10.1080/13625180903015871

McKay, A., & Holowaty, P. (1997). Sexual health education: A study of adolescents' opinions, self-perceived needs and current and preferred sources of information. *Canadian Journal of Human Sexuality, 6*(1), 29-38. http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=69c1c0be-01e3-4497-8e65-24c4dc978c66%40sessionmgr4007

Mitra, D. E. (2009). Collaborating with students: Building youth-adult partnerships in schools. *American Journal of Education, 115*(3), 407-436. https://www.jstor.org/stable/10.1086/597488b

Mkumbo, K.A. (2010). What Tanzanian young people want to know about sexual health: implications for school-based sex and relationships education. *Sex Education, 10*(4), 405-412. https://doi.org/10.1080/14681811.2010.515097

Mkumbo, K.A. (2014). Students' attitudes towards school-based sex and relationship education in Tanzania. *Health Education, 73*(6), 642-656. https://doi-org.srv-proxy1.library.tamu.edu/10.1177/0017896913510426

Newby, K., Wallace, L. M., Dunn, O., & Brown, K.E. (2012). A survey of English teenagers' sexual experience and preferences for school-based sex education, *Sex Education, 12*(2), 231-251. https://doi.org/10.1080/14681811.2011.615582

Pound, P., Langford, L., & Campbell, R. (2016). What do you people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. *BMJ Open, 6*(9): e011329. https://dx-doi-org.srv-proxy1.library.tamu.edu/10.1136%2Fbmjopen-2016-011329

Powers, J. L., & Tiffany, J. S. (2006). Engaging youth in participatory research and evaluation. *Journal of Public Health Management and Practice, 12*(6), S79-S87. https://journals.lww.com/jphmp/fulltext/2006/11001/engaging_youth_in_participatory_research_and.15.aspx

O'Higgins, S., & Gabhainn, S. N. (2010). Youth participation in setting the agenda: learning outcomes for sex education in Ireland, *Sex Education*, *10*(4), 387-403. https://doi-org.srv-proxy2.library.tamu.edu/10.1080/14681811.2010.515096

Reeves, C., Whitaker, R., Parsonage, R. K., Robinson, C. A., Swale, K., & Bayley, L. (2006). Sexual health services and education: Young people's experiences and preferences. *Health Education Journal*, *64*(4), 368-379. https://doi-org.srv-proxy1.library.tamu.edu/10.1177/0017896906069381

Rose, I. D., & Friedman, D. B. (2017). Schools: A missed opportunity to inform African American sexual and gender minority youth about sexual health education and services. *The Journal of School Nursing*, *33*(2), 109-115. https://doi.org/10.1177/1059840516678910

Sedgh, G., Finer, L., Bankole, A., Eilers, M., & Singh, S. (2015). Adolescent pregnancy, birth, and abortion rates across countries: Levels and recent trends. *Journal of Adolescent Health*, *56*(2), 223-230. https://doi.org/10.1016/j.jadohealth.2014.09.007

Shannon, C. L., & Klausner, J. D. (2018). The growing epidemic of sexually transmitted infections in adolescents: A neglected population. *Current Opinions in Pediatrics*, *30*(1), 137-143. 10.1097/MOP.0000000000000578

Sexuality Information and Education Council of the United States. (2018). *On our side: Public support for sex education*. https://siecus.org/wp-

content/uploads/2018/08/On-Our-Side-Public-Support-for-Sex-Ed-2018-Final.pdf

Suter, S., McCracken, W., & Calam, R. (2012). The views, verdict and recommendations for school and home sex and relationships education by young deaf and hearing people. *Sex Education, 12*(2), 147–163. https://doi.org/10.1080/14681811.2011.609042

Szydlowski, M.B. (2015). *Sexual health education: Research and results*. Advocates for Youth. https://advocatesforyouth.org/wp-content/uploads/storage/advfy/documents/school-health-equity/sexual-healthed-research-and-results.pdf

United Nations Educational, Scientific, and Cultural Organization. (2018). *International technical guidance on sexuality education: An evidenced informed approach (revised ed.)*. https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

Wilson, K. L., Maness, S. B., Thompson, E. L., Rosen, B. L., McDonald, S., & Wiley, D. C. (2018). Examining sexuality education preferences among youth at risk for poor sexual health outcomes based on social determinants of health factors.

American Journal of Sexuality Education, 13(3), 283-296.

https://doi.org/10.1080/15546128.2018.1447414

World Health Organization. (2015). *Sexual health, human rights, and the law*.

https://apps.who.int/iris/bitstream/handle/10665/175556/9789241564984_eng.pdf

3. YOUTH-INFORMED SEXUAL HEALTH EDUCATION: PART I. WHAT YOUTH WANT TO KNOW ABOUT PREGNANCY, SEXUALLY TRANSMITTED INFECTIONS, AND RELATED INFLUENCING FACTORS

3.1. Introduction and Background

Access to the information, skills training, and resources needed to make an informed decision regarding one's own sexual health and wellbeing is a basic human right regardless of age (United Nations, 2015; United Nations Population Fund [UNPF], 2014). Regrettably, youth are too often denied access to this fundamental education within United States (U.S.) schools (Sexuality Information and Education Council of the United States [SIECUS], 2020). This disturbing reality is evidenced by inconsistent and often factually unsupported educational policies and procedures (Guttmacher Institute, 2020a), compelling youth testimony regarding insufficient instruction (Pound et al., 2016), and staggering negative adolescent health outcomes (Redfield et al., 2020). When examining causes for this failure to provide a meaningful learning experience, it is important to consider that adults have traditionally played the role of educational gatekeeper based on their respective perception of effectiveness and appropriateness (Allen, 2005). While youth are left to experience the resulting educational and health-related outcomes associated with such adult-driven decisions, they rarely have an opportunity to meaningfully contribute to the decision making process (MacDonald et al., 2011). Identifying, understanding, and addressing the school-based sexual health

education needs and interests of youth is critically important to ensuring all youth receive a high-quality education (Byers et al, 2013).

3.1.1. Sexual Health Education is a Human Right

Historically, sexual health education within the U.S. has primarily focused on the prevention of negative physical outcomes associated with risky sexual behaviors (Brenner et al., 2017). While true that effective education can reduce sexual risk related behaviors (Herrman et al., 2013), this narrow lens has severely limited the holistic scope of benefits associated with comprehensive sexual health education (Goldfarb & Lieberman, 2020). This targeted application has also left the door open for opposition based on adult-perceived risk of youth participating in risky behaviors (Millstein & Halpern-Felsher, 2002) as well as decisions rooted in cultural and religious values rather than evidence (Hall et al., 2016). Of most consequence, however, approaching sexual health education from a health behavior or moral angle fails to acknowledge that all individuals deserve access to comprehensive sexual health education because it is essential to overall health and development (Braeken & Cardinal, 2008; Sanjakdar et al., 2015).

A growing number of national and international organizations have publicly declared access to comprehensive sexual health information and education as a human right due to its fundamental importance and impact (Kismodi et al., 2017; Lowe, 2018; National Guidelines Task Force, 2004; World Association for Sexual Health [WAS], 2008). In addition, comprehensive sexual health education has specifically been identified as a critical component of broader rights-based efforts to enhance sexual and

reproductive health as well as achieve gender equality and equity (Haberland & Rogow, 2015; Miller et al., 2015; Temmerman et al., 2014; UNFP, 2014). As a collective, these leading human rights experts have stressed essential characteristics of comprehensive sexual health education to ensure clarity and provide contrast against the broader spectrum of educational practices. Key elements of instruction include providing information that is uncensored, medically and scientifically accurate, age and developmentally appropriate, as well as culturally and LGBTQ-inclusive (World Health Organization [WHO], 2015). In addition, early and scaffolded instruction within a school setting is considered critically important to broaden educational reach and ensure long-term knowledge and skill development (Goldfarb & Lieberman, 2020; WHO, 2010). Together these characteristics provide the foundational pillars of an education that "honors and respects the rights of young people and provides them with the tools needed to lead healthy lives" (SIECUS, 2020, p. 9).

3.1.2. School-Based Sexual Health Education in Practice

Despite global expectations, many U.S. students are still not receiving the education that they deserve (Keller, 2020). As noted by Kelly (2005), current sexuality education in the U.S. "often constitutes an uncoordinated collection of facts, deliberate omissions, vaguely-defined moralizing, and unscientific proselytizing." (p.16). This reality isn't surprising given the current patchwork of federal, state, and local requirements (Constantine, 2008). For example, only 30 states and the District of Columbia currently require sex education to be taught in school and just 17 states mandate that this education must be medically accurate. Some states have even included

values-based instructional requirements such as stressing that sexual activity only happens within the context of marriage (n=19) and framing all homosexuality-related information as negative (n=6) (Guttmacher Institute, 2020b). Furthermore, some educators are left to plan, develop, and teach sexual health content without guidance (Gelperin & Shroeder, 2008) and with very little time for instruction. For example, the average annual amount of time spent teaching human sexuality in 2014 by schools requiring instruction was just 6.2 hours for high school, 5.4 hours for middle school, and 1.9 hours for elementary school (Health and Human Services Centers for Disease Control [HHS CDC], 2014).

Youth have also expressed strong dissatisfaction with the current educational experience. An integrative review of sexual health education programs conducted by Corcoran et al. (2020) found that youth often consider existing programming: 1) stigmatizing in content, method of delivery, and learning environment, 2) biased and untrustworthy, 3) irrelevant and too restrictive, 4) overly focused on the physical aspects of sexuality, as well as 5) delayed and unresponsive to their need for reiterated information that is age and developmentally appropriate. The real life consequences resulting from insufficient education are deeply concerning (Phipps, 2008). Two alarming examples include an unprecedented increase in the rate of reported sexually transmitted infections (STI) since 2014 (Centers for Disease Control and Prevention [CDC], 2018) and the U.S. continuing to have one of the highest rates of teen pregnancy in comparison to other developed countries despite a significant decline over the last two decades (Sedgh et al., 2015). The array of poor educational and health related outcomes

further underscores the need for immediate action to ensure all youth have access to high quality education on sexual and reproductive health.

3.1.3. Advancing School-Based Sexual Health Education

The support and hard work of health professionals, rights-based advocates, researchers, educators, and many others has paved the way for advancing comprehensive sexual health education in U.S. schools. The National Sexuality Education Standards (NSES) have been central to this movement (Future of Sex Education [FoSE], 2020). Created by leading experts from across the U.S. and initially released in 2012, the NSES were designed to provide educators with clear and consistent guidance regarding the minimum content considered essential for K-12 students (FoSE, 2012; FoSE, 2020). The NSES (1st ed.) holistically align with seven topic areas related to sexual health including anatomy and physiology, puberty and adolescent development, identity, pregnancy and reproduction, sexually transmitted diseases and HIV, healthy relationships, and personal safety. Each topic area includes specific content and skills expectations, referred to as performance indicators, designed to align with the National Health Education Standards (National Health Education Standards [NHES], 2007).

While not federally mandated, the NSES have gained significant support over the last decade as they represent unprecedented guidance within the U.S. for advancing adolescent sexual health through effective education (Boonstra, 2012). According to the 2016 School Health Policies and Practices Study, 41.3% of 13,320 sampled school districts had adopted policies to follow the NSES (HHS CDC, 2016). While this trend is promising, other examples such as 83% of Texas schools in 2016 taught abstinence-only

or no sexual health education, serve as a stark reminder that there is still much work to be done (Texas Freedom Network Education Fund & SIECUS, 2019).

3.1.3.1. Youth-Informed School-Based Sexual Health Education

As a society, we hold youth accountable for their sexual health-related decisions and actions; however, adults are most often responsible for determining the information, skills, and resources adolescents need to navigate adolescence safely and successfully (Allen, 2005). Ideally, such decisions would be meaningfully informed by youth to ensure equitable education (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2005). As noted by Corcoran et al. (2020), "an important role of the educator, researcher, and policy maker is to listen to the adolescents' perceptions in order to modify and create programs that could potentially improve sexual health outcomes for adolescents" (p. 110). Previous research has suggested that incorporating youth perspectives could strengthen student engagement and enhance effectiveness by teaching relevant and meaningful content (Byers et al., 2003; McKay & Holowaty, 1997). In addition, direct insight from youth can help educators prioritize content when limited on time and strengthen advocacy efforts for quality sexual health education in schools.

While there is an established body of literature exploring youth knowledge, behavior change and perceptions associated with existing sexual health programming (Corcoran et al., 2020, Goldfarb & Lieberman, 2020; Pound et al., 2016), there is a surprising lack of published research regarding specific sexual health content that youth directly identify as of interest and importance to learn in school (Kimmel, 2013). In fact,

a systematic review conducted by Farmer and Wilson (2021a) found only 23 studies related to this topic have been published world wide between 1997 and 2018. With just two of these studies taking place within the U.S. (Eisenberg et al., 1997; Gowen & Winges-Yanez, 2014), as well as strong evidence of inadequate education and staggering sexual health disparities, it is clear that we can no longer rely solely on the normative needs assumed by adults. Successful advancement of effective school-based sexual health education requires a coordinated effort to identify and respond to the expressed needs of youth (Forrest et al., 2004).

The purpose of this study is to give youth a voice regarding their school-based sexual health education needs and interests. More specifically, this study provided youth the opportunity to show their support for the first edition of the NSES by completing a survey in which each NSES performance indicator represented one or more survey items. The purpose of this manuscript is to share what youth want to learn about pregnancy, STIs, and related influencing factors. Using a scale of importance, students were asked to identify how important it is to learn specific sexual health information and skills, as reflected by each respective NSES performance indicator, in high school. The NSES served as an ideal foundation for the survey instrument given their breadth and depth of content in comparison to previous studies that explored youth-informed sexual health education. Due to the existing lack of agreement regarding who should learn the knowledge and skills needed to navigate sexual health decisions (Hall et al., 2016), additional questions were asked to determine if perceived importance varied based on age, gender, race, ethnicity, or sexual experience.

3.1.3.2. Declaration of Interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

3.2. Methods

3.2.1. Instrument

The data presented within this paper are part of a larger study designed to examine the school-based sexual health education needs and interests of middle and high school-aged youth, including: perceived level of importance regarding specific sexual health content that should be taught in school; high school aged-youth reflecting on content received and content that should have been received during middle school; and how youth prefer to learn sexual health information.

This study began with the development of a new cross-sectional survey instrument, as an existing survey consisting of constructs of interest to this study could not be identified through a thorough review of current literature. The NSES were identified as an ideal foundation for item development as they represent a comprehensive list of sexual health content and were developed by an extensive panel of national experts. Each high school-level NSES performance indicator represented one or more survey items, depending on length, resulting in 62 items total. Given that the NSES were designed to align with the NHES, items were organized within the survey based on their respective NHES alignment. As such, each of the eight NHES were used as leading questions to introduce the knowledge, process, or skill represented by the NSES-based

survey items. A five-point Likert scale ranging from “not important at all” to “extremely important” (0 = not important at all; 1 = not very important; 2 = important; 3 = very important; 4 = extremely important) was used to identify student opinion regarding the importance of each sexual health concept being taught in school (Byers et al., 2003). An additional 15 items were included within the survey to assess previous sexual health education experience in middle school, educational preferences, sexual identity and experience, and demographic characteristics.

Face and content validity of the survey instrument were assessed following completion of the item development process. A cognitive interview was conducted with six young adults between 18 to 22 years of age to review each item for clarity and recommended revisions. Words that were confusing were identified and participants were asked for advice regarding synonyms and definitions. The interview lasted for 90 minutes, and each participant received a $25 gift card for their assistance. Interviews were transcribed to ensure that all concerns and suggestions for item improvement were addressed. The revised survey instrument was then reviewed by health education professionals with working knowledge of the NSES and NHES.

It was not possible to pilot the survey prior to implementation within the large urban school district due to time and other school-based challenges. As described within the data analysis section below, survey results were treated as pilot data for the purposes of establishing criterion and construct validity to create a final version of the survey that can be implemented or adapted for other settings.

3.2.2. Participants

A total of 265 students from 4 high schools within a large urban independent school district in Texas participated in the survey. The 258 students who completed the survey provided representation from each grade level, including: 9th grade (32%), 10th grade (32%), 11th grade (25%), and 12th grade (11%). In addition, 41% of survey participants identified as male, 58% as female, and 1% as a gender other than male or female. Ethnic distribution was represented as 66% Hispanic/Latino, and racial distribution was represented as 9% American Indian or Alaskan Native, 6% Asian, 16% Black or African American, 3% Native Hawaiian or other Pacific Islander, 61% White, and 18% identified as other. Of the students who completed the survey, a total of 41% have had sexual intercourse and 32% have had oral sex.

3.2.3. Procedure

This survey was conducted as part of a larger study to assess the sexual health education needs and interests of youth in middle and high school. The high school-based survey was anonymous and available in both an online and paper-pencil format. All students actively enrolled in health class at the 4 participating high schools were offered the opportunity to participate in the survey. Students who returned a signed parental consent form were eligible to complete the survey; however, students were also asked to personally assent to taking the survey before answering any questions. Students were instructed that they did not have to answer any question they were uncomfortable answering, and they could end the survey at any time. Surveys typically took between 20 to 30 minutes to complete, and students received a $10 gift card for their participation.

3.2.4. Data Analysis

Items were entered into SPSS (Version # 26) for analysis. Descriptive statistical calculations were conducted first. Then, factor analysis was used to assess the unidimensionality of each survey scale and determine construct validity. Given that a newly developed instrument was used to collect data for this study, it was necessary to begin with exploratory factor analysis (EFA) to allow for exploration regarding variable relationships and latent constructs (Thompson, 2004). Cronbach's alpha was also calculated for each factor to assess internal consistency. Principal component analysis (PCA) was selected as the extraction method to determine if the instrument's number of items could be reduced (Netemeyer et al., 2003). The Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity outputs were assessed to respectively determine sample adequacy and confirm the correlation matrix was not an identity matrix before further examining results. Inter-item correlations and corrected item-to-total correlations were reviewed to confirm unidimensionality.

Factor rotation was used to identify factors that best explain the survey's latent constructs. Only one component could be extracted using Varimax rotation and the solution could not be rotated. The Kaiser criterion, scree tests, and outputs for factor loadings were then utilized to determine the final number of factors to retain. A total of 8 items were ultimately deleted as they were not correlated with a sufficient number of items to meet the 3-item minimum per factor recommendation (DiStefano & Hess, 2005).

Following initial assessment for construct validity and reducing the set of survey items, confirmatory factor analysis (CFA) was performed using Maximum Likelihood estimation in M*plus* version 8 (Muthén & Muthén, 2017) to determine acceptability of model fit. Multiple fit indices were examined to assess how well the CFA model fit to the data, including Chi-square test of model fit (χ^2), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and Root Mean Square Error of Approximation (RMSEA). It was expected that good model fit would be indicated by CFI values greater than 0.95 and SRMR values less than 0.06 (Hu & Bentler, 1999). RMSEA goodness of fit was determined using a scale presented by Kim et al. (2016), with values less than 0.05 considered good, 0.05 to 0.08 acceptable, 0.08 to 0.1 marginal, and greater than 0.1 considered poor.

Finally, one-way Analysis of Variance (ANOVA) was conducted using latent variable values for each scale to determine if participant responses differed by grade, age, school, gender, race, ethnicity, and sexual experience. Sexual experience was purposefully assessed through three separate questions to ensure students could select the behavior(s) they best identified with. It was hypothesized that participant characteristics would not influence the level of importance placed on sexual health concepts being taught in school. To ensure identification of such differences, post hoc tests were conducted to assess any statistically significant differences within each participant category.

3.2.5. Human Subjects Approval Statement

All study procedures were reviewed and approved by the Texas A&M University (TAMU) Institutional Review Board (IRB) and Austin ISD Department of Research and Evaluation.

3.3. Results

3.3.1. Descriptive Statistics

Univariate statistics for survey items related to the importance of learning about pregnancy, STIs, and associated influencing factors within a school-base setting are presented in Table 3.1. Participants selected their response to each survey question using a 5-point Likert scale, ranging from 0 (not important at all) to 4 (extremely important). The mean response, presented as ± standard deviation, indicated each content-related survey item was considered by youth to be "very important" or "extremely important" to learn in school. While it was hypothesized that participant characteristics would not influence the level of student support for the different sexual health concepts, several statistically significant results did emerge impacting the level of importance students placed on learning specific information. Specific similarities and differences are highlighted within the scales section below.

Table 3.1 Descriptive Data for Variables Related to Pregnancy, STIs, and Related Influencing Factors.

Survey Item #	Survey Item	Mean	Standard Deviation	Participate #	Description of Results
It is important in high school for students to have the chance to learn about...					
6	Advantages and disadvantages of different kinds of contraception (ways to prevent pregnancy), including abstinence (choosing not to have sex) and condoms.	3.38	.825	258	Very Important
7	Emergency contraception (prevents a pregnancy from happening after sex, example - Plan B, Morning After Pill) and how it works.	3.31	.746	258	Very Important
8	Laws that can affect health care during pregnancy.	3.05	.876	258	Very Important
9	Signs of pregnancy.	3.36	.778	258	Very Important
10	Pregnancy laws, adoption laws, abortion laws, and parenting laws.	3.24	.812	258	Very Important
11	Symptoms of and treatments for sexually transmitted diseases (STDs) (infections that a person can get through sexual contact), including HIV.	3.53	.747	254	Extremely Important
12	Abstinence (choosing not to have sex), condoms, and other ways to prevent STDs.	3.24	.855	254	Very Important
13	Sexual health care laws, including STD and HIV testing and treatment.	3.30	.804	254	Very Important
16	Sexual consent (giving permission) and why it is important when making decisions about sexual behaviors.	3.16	.844	258	Very Important
17	The positive and negative roles of technology and social media (Facebook, twitter) in relationships.	2.66	1.039	258	Very Important
It is important in high school for students to have the chance to learn about the influence of...					
26	Media on a person's beliefs about what a healthy sexual relationship is.	2.71	.962	258	Very Important
27	Alcohol and other drugs on a person's ability to give or understand consent (permission) for sexual activity.	3.14	.851	258	Very Important
It is important in high school for students to have the chance to learn how influences (friends, family, media, society, and culture) can impact decisions …					
29	About if and when they will participate in sexual behaviors.	2.98	.876	259	Very Important
30	Made during a pregnancy.	3.02	.911	259	Very Important
31	About whether and when to become a parent.	3.14	.932	259	Very Important

Table 3.1 Continued

It is important in high school for students to have the chance to learn how to find correct information about…					
34	Contraceptive methods (ways to prevent pregnancy), including emergency contraception (prevents a pregnancy from happening after sex) and condoms.	3.37	.768	259	Very Important
35	Emergency contraception (prevents a pregnancy from happening after sex).	3.26	.863	259	Very Important
36	Pregnancy and pregnancy choices (keeping the baby, adoption, abortion).	3.39	.777	259	Very Important
37	Health care services available to pregnant women.	3.19	.856	259	Very Important
38	Local testing and treatment services for sexually transmitted diseases (STDs) (infections that a person can get through sexual contact) and HIV.	3.40	.766	261	Very Important
39	Preventing STDs.	3.57	.684	261	Extremely Important
It is important in high school for students to have the chance to learn decision making steps to use…					
50	When choosing how to prevent pregnancy, including abstinence (choosing not to have sex) and condoms.	3.24	.808	260	Very Important
51	When thinking about the skills and resources needed to become a parent.	3.26	.824	260	Very Important
52	When making choices about safer sex practices, including abstinence (choosing not to have sex) and condoms.	3.28	.810	260	Very Important
It is important in high school for students to have the chance to learn ways to develop a plan to…					
53	Avoid sexually transmitted diseases (STDs) (infections that a person can get through sexual contact), including HIV.	3.58	.744	254	Extremely Important
It is important in high school for students to have the chance to learn ways to promote…					
60	Sexually transmitted disease (STD) (infections that a person can get through sexual contact) testing and treatment for all sexually active youth.	3.26	.890	261	Very Important

3.3.2. Scale Characteristics

I anticipated that 7 factors would emerge from the analysis process, 1 factor for each of the 7 NSES key topic areas; however, a total of 15 factors were ultimately retained. While 10 factors had eigenvalues greater than 1.0, model comparison showed statistical difference indicating the model is a better fit with additional factors. As mentioned previously, this paper is focused on findings related to pregnancy, sexually transmitted infections, and related influencing factors. As such, results regarding only 7 of the 15 factors (referred to as scales from this point forward) will be reviewed and discussed within this paper. The reader can refer to the companion manuscript (Farmer & Wilson, 2021b) for additional details regarding the 8 remaining factors related to healthy relationships, identity, and personal safety.

Table 3.2 presents scale characteristics. Described in more detail within the scales section below, a total of 26 items were associated with the scales related to pregnancy, STI, and related influencing factors, with a range of 3 to 5 items per scale. The calculated Cronbach's alpha coefficient ranged from .747 to .870, indicating good reliability. Total variance that could be explained by each of the 7 scales ranged from 59% to 79%. Sample size is considered acceptable for interpreting results as all KMO values are above the recommended .60 - .70 range (Loewenthal, 2001) and items are sufficiently correlated as confirmed by the significant Bartlett's test of sphericity (Netemeyer et al., 2003).

Table 3.2 Scale Characteristics.

Scale #	Scale Name	# of Items	Survey Item #	Cronbach's Alpha	KMO	Bartlett's Test of Sphericity	Total Variance Explained (%)
1	*Influences on Sexual Health Beliefs and Practices*	4	16,17,26,27	.765	.747	.000	59.135
5	*Pregnancy Prevention, Signs, and Laws*	5	6,7,8,9,10	.831	.810	.000	59.875
6	*Influences on Sexual Behavior and Pregnancy Decisions*	3	29,30,31	.870	.737	.000	79.476
7	*Accessing Pregnancy Related Information*	4	34,35,36,37	.839	.739	.000	68.070
8	*STI Prevention, Signs, and Treatment*	4	11,12,13,53	.802	.771	.000	63.298
9	*Access and Promote STI Information*	3	38,39,60	.777	.703	.000	69.839
15	*Decision Making Steps for Pregnancy and Safe Sex*	3	50,51,52	.747	.646	.000	66.708

3.3.3. Model Fit

Multiple fit indices were reviewed to determine adequacy of the seven CFA model fit, including, Chi-square test of model fit (χ^2), RMSEA, CFI and SRMR. Described in detail within the scale section below and within Table 3.3, fit indices indicated good overall model fit; however, some variation did exist. All SRMR values aligned with the recommendation to be less than 0.06, indicating good global fit between the model and data. Furthermore, all CFI values were above the recommended .95

baseline indicating good relative fit of the model structure (DiStefano & Hess, 2005). Some RMSEA values were higher than expected; however, six of the seven scales indicated a good or acceptable fit between the model and data. The Chi-square test of model fit was non-significant for three of the seven scales.

Table 3.3 Model Fit for the Seven Scales.

Scale	Chi Square Test of Model Fit	RMSEA < .05	CFI > 0.95	SRMR < 0.06
1	0.4640	0.000	1.000	0.006
5	0.0865	0.063	0.991	0.020
6	0.000**	0.000	1.000	0.000
7	0.0151*	0.111	0.985	0.022
8	0.6874	0.000	1.000	0.007
9	0.000**	0.000	1.000	0.000
15	0.000**	0.000	1.000	0.000

*$p < 0.05$, ** $p < 0.01$

3.3.4. Instrument Scales and Findings

The seven scales presented within this manuscript relate to three distinct categories: pregnancy, STIs, and related influencing factors. As such, scale specific results are organized below based on these overarching categories. Please refer Tables 3.4 and 3.5 below for a complete list of student characteristics associated with both the highest and lowest levels of agreement regarding the importance of each scale's respective sexual health content being taught in a high school-based setting.

3.3.4.1. Pregnancy

3.3.4.1.1. Pregnancy Prevention, Signs, and Laws (Scale 5)

Scale 5 indicated good overall fit ($\chi^2(4) = 8.1441$ with $p = 0.0865$, CFI = 0.991, SRMR = 0.020), with an acceptable value of RMSEA = 0.063. Within this scale, youth identified their perception regarding the level of importance for high school students to learn about "advantages and disadvantages of different contraception," "emergency contraception," "laws that can affect health care during pregnancy," "signs of pregnancy," and "laws about pregnancy, adoption, abortion, and parenting." Of the 5 items within this scale, the first two are more closely related due to their specific focus on contraception. The mean response for each scale 5 item was "very important."

The one-way ANOVA identified a statistically significant difference in level of agreement based on gender identity ($F(2,257) = 3.878$ with $p = .022$). A post hoc test revealed a statistically significant increase ($p = .007$) in agreement from students who identified as male (M = -.08, SD = .43) to students who identified as female (M = .06, SD = .04). Agreement further increased to students who identified as a gender other than male or female; however, this increase was not statistically significant (MD = .18, SD = .45, $p = .38$).

The one-way ANOVA also identified a statistically significant difference in level of agreement ($F(5,202) = 2.253$ with $p = .031$) based on race. Level of agreement increased from students who identified as American Indian or Alaskan Native (AI/AN) (M = -.23, SD = .36), to Asian (M = -.07, SD = .35), to White (M = -.02, SD = .44), to Multiracial (M = .16, SD = .32), to Black or African American (B/AA) (M = .19, SD =

.37), to Native Hawaiian or Pacific Islander (NH/PI) (M = .23, SD = .30), in that order. Post hoc analysis revealed that the mean increase from AI/AN students to Multiracial students (M = .37, 95% CI [0.0626, 0.6690]) was statistically significant (p = .018), as well as the increase from AI/AN to B/AA students (M = .42, 95% CI [0.1306, 0.7059], p = .005). In addition, there was a statistically significant increase from students who identified as White to B/AA students (M = .21, 95% CI [0.0320, 0.3913], p = .021). All other group differences were not statistically significant.

Other statically significant differences emerged based on previous sexual behavior. A statistically significant increase in level of agreement (F(1,254) = 6.753 with p = .010) occurred between students who have not had sexual intercourse (M = -.05, SD = .43) to students who have had sexual intercourse (M = .08, SD = .38). In addition, the increase in agreement from students who have not had oral sex (M = -.037, SD = .43) to students who have had oral sex (M =.09, SD = .38) was statistically significant (F(1,254) = 5.020 with p = .026).

3.3.4.1.2. Accessing Pregnancy Related Information (Scale 7)

Scale 7 indicated relatively acceptable fit (CFI = 0.985, SRMR = 0.022) with a poor value of RMSEA = 0.111. Chi-square test of model fit was significant ($\chi^2(2)$ = 8.381 with p = 0.0150); however, this test is sensitive to sample size. Youth expressed their opinion through this scale regarding the level of importance for high school students to learn how to find correct information about "contraceptive methods," "emergency contraception," "pregnancy and pregnancy choices," and "health care

services available to pregnant women." The mean response for all items within scale 7 items was "very important."

A statistically significant increase in level of agreement ($F(1, 255) = 5.531$ with $p = .022$) occurred from students who have not had sexual intercourse (M = -.06, SD = .05) to students who have had sexual intercourse (M = .11, SD = .53). In addition, the one way ANOVA revealed a statistically significant difference between students based on oral sex experience ($F(1, 196.245) = 8.201$ with $p = .005$) using the Welch test, with agreement increasing from students who have not had to oral sex (M = -.05, SD = .60) to students who have had oral sex (M = .15, SD = .49).

3.3.4.2. Sexually Transmitted Infections

3.3.4.2.1. STI Prevention, Signs, and Treatment (Scale 8)

Scale 8 indicated good overall fit ($\chi^2(2) = 0.750$ with $p = 0.6874$, RMSEA = 0.000, CFI = 1.000, SRMR = 0.007). This scale measured perceived importance regarding the ability for high school students to learn about "symptoms and treatments for STDs," "ways to prevent STDs," and "sexual health care laws," as well as ways to develop a plan to "avoid STDs." The mean response for items within this scale was "very important" or "extremely important."

There were no statistically significant responses for items within scale 8; however, differences in responses did emerge. For example, agreement based on grade ($F(3,257) = .229$ with $p = .876$) increased in order from students who were in the 12th grade (M = -.0001, SD = .58), to 9th grade (M = -.005, SD = .48), to 10th grade (M =.06, SD = .51), to 11th grade (M = .10, SD = .43). A post hoc test revealed the mean increase

in agreement from 12th grade to 11th grade (M = .10, 95% CI [-.1602, .3534]) was not significant (p = .460) nor any of the other group differences.

3.3.4.2.2. Access and Promote STI Information (Scale 9)

Scale 9 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Items within this scale measured perceived importance regarding the chance to learn how to find correct information about "local STD testing and treatment" and "preventing STDs," as well as ways to promote "STD testing and treatment."

No statistically significant increases in level of agreement occurred between groups of responding students. While the mean response for each item within this scale was "very important" or "extremely important," non-significant differences in level of agreement did exist between groups of responding students. For example, level of agreement ($F(2,258) = .621$ with $p = .538$) increased based on gender from students who identified as male (M = -.04, SD = .53), to female (M = .03, SD = .53), to a gender other than male or female (M = .17, SD = .43). In addition, level of agreement ($F(1,259) = 2.619$ with $p = .107$) increased from students who identified as non-Hispanic/Latino (M = -.07, SD = .54) to Hispanic/Latino (M = .04, SD = .52).

3.3.4.3. Influencing Factors

3.3.4.3.1. Influences on Sexual Health Beliefs and Practices (Scale 1)

Scale 1 indicated good overall fit ($\chi^2(1) = 0.536$ with $p = 0.4640$, RMSEA = 0.000, CFI = 1.000, SRMR = 0.006). This scale measured how important youth believe

it is for students to learn about "sexual consent and its importance on decisions about sexual behavior" and "positive and negative roles of technology in relationships," as well as learn about the influence of "media on healthy relationship beliefs" and "alcohol and drugs on giving and understanding consent." Of these 4 items, the latter two are more closely related as they are both specifically focused on outside influencing factors that have the ability to influence perceptions and actions within relationships. The mean response for all items within this scale was "very important."

The difference in level of agreement regarding whether content related to influences on sexual health beliefs and practices was statistically significantly based on oral sex behavior ($F(1,254) = 4.860$ with $p = .028$). A post hoc test identified the statistically significant difference occurred between the increase from students who had not had oral sex (M = -.04, SD = .55) to the students who have had oral sex (MD = .12, SD = .53).

While not statistically significant ($F(3,250) = 2.061$ with $p = .106$), there was also an increase in level of importance from to students who have never had sexual contact (M = -.03, SD = .57), to had sexual contact with females (M = .002, SD = .48), to had sexual contact with males (M = .05, SD = .53), to students who have had sexual contact with both males and females (M = .35, SD = .50), in that order. In addition, there was an increase in level of agreement between students who identified as Hispanic/Latino (M = -.05, SD = .55) to non-Hispanic/Latino students (M = .09, SD = .54), but this increase was not statistically significant ($F(1,258) = 3.797$ with $p = .052$).

3.3.4.3.2. Influences on Sexual Behavior and Pregnancy Decisions (Scale 6)

Scale 6 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Within this scale, youth identified their perception regarding the level of importance for high school students to learn how influences (friends, family, media, society, and culture) can impact decisions about "participating sexual behaviors," "made during pregnancy," and "becoming a parent." The mean response for each item within this scale was "very important."

Level of agreement regarding whether content related to influences on sexual behavior and pregnancy decisions was statistically significantly different based on age ($F(4,254) = 2.617$ with $p = .036$). Agreement increased in order from students who were 14 years old (M = -.26, SD = .66), to 17 years (M = -.08, SD = .70), to 15 years (M =-.07, SD = .78), to 18 years (M = .14, SD = .62), to 16 years old (M = .19, SD = .59). Post hoc analysis revealed three statistically significant mean increases to 16-year-old students, including from 14 years (M = .45, 95% CI [.0876, .8140], $p = .015$), from 17 years (M = .272, 95% CI [.0328, .5123], $p = .026$), and from 15 years (M = .268, 95% CI [.0433, .4928], $p = .020$). The mean increase in agreement from 18 to 16 years old students (M = .05, 95% CI [-.2658, .3674]) was not statistically significant ($p = .752$).

3.3.4.3.3. Decision Making Steps for Pregnancy and Safe Sex (Scale 15)

Scale 15 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Youth expressed their opinion through this

scale regarding how important they believe it is for high school students to learn decision making steps to “prevent pregnancy,” “determining parenting skills and resources,” and “practice safe sex.” The mean response for all items within scale 15 was “very important.”

The one-way ANOVA identified a statistically significant difference in level of agreement regarding items represented by this scale based on gender identity ($F(2,258) = 3.298$ with $p = .039$). A post hoc test revealed that agreement increased from students who identified as male (M = -.09, SD = .58) to students who identified as female (M = .06, SD = .53). Agreement further increased to students who identified as a gender other than male or female (MD = .59, SD = .00); however, this increase was not statistically significant (M = .53, 95% CI (-.2473, 1.3026), $p = .181$).\

Table 3.4 Students Expressing Highest Level of Importance.

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
1	10+	16+	A+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have^	Males & Females+
5	10+	15+	T+	Other+*	NH/PI^	Non-Hispanic+	Have^	Have^	Males & Females+
6	11+	16^	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Females+
7	11+	18+	A+	Female+	NH/PI+	Non-Hispanic+	Have^	Have^	Males & Females+
8	11+	15+	T+	Female+	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
9	11+	18+	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
15	12+	18+	T+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have+	Males & Females+

+Not Statistically Significant; ^Statistically Significant; ± Can't fully explain due to small sample size

Table 3.5 Students Expressing Lowest Level of Importance.

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
1	12+	17+	R+	Male+	Asian+	Hispanic+	Have Not+	Have Not^	Have Not+
5	11+	14+	R+	Male^	AI/AN^	Hispanic+	Have Not^	Have Not^	Have Not+
6	12+	14^	A+	Male+	AI/AN+	Non-Hispanic+	Have Not+	Have Not+	Males & Females+
7	10+	17+	C+	Other+*	AI/AN+	Hispanic+	Have Not^	Have Not^	Have Not+
8	12+	17+	A+	Other+*	Asian+	Non-Hispanic+	Have Not+	Have Not+	Have Not+
9	9+	17+	C+	Male+	Asian+	Non-Hispanic+	Have Not+	Have Not+	Have Not+
15	11+	17+	C+	Male^	Asian+	Hispanic+	Have Not+	Have Not+	Have Not+

+Not Statistically Significant; ^Statistically Significant; * Can't fully explain due to small sample size

3.4. Discussion

Findings from this study indicate youth believe it is either very important or extremely important to learn about pregnancy, STIs, and related influencing factors within a high school-based setting. Furthermore, these findings suggest that certain student characteristics can influence perceived level of importance regarding specific sexual health content.

To the best of my knowledge, this study represents the most in-depth exploration and documentation of what youth believe is important and of interest to learn about sexual health in a school-based setting. The first step in this study was to design an instrument to measure how important it is to learn each high school-level NSES in school. The survey demonstrated face and content validity through a tiered review process by young people and health education professionals; however, participants who initially helped to review and revise items through the cognitive interview process were slightly older than the target age group, 18 - 22 years rather than the ideal 14-18 years of age.

Despite inability to pilot the survey prior to implementation, criterion and construct validity of the survey were established through analysis of the 258 surveys completed by students representing 4 urban high schools. Through this process, factor analysis was used to confirm scale unidimensionality, delete 8 items from the survey, and identify a total of 15 factors to be included in the final model. Confirmatory factor analysis was then used to assess scale reliability and evaluate model fit. While more factors were identified than initially hypothesized, findings revealed good reliability and

good overall model-data fit. It is important to note that the RMSEA value was poor for 1 of the 7 scales, scale 7, despite CFI and SRMR suggesting good fit. According to Lai and Green (2016), the reasons for inconsistencies between fit indices are still not well understood; however, a simulation study by Kenny et al. (2015) might offer a possible explanation given that scale 7 had 2 degrees of freedom (*df*) and a sample size of 259. Kenny et al. uniquely explored the impact of small degrees of freedom (*df*) and sample size (defining samples of 400 or more as large) on RMSEA values and concluded that RMSEA "too often falsely indicates a poor fitting model" when used to assess fit for models with small df and small sample size (p. 486). It is also important to note that the Chi-square test of model fit was significant for 4 of the 7 scales, resulting in rejection of the null hypothesis that the model and observed covariance matrices are equal for these select scales (Jöreskog, 1993); however, results are still acceptable due to sample size. Browne and Arminger (1995) noted that a small degree of misfit can result in rejection of the null hypothesis for studies with a larger sample size.

As a reminder, one-way ANOVAs were conducted using post hoc tests to determine if student responses regarding level of importance statistically varied based on student grade, age, school, gender, race, ethnicity, and sexual experience (oral sex, sexual contact, and sexual intercourse). While the statistically significant differences that emerged were unexpected, the mean response representing all survey participants for all items remained "very important" or "extremely important." Given the five-point scale of importance available for each item, this overall response suggests that survey

participants on average strongly support holistic sexual health education within a high school setting.

Despite these informative findings, other results proved more challenging to interpret. For example, the very small sample size (n=2) representing students who identified with a gender other than male or female made it difficult to fully understand why this group of students expressed the highest level of importance for 5 scales and lowest level of importance for the remaining 2 scales. Limiting ANOVA to one-way analysis also prevented deeper understanding of student characteristics on response options, such as further examination of why 17-year-old students expressed the lowest level of importance in comparison to other age groups for 5 of the 7 scales.

3.4.1. Youth-Informed Educational Needs

A systematic review of similar studies from around the world published since 1997 (Farmer & Wilson, 2021a) found that a diverse range of youth representing 8 different countries desired to learn more information about pregnancy, reproduction, STIs, contraception, anatomy, physiology, adolescent development, as well as several other sexual health topics discussed within this paper's companion manuscript including relationships, identity, sexual orientation, and personal safety. Although findings from that review showed youth clearly want tiered, holistic, and responsive sexual health education, the included studies often lacked detail needed to guide educators in the selection and facilitation of specific content. The current study not only reflects the same interests of youth, it also provides more detail regarding content needs as the survey was designed to evaluate the guidance-based NSES.

3.4.1.1. Pregnancy

Within the current study, youth overall considered pregnancy related information to be "very important" to learn in school. Youth expressed interest in learning more about different types of contraception, including 1) condoms, abstinence, and emergency contraception; 2) advantages and disadvantages; 3) how contraception works, and 4) how to access correct information about contraception. Students also wanted to learn about signs of pregnancy, as well as laws related to pregnancy, abortion, parenting, and health care. It was also considered very important to learn how to access correct information related to health care service available during pregnancy and pregnancy options including, keeping the baby, adoption, and abortion. Learning more about pregnancy was of particular importance to students with statistically significant responses, including youth who identified as female, B/AA, or Multiracial, as well as students who have had sexual intercourse or oral sex. Females were also statistically more likely than male students to find it important to learn steps to use when making decisions about safer sex practices, how to prevent pregnancy, as well as the skills and resources needed to become a parent. Findings from the CDC's Youth Risk Behavior Survey (YRBS) 2019 Report can possibly help explain these findings. While rates have decreased over the last decade, female and Black adolescents have consistently been more likely than their peers to be sexually active (CDC, 2019). Adolescent pregnancy rates have also seen a steady and significant decline over the last two decades; however, the fact that 171,674 babies were still born to women ages 15 to 19 years old in 2019

(Martin et al., 2021) underscores the continued need for adolescents to receive relevant and practical information to avoid unintended pregnancy.

3.4.1.2. Sexually Transmitted Infections

Youth also expressed overwhelming support for learning about STIs in school, with all STI related content considered "very important" to "extremely important" and no statistically significant differences in responses among student groups. STI topics of interest include learning more about: 1) prevention methods, including abstinence and condoms; 2) symptoms, testing, and treatment, including how to access and promote local services; and 3) laws related to sexual health care, including STI and HIV testing and treatment. Students also expressed interest in learning how to develop a plan to avoid STIs. These findings mirror several studies included within the previously referenced systematic review, such as Coleman (2007) who found youth from a religiously diverse sample ranked learning about STIs at the highest level of importance and Newby et al. (2012) who found that STIs were among the most endorsed sexual health topics to learn about in school. The need for youth to learn about STIs is further supported by an alarming trend showing that the number of sexually active youth who used a condom the last time of they had sex has steadily decreased between 2009 to 2019, with females and Black youth being less likely than their peers to use a condom (CDC, 2019b).

Another area of sexual health education considered to be "very important" to youth was learning about factors that influence sexual health behaviors. Learning how friends, family, media, society, and culture can impact decisions about if and when to

participate in sexual behaviors, preventing pregnancy, as well as if and when to become a parent, was a topic area of particular importance based on age. While there isn't a clear explanation regarding why 16-year-old youth were statistically more likely than their 17-year-old peers to identify a higher level of importance for learning about this topic in school, one possible explanation is the age of sexual debut. According to the 2019 National Youth Risk Behavior Survey, the percentage of 9th, 10th, 11th, and 12th grade students who have ever had sexual intercourse was 19.2%, 33.6%, 46.5%, and 56.7% respectively (CDC, 2019a).

3.4.1.3. Influencing Factors

With 7% of adolescents reporting in 2019 that they had have been forced to have sexual intercourse and 21% of sexually active youth reporting they were under the influence of alcohol or drugs the last time they had sex (CDC, 2019a), it isn't surprising youth also desire to learn more about sexual consent and how certain factors, such as alcohol, can influence the ability to give or understand consent. Students who have had oral sex were statistically more likely than students who have not had oral sex to consider these topics, as well as learning about the positive and negative roles of media within relationships, as important to learn in school. One possible explanation is that the number of adolescents who have had oral sex is higher than the number of students that report ever having engaged in sex. As part of the NHANES study conducted between 2011-2015, a total of 42% of females and 49% of males between the ages of 15-19 reported receiving oral sex (Habel et al., 2019) compared to 41.2% of adolescents reporting in 2015 that they had previously engaged in sex (CDC, 2019a). When

considering possible explanations for statistical significance, it is important to note that consent is a complex topic in which there is a limited amount of research (Vannier & O'Sullivan, 2012). As Burkett and Hamilton (2012) and Coy et al. (2016) suggested, there is more to consider than just saying no, including how sexual norms and expected compliance affect consent within intimate relationships, the role of verbal vs. non-verbal communication, manipulation, and gendered assumptions.

The purpose of this study was to provide youth a seat at the often diverse and contentious adult table consisting of school-based sexual health education influencers and decision makers. More specifically, this study was designed to give youth an opportunity and platform to express what they believe is important to learn about sexual health in school. Findings from this study clearly show that youth who participated in the survey need and desire to receive comprehensive sexual health education as part of their high school experience. This study also shows that survey participants support implementation of the National Sexuality Education Standards and that some information is of more importance to certain youth. While this study only directly reflects the opinions of 258 students ages 14-18 years old in an urban U.S. setting, data align with previous findings from other studies based in Australia, Canada, Malaysia, New Zealand, Sweden, Tanzania, United Kingdom, and the United States. Together, these studies strongly suggest that youth care about what they learn in school and that youth are capable of playing a real and meaningful role in their own educational experience. Furthermore, these studies suggest that youth should be at the center of

future efforts by policymakers, educators, researchers, and other youth serving professionals to enhance school-based sexual health education for all youth.

Future research is still needed to better understand specific school-based sexual health education needs and interests of youth. This includes increasing the number and diversity of youth who participate in research efforts, using qualitative research methods to discuss content of interest in more detail, and identifying educational content of importance that has not been reflected in previous research. Now that the NSES have been updated with revisions as well as additional standards, it would also be beneficial to replicate a similar study to ensure educators and other NSES users have the most up to date information regarding what youth desire to learn in school. It is also important to further investigate the statistically significant differences that emerged in the level of importance placed on specific content areas. This is especially true for findings that were difficult to identify possible explanations. For example, additional research is needed regarding the intersection of age with level of importance for different topic areas as this could provide further insight regarding ideal timing for instruction. Influences and understanding of consent as well as the influences of media on relationships are additional areas in which deeper exploration is needed to guide educators in appropriate and responsive instruction.

While developed by professionals with extensive expertise and informed by research, the NSES still represent sexual health education as defined by adults. The decision to utilize the NSES as survey foundation limited the amount of information that could be collected regarding educational needs and interests to the content represented

within the standards. Involving youth in the study design and data collection process could have resulted in different findings.

3.4.2. Limitations

Other disadvantages of this study were the use of a convenience sample and the fact that high school-age youth were unable to participate in the cognitive interview to inform survey revisions. According to the TAMU IRB, participants within this select age range were considered a high risk vulnerable population due to the nature of the services they were seeking from the agency that served as the recruitment site for interviews. As such, young adults between the ages of 18-22 years were offered the opportunity to participate in the cognitive interview. Although these individuals were selected due to their close proximity in age, it is important to note that their responses to the cognitive interview questions could differ from the responses that would have been received from high school-age youth.

3.5. Conclusions

Despite these limitations, findings from this study make a positive contribution given the current dearth of published research regarding youth informed sexual health education. While the findings from this project acknowledge that youth desire to learn a broad and in-depth spectrum of sexual health information, this study represents only a small glimpse of what researchers can learn and how education can be informed through youth involvement – a steppingstone for the future!

3.6. References

Allen, L. (2005). 'Say everything': exploring young people's suggestions for improving sexuality education, *Sex Education, 5*:4, 389-404. https://doi.org/10.1080/14681810500278493

Boonstra, H. D. (2012). *Progressive and Pragmatic: The National Sexuality Education Standards for U.S. Public Schools.* Guttmacher Institute [Policy Review Vol. 15 No. 2]. https://www.guttmacher.org/sites/default/files/article_files/gpr150202.pdf

Braeken, D., & Cardinal, M. (2008). Comprehensive sexuality education as a means of promoting sexual health. *International Journal of Sexual Health, 20*(1-2). 50-62. https://doi.org/10.1080/19317610802157051

Brener, N.D., Demissie, Z., McManus, T., Shanklin, S.L., Queen, B., & Kann, L. (2017). *School health profiles 2016: Characteristics of health programs among secondary schools*. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/profiles/pdf/2016/2016_Profiles_Report.pdf

Browne, M. W., & Arminger, G. (1995). Specification and estimation of mean-and covariance-structure models. In G. Arminger, C. C. Clogg, & M. E. Sobel (Eds.), *Handbook of statistical modeling for the social and behavioral sciences* (pp. 185-249). Springer. https://doi.org/10.1007/978-1-4899-1292-3_4

Burkett, M. & Hamilton, K. (2012). Postfeminist sexual agency: young women's negotiations of consent. *Sexualities, 15*(7). 815-833. https://doi-org.srv-proxy2.library.tamu.edu/10.1177/1363460712454076

Byers, E. S., Sears, H. A., & Foster, L. R. (2013). Factors associated with middle school students' perceptions of the quality of school-based sexual health education, *Sex Education, 13*(2), 214-227. https://www.tandfonline.com/doi/abs/10.1080/14681811.2012.727083

Byers, E.S., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A. D. (2003). An adolescent perspective on adolescent sexual health education at school and at home: I. High school students. *The Canadian Journal of Human Sexuality, 12*(1), 1-17. https://www.researchgate.net/profile/Angela_Weaver/publication/285688129_An_adolescent_perspective_on_sexual_health_education_at_school_and_at_home_II_Middle_school_students/links/56728e2108ae3aa2fcf0bd99/An-adolescent-

perspective-on-sexual-health-education-at-school-and-at-home-II-Middle-school-students.pdf

Centers for Disease Control and Prevention. (2018). *STDs in adolescents and young adults*. https://www.cdc.gov/std/stats18/adolescents.htm

Centers for Disease Control and Prevention. (2019a). T*he Youth Risk Behavior Surveillance System (YRBSS): National, state, and local results* [PowerPoint Slides]. National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, Division of Adolescent and School Health. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/2019/2019_Graphs_508.pdf

Centers for Disease Control and Prevention. (2019b). *Youth Risk Behavior Survey: Data summary and trends report 2009-2019*. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBSDataSummaryTrendsReport2019-508.pdf

Coleman, L. (2008). Preferences towards sex education and information from a religiously diverse sample of young people. Health Education, 108(1), 72 - 91. https://doi.org/10.1108/09654280810842148

Constantine, N. A. (2008). Converging evidence leave policy behind: Sex education in the United States [Editorial]. *Journal of Adolescent Health, 42*, 324-326. https://doi.org/10.1016/j.jadohealth.2008.01.004

Corcoran, J. L., Davies, S. L., Knight, C. C., Lanzi, R. G., Li, P., Ladores, S. L. (2020). Adolescents' perceptions of sexual health education programs: An integrative review. *Journal of Adolescence, 84*, 96-112. https://doi.org/10.1016/j.adolescence.2020.07.014

Coy, M., Kelly, L., Vera-Gray, F., Garner, M., & Kanyeredzi, A. (2016). *From 'no means no' to 'an enthusiastic yes': Changing the discourse on sexual consent through sex and relationship education.* Global perspectives and key debates in sex and relationship education: Addressing issues of gender, sexuality, plurality, and power (Sundaram V., & Sauntson, H., Eds.). Palgrave Pivot, London. https://doi.org/10.1057/9781137500229_6

DiStefano, C., & Hess, B. (2005). Using confirmatory factor analysis for construct validation: An empirical review. J*ournal of Psychoeducational Assessment, 23*(3), 225-241. https://doi-org.srv-proxy2.library.tamu.edu/10.1177/073428290502300303

Eisenberg, M. E., Wagenaar, A., & Neumark-Sztainer, D. (1997). Viewpoints of Minnesota students on school-based sexuality education. *Journal of School Health, 67*(8), 322-326. https://doi.org/10.1111/j.1746-1561.1997.tb03465.x

Everett, B. G., Tuner, B., Hughes T. L., Veldhuis, C. B., Paschen-Wolff, M., Phillips, G. (2019). Sexual Orientation Disparities in Pregnancy Risk Behaviors and Pregnancy Among Sexually Active Teenage Girls: Updates from the Youth Risk Behavior Survey. LGBT Health, 6(7), 342 - 349. https://doi.org/10.1089/lgbt.2018.0206

Farmer, J. L., & Wilson, K. L. (2021a). A systematic review: Youth informed school-based sexual health education [Unpublished doctoral dissertation article]. Texas A&M University.

Farmer, J. L., & Wilson, K. L. (2021b). Youth informed sexual health education: II. What youth want to learn in school about healthy relationships, identity, and personal safety [Unpublished doctoral dissertation article]. Texas A&M University.

Future of Sex Education (2012). *National sexuality education standards: Core content and skills, K-12.* https://answer.rutgers.edu/file/national-sexuality-education-standards.pdf

Future of Sex Education (2020). *National sexuality education standards: Core content and skills, K-12* (2nd edition). https://advocatesforyouth.org/wp-content/uploads/2020/03/NSES-2020-web.pdf

Gelperin, N., & Schroeder, E. (2008). Future of Sex Education [Letter to Editor]. *Journal of School Health, 78*(11). https://onlinelibrary-wiley-com.srv-proxy1.library.tamu.edu/doi/epdf/10.1111/j.1746-1561.2008.00355.x

Goldfarb, E. S., & Lieberman, L. D. (2020). Three decades of research: The case for comprehensive sex education. *Journal of Adolescent Health 68*(1), 13-27. https://doi.org/10.1016/j.jadohealth.2020.07.036

Gowen, K. L., & Winges-Yanez, N. (2014). Lesbian, gay, bisexual, transgender, queer, and questioning youths' perspectives of inclusive school-based sexuality education. *Journal of Sex Research, 51*(7), 788 - 800. https://www.tandfonline.com/doi/abs/10.1080/00224499.2013.806648

Guttmacher Institute (2020a, September). *State laws and policies: HIV and sex education* [Policy brief]. https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education#

Guttmacher Institute (2020b, December 1). *State laws and policies: Sex and HIV education* [Policy brief]. https://www.guttmacher.org/print/state-policy/explore/sex-and-hiv-education

Habel, M. A., Leichliter, J. S., Dittus, P. J., Spicknall, I. H., Aral, S. O. (2019). Heterosexual anal and oral sex in adolescents and adults in the United States, 2011-2015. Sexually Transmitted Diseases, 45(12), 775-782. doi: 10.1097/OLQ.0000000000000889

Haberland, N., & Rogow, D. (2015). Sexuality education: Emerging trends in evidence and practice. *Journal of Adolescent Health, 56*(1), S15-S21. https://doi.org/10.1016/j.jadohealth.2014.08.013

Hall, K. S., Sales, J. M., Komro, K. A., & Santelli, J. (2016). The state of sex education in the United States. *Journal of Adolescent Health, 58*(6), 595–597. https://doi.org/10.1016/j.jadohealth.2016.03.032

Health and Human Services Centers for Disease Control and Prevention (2016). *Results from School Health Policies and Practices Study*. https://www.cdc.gov/healthyyouth/data/shpps/pdf/shpps-results_2016.pdf

Health and Human Services Centers for Disease Control and Prevention (2015). *Results from School Health Policies and Practices Study 2014.* https://www.cdc.gov/healthyyouth/data/shpps/pdf/shpps-508-final_101315.pdf

Herrman, J.W., Solano, P., Stotz, L., & McDuffie, M. J. (2013). Comprehensive sexuality education: A historical and comparative analysis of public opinion. *American Journal of Sexuality Education*, *8*(3), 140-159, https://doi.org/10.1080/15546128.2013.828342

Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. Structural Equation Modeling: A Multidisciplinary Journal, 6(1), 1-55, https://doi-org.srv-proxy2.library.tamu.edu/10.1080/10705519909540118

Jöreskog, K. G. (1993). *Testing structural equation models.* Sage Focus Editions, 154, 294-306.

Keller, L. H. (2020). *It's time for congress to give all young people the sexual health resources they need to thrive* [Policy analysis]. Guttmacher Institute. https://www.guttmacher.org/article/2020/05/its-time-congress-give-all-young-people-sexual-health-resources-they-need-thrive

Kelly, G. F. (2005). Re-visioning sexuality education. *American Journal of Sexuality Education, 1*(1), 5-21. https://doi.org/10.1300/J455v01n01_02

Kenny, D. A., Kaniskan, B., & McCoach, D. B. (2015). The Performance of RMSEA in models with small degrees of freedom. *Sociological Methods & Research, 44*(3) 486-507. https://doi-org.srv-proxy2.library.tamu.edu/10.1177/0049124114543236

Kim., H., Ku, B., Kim, J. Y., Park, Y. J., & Park, Y. B. (2016). Confirmatory and exploratory factor analysis for validating the phlegm pattern questionnaire for healthy subjects. *Evidence Based Complementary Alternative Medicine,* Article ID 2696019. http://dx.doi.org/10.1155/2016/2696019

Kimmel, A., Williams, T., Veinot, T., Campbell, B., Campbell, T., Valacak, M., & Kruger, D., (2013). 'I make sure I am safe and I make sure I have myself in every way possible': African-American youth perspectives on sexuality education. *Sex Education, 13*(2), 172-185. DOI: 10.1080/14681811.2012.709840

Kismodi, E., Corona, E., Maticka-Tyndalec, E., Rubio-Auriolesd, E., & Colemane, E. (2017). Sexual rights as human rights: A guide for the world association for sexual health declaration of sexual rights. *International Journal of Sexual Health, 29*(1), 1–92. https://doi.org/10.1080/19317611.2017.1353865

Lai, K. & Green, S. B. (2016). The problem with having two watches: Assessment of fit when RMSEA and CFI disagree. Multivariate Behavioral Research, 51(2-3), 220-239. https://doi.org/10.1080/00273171.2015.1134306

Loewenthal, K. M. (2001). *An introduction to psychological tests and scales* (2nd ed.). London: UCL Press.

Lowe, M. (2018). *Sex ed is a human right. It's time we start treating it like one*. Sexuality Information and Education Council of the United States. https://siecus.org/sex-ed-is-a-human-right-its-time-we-start-treating-it-like-one/

MacDonald, J. A., Gagnon, A. J., Mitchell, C., Meglio, G. D., Rennick, J. E., & Cox, J. (2011). Asking to listen: Towards a youth perspective on sexual health education and needs. *Sex Education, 11*(4), 443-457. https://doi.org/10.1080/14681811.2011.595268

Martin, J. A., Hamilton, B.E., Osterman, M. K., Driscoll, A. K. (2021). *Births: Final data for 2019* (National Vital Statistics Reports; volume 70, number 2). National Center for Health Statistics. https://dx.doi.org/10.15620/cdc:100472

McKay, A., & Holowaty, P. (1997). Sexual health education: A study of adolescents' opinions, self-perceived needs and current and preferred sources of information.

Canadian Journal of Human Sexuality, 6(1), 29-38. http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=69c1c0be-01e3-4497-8e65-24c4dc978c66%40sessionmgr4007

Miller, A. M., Kismödi, E., Cottingham, J., & Gruskin, S. (2015). Sexual rights as human rights: a guide to authoritative sources and principles for applying human rights to sexuality and sexual health. *Reproductive Health Matters, 23*(46), 16-30. https://doi.org/10.1016/j.rhm.2015.11.007

Millstein, S., & Halpern-Felsher, B. (2002). Perceptions of risk and vulnerability. *Journal of Adolescent Health, 31*(1), 10-27. https://doi.org/10.1016/S1054-139X(02)00412-3

Muthén, L., & Muthén, B. (2017). Mplus (Version 8)[computer software]. (1998-2017). Los Angeles, CA: Muthén & Muthén.

National Guidelines Task Force (2004). *Guidelines for comprehensive sexuality education* (3rd ed.). Sexuality Information and Education Council of the United States. https://siecus.org/wp-content/uploads/2018/07/Guidelines-CSE.pdf

Netemeyer, R. G., Bearden, W.O., Sharma, S. (2003). *Scaling procedures: Issues and applications*. Sage.

Newby, K., Wallace, L. M., Dunn, O., & Brown, K.E. (2012). A survey of English teenagers' sexual experience and preferences for school-based sex education, *Sex Education, 12*(2), 231-251. https://doi.org/10.1080/14681811.2011.61558

Phipps, M. G. (2008). Consequences of Inadequate Sex Education in the United States [Editorial]. Obstetrics & Gynecology, 2008, 111(2), 254-255. doi: 10.1097/AOG.0b013e318163c833

Pound, P., Langford, L., & Campbell, R. (2016). What do you people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. *BMJ Open, 6*(9), 1-14. https://dx-doi-org.srv-proxy1.library.tamu.edu/10.1136%2Fbmjopen-2016-011329

Redfield, R. R., Schuchat, A., Richards, C. L., Bunnell, R., Greenspan, A., Iademarco, M. F. (2020). Youth Risk Behavior Surveillance - United States, 2019. Morbidity and Mortality Weekly Report Supplement, 69(1), 1 - 88.

Sanjakdar, F., Allen, L., Rasmussen, M. L., Quinlivan, K., Brömdal, & Aspin, C. (2015). In search of critical pedagogy in sexuality education: Visions, imaginations, and paradoxes. *Review of Education, Pedagogy, and Cultural Studies, 37*(1), 53-70. https://doi.org/10.1080/10714413.2015.988537

Sedgh, G., Finer, L., Bankole, A., Eilers, M., & Singh, S. (2015). Adolescent pregnancy, birth, and abortion rates across countries: Levels and recent trends. *Journal of Adolescent Health*, *56*(2), 223-230. https://doi.org/10.1016/j.jadohealth.2014.09.007

Sexuality Information and Education Council of the United States. (2020). Sex ed and state law policy chart. https://siecus.org/wp-content/uploads/2020/05/SIECUS-2020-Sex-Ed-State-Law-and-Policy-Chart_May-2020-3.pdf

Temmerman, M., Khosla, R., & Say, L. (2014). Sexual and reproductive health and rights: a global development, health, and human rights priority. *The Lancet*, *384*(9941), e30 - e31. https://doi.org/10.1016/S0140-6736(14)61190-9

Texas Freedom Network Education Fund and Sexuality Information and Education Council of the United States (2019). *Time for change: Sex education and the Texas health curriculum standards*. https://tfn.org/sex-ed/Time-For-Change-TX-2019.pdf

Thompson, B. (2004). *Exploratory and confirmatory factor analysis: Understanding concepts and applications*. American Psychological Association.

United Nations Educational, Scientific and Cultural Organization (2005). *Young people speak out on quality education: Views and proposals of students participating in the UNESCO Associated Schools Project Network*. https://unesdoc.unesco.org/ark:/48223/pf0000141232

United Nations. (2015). *Universal declaration of human rights.* https://www.un.org/en/udhrbook/pdf/udhr_booklet_en_web.pdf

United Nations Population Fund. (2014). *Programme of action of the international conference on population development (20th anniversary ed*.). https://www.unfpa.org/sites/default/files/pub-pdf/programme_of_action_Web%20ENGLISH.pdf

Vannier, S. A., & O'Sullivan, L. F. (2012). Who gives and who gets: Why, when, and with whom young people engage in oral sex. *Journal of Youth Adolescence, 41*, 572 - 582. https://doi.org/10.1007/s10964-012-9745-z

World Association for Sexual Health (2014). *Declaration of Sexual Rights.* https://worldsexualhealth.net/wp-content/uploads/2013/08/Declaration-of-Sexual-Rights-2014-plain-text.pdf

World Association for Sexual Health (2008). Sexual health for the millennium. A declaration and technical Document. World Association for Sexual Health. http://www.europeansexology.com/files/WAS_2008.pdf

World Health Organization. (2015). *Sexual health, human rights, and the law*. https://apps.who.int/iris/bitstream/handle/10665/175556/9789241564984_eng.pdf

World Health Organization. (2010). Developing sexual health programmes: A framework for action. Retrieved from https://apps.who.int/iris/bitstream/handle/10665/70501/WHO_RHR_HRP_10.22_eng.pdf;jsessionid=92B435D3F9B0AF5917979CC8EC8B5C68?sequence=1

4. YOUTH-INFORMED SEXUAL HEALTH EDUCATION: PART II. WHAT YOUTH WANT TO KNOW ABOUT HEALTHY RELATIONSHIPS, IDENTITY, AND PERSONAL SAFETY

4.1. Introduction and Background

Despite an active and growing effort to help schools in the United States provide factual, relevant, and inclusive sexual health education, many youth are still not receiving the education they need and deserve (Hall et al., 2016). This reality is especially true for marginalized youth, including youth of color, LGBTQ+ youth, and youth with disabilities (Elia & Tokunaga, 2015). Inconsistent and ideology-based policies and practices have resulted in many youth receiving no education at all, to others receiving information that is censored, biased, and inaccurate (Kelly, 2005; Santelli et al., 2006; Wiley & Wilson, 2009). Of significant concern, some students experience an education laced with stigma, shame and victim blaming that has the potential to actually harm students (Hauser, 2005; Santelli et al., 2017). Our nation's inability to provide young people with a safe and effective education has significant consequences, both at the individual level as well as for society as evidenced by staggering and pervasive disparities in health and wellbeing (Woolf et al., 2007).

4.1.1. Past and Present Inequities in Sexual Health Education

While tempting to place blame alone on current structural inequities, it is essential to recognize that the existing "personal, interpersonal, institutional, and systemic drivers - such as, racism, sexism, [and] classism" that produce health inequities

(National Academies of Sciences, Engineering, and Medicine, 2017, p. 100) are deeply rooted in a white patriarchal society (Guess, 2006; Ruggles, 2015) with an extensive history of systemic oppression, racial prejudice, and homophobia (Harris, 2009; McCarty-Caplan, 2013; Pharr, 1993). These long-held prejudices have bloomed into a variety of sexual health policies and practices that ignore, invalidate, and disparage youth, particularly those who do not identify as heterosexual or cisgender, as well as females who do not or are unable to abstain from sexual activity until marriage (Donovan, 2017; Ott & Santelli, 2007). One such example are the "no promo homo" laws currently held by 6 states that prohibit teaching about homosexuality in a positive way (GLSEN, 2018). Another example is illustrated by the 19 states that currently require instruction to stress the importance of sexual activity only taking place within the context of marriage (Guttmacher Institute, 2021). While not as obvious as documented policy, the decision to not take action to address an issue also makes a strong statement. For example, the Texas State Board of Education recently voted against proposals to update sexual health education policy to require that students learn about the importance of consent, sexual orientation, and gender identity (Swaby, 2020).

Ingrained in the fabric of American society, structural inequities have also played an influential role in the history of sexual health education. While there have been pivots in approach over time, efforts have mainly focused on the prevention of outcomes viewed by society as negative or problematic (Elia, 2009). As noted by Giami (2002), beginning in the mid-19th century, "sexuality, or sexual activity, emerged in the public health field as an activity to be regulated, normalized, and channeled under the primacy

of procreation" (p. 3). Any perceived threat to procreation and the development of a healthy race was targeted as a behavior in need of intervention, leading to efforts to combat STIs, prostitution, and masturbation (Shah, 2015). The early 20th-century gave rise to the eugenics movement, one of the most significant examples of persecution and victimization in history, in which extreme efforts were taken to intentionally control reproduction to ensure only select individuals considered fit to improve human heredity could procreate (Ko, 2016; Pernick, 1997). Sexual health education reinforced the concept of eugenics, supporting stereotypes and power relations by normalizing middle class White male sexuality (SIECUS, 2021).

As noted by Maddock (1997), "battle lines were drawn" in the late 1960s when a growing movement to legitimize sexuality education in schools was challenged by national far right-wing organizations with tactics as extreme as linking comprehensive education with "organized communist conspiracy," paving the way for the restriction or elimination of sexual health education in schools (p. 11). Maddock further explained that the HIV-AIDS epidemic and growing awareness regarding the prevalence of sex-related violence only further polarized opinions regarding appropriate education, repositioning sex as a "public health hazard" requiring "safety oriented and moralistic" intervention (p. 15). Perhaps the pinnacle of exclusionary pedagogical practices, federal funding for abstinence-only-until-marriage education began in 1981 through the Adolescent Family Life Act and grew dramatically in popularity once it "emerged as central to the culture wars between conservative and liberal interests (Irvine, 2002)" (Connell & Elliott, 2009, p.85). Distressingly, since the federal government established the Title V abstinence-

only-until-marriage program in 1996, a total of over $2 billion has been spent on programs that are unethical, ineffective, and harmful (Boyer, 2018; Waxman, 2004).

4.1.2. Fighting Social Injustice

The above examples only represent a fraction of past and present approaches to education that have restricted access to information and perpetuated the cycle of power and oppression (Connell & Elliott, 2009). The cumulative consequences of such actions have resulted in significant health and rights-based issues related to sexuality and reproduction, including racial and reproductive justice, LGBTQ+ and gender equity, and sexual violence (Elia & Eliason, 2010a; Herek, 2004). Tragically, lack of understanding and empathy regarding these issues are foundational to why these issues exist in the first place (Segal, 2011). From a social justice lens, providing education that is equitable, accessible, and inclusive to all youth represents an opportunity to address these issues at their root (Harley, 2019).

The Future of Sex Education (FoSE, 2020) defined social justice as "the view that everyone deserves to enjoy the same economic, political, and social rights and opportunities, regardless of race, sex, gender, gender identity, socio-economic status, sexual identity, ability, or other characteristics" (p. 70). Social justice within education requires acknowledging and analyzing "why and how schools are unjust for some students" (Wiedeman, 2002, p. 200). This process involves critical examination regarding the causes of inequity and pursuing change at the structural level to ensure everyone is treated fairly and benefits are balanced (Buettner-Schmidt & Lobo, 2011). In addition, social justice pedagogy can be applied within the classroom to help students

understand and challenge acts, structures, and systems of discrimination and oppression (Teaching Tolerance, 2016). Such changes have the potential to influence societal norms, which can lead to sustainable social change when implemented effectively on a large enough scale (Hackman, 2005). Dunfey (2019) defined social change as "the way human interactions and relationships transform cultural and social institutions over time, having a profound impact on society" ("Introduction" section).

4.1.3. Sexual Health Education for Social Change

There is increasing recognition among youth serving professionals regarding the ability and role of comprehensive sexual health education to address existing health and social disparities that impact youth (Schalet et al., 2014). In fact, the nationally recognized organization, SIECUS, recently rebranded after 55 years to "SIECUS: Sex Ed for Social Change" to reflect their belief that comprehensive sexual health education can drive the social change needed to address issues related to exclusion, injustice, and violence (Eisenstein, 2019). Harley (2019) argued that the purpose of sexual health education can and should be more than preventing negative health behaviors, describing it as a "golden opportunity to create a culture shift" by tackling "misinformation, shame, and stigma" ("Sex ed for social change" section).

The ability for comprehensive sexual health education to serve as an instrument for social change is supported by a growing body of literature. Goldfarb and Liberman (2020) recently published findings from a substantial literature review of 80 articles spanning 3 decades of research from around the world. This study was designed to examine the effectiveness of school-based education beyond the traditionally published

sexual health outcomes, such as pregnancy and STIs. Findings from this review document the ability of affirmative, inclusive, and medically accurate education to: 1) increase respect and understanding of different sexual orientations and gender identities, 2) reduce bullying and increase school safety, 3) strengthen understanding and skills for healthy relationships, 4) reduce sexual violence through increased awareness, knowledge and skills, and 5) increase skills to prevent child abuse. Goldfarb and Liberman concluded that there is a "need for a broader social justice approach within sex education - one that examines sexual orientation and gender together with race, culture, and other identities, in the context of systemic oppression and its impact on marginalized communities" (p. 12).

4.1.4. Resistance to Change

Given the ability of education to strongly influence health behaviors and health status (Braveman & Gottlieb, 2014) and the important role social norms and institutions (e.g., schools) play in shaping the adolescent development (Crockett & Silbereisen, 2000), it is critically important that strategic steps are taken to dismantle educational inequities as well as repair and enhance the educational system to support all youth (Portes, 2005). While the benefits of such transformative change might seem obvious to supporters of inclusive sexual health education, significant barriers are in place to creating meaningful ideological and pedagogical change. At the foundational level, we must recognize Whiteness as property (Ladson-Billings, 1998). As noted by Capper (2015), curricula that uphold White privilege will be fiercely defended as White property. While this tenet of critical race theory helps explain resistance against efforts

to address race within curriculum (Pollack & Zirkel, 2013), this concept of oppression through education also applies to other marginalized populations (Hillard, 1988; Solorzano, 1997). Portes (2005) further argued educational inequities have been used historically as tools to keep certain groups disempowered for economic and political purposes. Understanding the underlying struggle to maintain power and privilege is fundamental to how we approach sexual health education reform.

Whether due to a lack of resources or that it is simply a safer option professionally, resistance can serve as a deterrent for many supporters of positive and affirming sexual health education. This reality can result in an understandable decision to continue fighting for traditional, comprehensive education focused on reducing negative health outcomes associated with risky behaviors rather than wading into the rough and unfamiliar waters of social justice pedagogy. Rodriguez (2001), who described educators and researchers seeking to facilitate social change through education as cultural warriors, frankly captured the strength, courage, and commitment required to fight this uphill battle:

> Sometimes sociotransformative work is labeled "new age tripe" or "touchy feely" by those who fail to understand the courage needed to take risks associated with working against the grain. This work is often difficult and emotionally draining because of the energy it takes to manage the racist and/or sexist hostility wielded by those who feel threatened by social change. Therefore, whether you are male or female, Anglo or Latino—whether you are of any ethnicity, or of any

sexual orientation—if you are working for social justice, you will encounter those who will seek to silence you, to "place" you, and to intimidate you (p. 285).

4.1.5. The Future of Sexual Health Education

When one considers, with eyes wide open, the unapologetic willingness of our nation to support ineffective and harmful education paralleled by the cries of our nation for justice and equity - one thing is clear, the field of sexual health education has reached a tipping point. As a field, now is the time to commit to advancing the health and well-being of all youth through education that is accessible, equitable, and inclusive. To achieve radical change, we must fully embrace sexual health education as a fundamental human right that has the power to influence social change (Berglas et al., 2014). This new reality will require a continuous and committed effort to promote sexual health from a positive lens and boldly address structural inequities through content and approach (Elia & Eliason, 2010b). Above all else, such an achievement will require centering the needs of youth in future efforts to improve, implement, and evaluate school-based sexual health education (MacDonald et al., 2011).

4.1.6. Youth-Informed Sexual Health Education

Creating and sustaining social change capable of repairing social injustices might seem like an impossible task; however, it is important to remember that change is constant and as a collective, we have the power to help shape and direct this change towards a more equitable and inclusive society (Dunfey, 2019). Given that sexual health education has traditionally been dictated by adults, educational change should begin by listening to and learning from students representing a diverse range of identities (Cook-

Sather, 2002). A qualitative synthesis by Pound et al. (2016) reviewed 48 studies that examined youth perceptions regarding the sexual health education they received in school. While findings from this study documented that sexual health education often does not reflect the lived experiences of youth, little is still known about the specific information, resources, and skills that youth consider to be important to learn in school (Farmer & Wilson, 2021a). This manuscript represents part II of a two-part series designed to share findings from a study focused on giving youth a voice regarding their school-based sexual health education needs and interests. As described in more detail within the companion manuscript (Farmer & Wilson, 2021b), this study utilized the National Sexuality Education Standards (NSES) as the basis for assessing content due to its comprehensive nature (Future of Sex Education [FoSE], 2012). This manuscript will document student perception regarding how important it is to learn about relationships, identity and orientation, as well as personal and interpersonal safety in school. In addition, this manuscript will share findings regarding where, from whom, and how students preferred to learn about sexual health. The reader can refer to the companion manuscript for more detailed information related to instrument development and data analyses, as well as findings related to pregnancy, STIs, and related influencing factors.

4.2. Methods

4.2.1. Participants

A total of 258 students from 4 high schools within a large Texas-based urban independent school district completed the survey. Participants represented a diverse

range of ages, including 14 years (7%), 15 years (33%), 16 years (25%), 17 years (25%), and 18 years of age or older (10%). Gender identity was represented as 43% male, 57% female, and 1% as a gender other than male or female. In addition, 83% identified as heterosexual, 4% gay or lesbian, 9% bisexual, and 4% unsure of their sexual orientation. Sexual experiences of participants include 41% acknowledging they have had sexual intercourse, 32% had experienced oral sex, and 4% had experienced sexual contact with both males and females.

4.2.2. Design

The first step in this study was to develop an instrument to gather feedback directly from high school age youth regarding what they personally perceived to be important to learn about sexual health in school. The survey was designed to align with the first edition of the NSES (FoSE, 2012) and used a 5-point Likert scale ranging from "not important at all" to "extremely important" (0 = not important at all; 1 = not very important; 2 = important; 3 = very important; 4 = extremely important) to indicate level of importance regarding each standard. Additional questions were included to gather demographic information to assess whether specific student characteristics influenced survey responses. To further evaluate the support of youth to learn about sexual health education in school in comparison to other settings, this survey also included questions to assess where, how, and from whom they would like to learn sexual health content and skills.

4.2.3. Procedures

As part of the instrument development process, a cognitive interview was conducted with a group of 6 people between 18 to 22 years old to review and revise survey items. Once revised, the survey was further reviewed by professionals familiar with the NSES. The survey was then implemented in a classroom-based setting during the school day at four separate high schools. Adult consent and student assent were both required to participate in the survey, and all students received a $10 gift card for participation.

4.2.4. Data Analysis

Face and content validity of the instrument were assessed during development through the previously described review process with young adults and health education professionals. Given that we were unable to identify a previous study with a similar level of detail, criterion validity was informed through use of the expert-informed and well established NSES as items (FOSE, 2012). In addition, previous studies in which youth used a 5-point Likert scale to indicate importance of learning sexual health content were identified and reviewed (Byers et al., 2003a, 2003b). Construct validity was established through factor analysis. This process began with exploratory factor analysis to investigate and identify possible latent constructs that can be measured by the newly developed instrument (Burton & Mazerolle, 2011). Confirmatory factor analysis (CFA) was then used to assess how well the model fit to the data, applying chi-square (χ^2), Standardized Root Mean Square Residual (SRMR), Comparative Fit Index (CFI), and

Root Mean Square Error of Approximation (RMSEA) as measures of model fit (DiStefano & Hess, 2005).

Following factor analysis, one-way ANOVAs were conducted for each factor retained to examine level of importance based on student age, grade, gender identity, school, race, ethnicity, as well as experience with oral sex, sexual intercourse, and sexual contact with people of the same and/or different gender. Post hoc tests were also conducted to determine if statistically significant differences in perceived level of importance existed based on group characteristics.

4.2.5. Human Subjects Approval Statement

All study procedures were reviewed and approved by the Texas A&M University (TAMU) Institutional Review Board (IRB) and Austin ISD Department of Research and Evaluation.

4.3. Results

4.3.1. Descriptive Statistics

The eight scales discussed within this manuscript represent educational content related to healthy relationships, identity, and personal safety. Descriptive statistics for each of these scales are presented within Table 4.1. Designed to align with the survey, this table includes each item as well as its corresponding lead in question. The mean, ± standard deviation, for each survey item was "very important" to learn in high school with the exception of item 3, in which the mean response was "important."

Table 4.1 Descriptive Data for Variables Related to Healthy Relationships, Identity, and Personal Safety.

Survey Item #	Survey Item	Scale #	Mean	Standard Deviation	N	Description of Results
It is important in high school for students to have the chance to learn about…						
2	How the brain impacts the way teens and young people think, interact, and feel.	10	2.95	.859	258	Very Important
3	The difference between being born male or female and how a person identifies as male or female.	3	2.48	1.120	252	Important
4	Sexual orientations (what gender a person is attracted to) including heterosexual (like the opposite gender), gay and lesbian (like the same gender), and bisexual (like both genders).	3	2.57	1.107	252	Very Important
5	Differences between sexual orientation, sexual behavior, and sexual identity.	3	2.83	.945	252	Very Important
18	Situations and behaviors that may be considered bullying and sexual violence.	11	3.20	.883	259	Very Important
19	Laws related to bullying and sexual violence.	11	3.13	.908	259	Very Important
20	Why using tricks, threats, or force in relationships is wrong.	11	3.16	.908	259	Very Important
21	Why a person who has been raped or sexually assaulted is not at fault.	11	3.27	.934	259	Very Important
It is important in high school for students to have the chance to learn about the influence of…						
22	Friends, family, and media (music, TV) on the way people think about and see themselves.	10	2.65	.968	258	Very Important
23	Society, religion, and culture on the way people think about and see themselves.	10	2.64	1.013	258	Very Important
24	Friends, family, and media (music, TV) on how people express their gender (male, female, transgender), their sexual orientation (what gender a person is attracted to), and identity.	4	2.66	1.070	258	Very Important
25	Society, religion, and culture on how people express their gender (male, female, transgender), their sexual orientation (what gender a person is attracted to), and identity.	4	2.66	1.105	258	Very Important
28	What it looks like when one person has more control in a relationship.	14	2.98	.914	257	Very Important

Table 4.1 Continued

It is important in high school for students to have the chance to learn how…						
33	Influences and societal messages impact people's attitudes about bullying and sexual violence.	11	3.18	.844	259	Very Important
It is important in high school for students to have the chance to learn how to find correct information about…						
40	Relationships.	2	2.89	.914	257	Very Important
It is important in high school for students to have the chance to learn how to find correct information to help…						
41	Someone who is being bullied or harassed.	14	3.20	.860	257	Very Important
42	Survivors of sexual abuse, incest, rape, sexual harassment, sexual assault, and dating violence.	14	3.47	.776	257	Very Important
It is important in high school for students to have the chance to learn ways to talk about…						
44	Ways to avoid or end an unhealthy relationship.	2	3.13	.869	257	Very Important
45	Personal intimacy and sexual behavior boundaries (what you are comfortable doing in a relationship).	2	3.14	.915	257	Very Important
It is important in high school for students to have the chance to learn ways to…						
47	Talk with trusted adults about bullying, harassment, abuse, or assault.	13	3.27	.844	258	Very Important
48	Respond when someone else is being bullied or harassed.	13	3.25	.837	258	Very Important
It is important in high school for students to have the chance to learn…						
54	How to encourage safety, respect, awareness, and acceptance of other people.	4	3.17	.805	258	Very Important
55	The steps to using a condom correctly.	12	3.26	.866	257	Very Important
56	Why an individual is responsible for STD (infections that a person can get through sexual contact) testing and telling sexual partners about their STD status.	12	3.37	.780	257	Very Important
57	Ways to respect the intimacy and sexual behavior boundaries (what someone is comfortable doing in a relationship) of other people.	12	3.26	.800	257	Very Important
58	Ways to use social media (Facebook, twitter) safely, legally and respectfully.	12	2.54	1.221	257	Very Important
It is important in high school for students to have the chance to learn ways to promote…						
59	School policies and programs that encourage dignity and respect for all.	4	2.94	.976	258	Very Important

61	Safe environments that encourage dignified and respectful treatment of everyone.	13	3.15	.901	258	Very Important

4.3.2. Scale Characteristics

A total of fifteen factors were identified through the data analysis process. The findings presented below are representative of the eight factors that align with the focus of this paper including, relationships, identity, and safety (Table 4.2). The remaining 7 factors, focused on pregnancy, STIs, and related influencing factors, are discussed in detail within the companion manuscript (Farmer & Wilson, 2021b). Together, the 8 scales constitute 28 survey items. Good reliability for each scale is indicated by Cronbach's alpha, ranging in value from .705 to .866. The KMO output indicated sample adequacy as all values were above the recommended .60 value (Loewenthal, 2001) with the exception of scale 10, which had a slightly lower value of .567. Bartlett's test of sphericity confirmed the correlation matrix was not an identity matrix as the χ^2 value was significant (Williams et al., 2010).

Table 4.2 Scale Characteristics.

Scale #	Scale Name	# of Items	Survey Item #	Cronbach's Alpha	KMO	Bartlett's Test of Sphericity	Total Variance Explained (%)
2	*Relationship Decisions and Boundaries*	3	40,44,45	.764	.677	.000	68.069
3	*Identity and Sexual Orientations*	3	3,4,5	.786	.666	.000	70.526
4	*Influences on Expression and Respect*	4	24,25,54,59	.782	.639	.000	60.895
10	*Influences on Self-Image and Worth*	3	2,22,23	.734	.567	.000	65.983
11	*Bullying and Sexual Violence*	5	18,19,20,21,33	.866	.862	.000	65.392
12	*Respect and Responsibilities within Sexual Relationships*	4	55,56,57,58	.705	.720	.000	57.313
13	*Promote Positive Relationships and Environment*	3	47,48,61	.783	.660	.000	70.207
14	*Recognize and Help Bullying and Sexual Violence Victims*	3	28,41,42	.733	.644	.000	65.979

4.3.3. Model Fit

Four fit indices were reviewed to assess goodness of fit between model and data, including Chi-square test of model fit (χ^2), RMSEA, CFI, and SRMR (Table 4.3). Fit indices indicated good model fit overall, with all CFI and SRMR values aligning with recommended values. RMSEA values were considered good or acceptable for 7 of 8 scales; however, the Chi-Square test of model fit was significant for 6 of the 8 scales.

Table 4.3 Model Fit for the Eight Scales.

Scale	Chi Square Test of Model Fit	RMSEA < .05	CFI > 0.95	SRMR < 0.06
2	0.000**	0.000	1.000	0.000
3	0.000**	0.000	1.000	0.000
4	0.0482*	0.105	0.993	0.010
10	0.000**	0.000	1.000	0.000
11	0.5064	0.000	1.000	0.012
12	0.1180	0.066	0.992	0.019
13	0.000**	0.000	1.000	0.000
14	0.0000**	0.000	1.000	0.000

*$p < 0.05$, ** $p < 0.01$

4.3.4. Instrument Scales and Findings

The following section presents findings based on scale alignment with their respective sexual health category. Scale-level information includes fit indices, as well as statistically and non-statistically significant group differences in response regarding level of importance.

4.3.4.1. Healthy Relationships

4.3.4.1.1. Relationship Decisions and Boundaries (Scale 2)

Scale 2 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Items within this scale measured perceived importance regarding the chance to learn how to find correct information about "relationships," as well as ways to talk about "avoiding/ending unhealthy relationships" and "intimacy and sexual behavior boundaries." The mean response for all items within scale 2 was "very important."

The one way ANOVA revealed a statistically significant difference between students based on oral sex experience ($F(1, 200.897) = 6.987$ with $p = .009$) using the Welch test, with agreement increasing from students who have not had to oral sex (M = -.03, SD = .50) to students who have had oral sex (M = .12, SD = .39).

While not statistically significant ($F(3,251) = 1.930$ with $p = .125$), there was also an increase in perceived level of importance from students who have had sexual contact with females (M = -.03, SD = .50), to no sexual contact (M = -.02, SD = .48), to sexual contact with males (M = .08, SD = .43), to sexual contact with males and females (M = .27, SD = .39), in that order. Another non-significant example of group differences in response emerged based on gender identity ($F(2, 258) = 2.204$ with $p = .112$). Level of agreement regarding importance of learning about decisions and boundaries within relationships increased in order from students who identified as male (M = -.07, SD = .49), to female (M = .05, .48), to a gender other than male or female (M = .26, SD = .46).

4.3.4.1.2. Respect and Responsibilities within Sexual Relationships (Scale 12)

Scale 12 indicated good overall fit ($\chi^2(2) = 4.274$ with $p = 0.1180$, CFI = 0.992, SRMR = 0.019), with an acceptable value of RMSEA = 0.066. This scale measured how important youth believe it is for students to learn "why an individual is responsible for STD testing and telling their partner about STD status," and "steps to use a condom correctly," as well as ways to "respect intimacy and sexual boundaries of others," and "use social media safely, legally, and respectfully." The mean response for all scale 12 items was "very important."

The one-way ANOVA identified a statistically significant difference in agreement based on age ($F(4,255) = 2.709$ with $p = .031$). Agreement increased in order from students who were 17 years old (M = .17, SD = .61), to 15 years (M = -.01, SD = .61), to 14 years (M = .04, SD = .56), to 18 years (M = .11, SD = .56), to 16 years old (M = .14, SD = .47). Post hoc analysis revealed the statistically significant increase (p = .002) occurred between students 17 years to 16 years of age (M =.307, 95% CI [.1108, .5051]). All other differences in level of agreement regarding importance were not statistically significant.

A statistically significant difference based on race was also identified by the one-way ANOVA ($F(5,202) = 2.741$ with $p = .020$). Level of agreement increased from students who identify as Asian (M = -.56, SD = .49), to White (M = .006, SD = .57), to American Indian or Alaskan Native (AI/AN) (M = .09, SD = .60), to Multiracial (M = .149, SD = .58), to Black or African American (B/AA) (M = .151, SD = .54), to Native Hawaiian or Pacific Islander (NH/PI) (M = .38, SD = .40), in that order. Post hoc analysis revealed that all statistically significant differences were between students who identified as Asian and other racial groups, including the following mean increases from Asian students to White students (M = .56, 95% CI [.1832, .9459], p = .004), to AI/AN students (M = .65, 95% CI [0.1601, 1.1392], p = .009), to Multiracial students (M = .71, 95% CI [.2550, 1.1606], p = .002), to B/AA students (M = .71, 95% CI [0.2759, 1.1430], p = .001), and to NH/PI students (M = .94, 95% CI [.2745, 1.6074], p = .006). All other group differences were not statistically significant.

4.3.4.2. Identity

4.3.4.2.1. Identity and Sexual Orientation (Scale 3)

Scale 3 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Within this scale, youth indicated how important they believe it is to learn in school about differences between "gender assignment at birth and gender identity," "sexual orientations," and "sexual orientation, behavior, and identity." The mean response for items within this scale was "important" or "very important."

The one-way ANOVA identified a statistically significant difference based on student ethnicity ($F(1,257) = 14.400$ with $p < .0005$). Level of agreement increased from students who identified as Hispanic/Latino (M = -.10, SD = .60) to non-Hispanic students (M = .20, SD = .63). Statically significant differences also emerged based on previous sexual behavior. A statistically significant increase in level of importance ($F(1,253) = 5.066$ with $p = .025$) occurred between students who have not had sexual intercourse (M = -.06, SD = .61) to students who have had sexual intercourse (M = .12, SD = .64). Another statistically significant increase in level agreement $F(1,253) = 4.139$ with $p = .043$) occurred from students who have not had oral sex (M = -.04, SD = .61) to students who have had oral sex (M = .13, SD = .64).

The one-way ANOVA also identified a statistically significant difference ($F(3,249) = 5.309$ with $p = .001$) based on previous sexual experience. Agreement regarding level of importance increased from students who have had sexual contact with

females (M = -.06, SD = .63), never had sexual contact (M = -.05, SD = .61), had sexual contact with males (M = .10, SD = .61), to had sexual contact with males and females (M = .61, SD = .38), in that order. Post hoc analysis revealed that the mean increase from each group to students who have had sexual contact with males and females was statistically significant, including the increase from students who have had sexual contact with females (M = .67, 95% CI [0.3096, 1.0319], $p < .005$), from students who have not had sexual contact (M = .66, 95% CI [.3112, 1.0077, $p < .005$), and from students who have had sexual contact with males (M = .51, 95% CI [.1471, .8812], $p = .006$).

4.3.4.2.2. Influences on Expression and Respect (Scale 4)

Scale 4 indicated good overall fit ($\chi^2(1) = 3.903$ with $p = 0.0482$, CFI = 0.993, SRMR = 0.010), with a poor value of RMSEA = 0.105. Youth expressed their opinion through this scale regarding how important it is for high school students to learn how to "encourage safety, respect, awareness, and acceptance" and promote "school policies and programs that encourage respect for all." This scale was also used to assess importance for learning about the influence of "friends, family, and media on gender, sexual orientation, and identity expression" and "society, religion and culture on gender, sexual orientation, and identity expression." These later two items are closely related as they both relate to factors that influence expression of gender, orientation, and identity. All items within this scale were considered on average by students to be "very important" to learn in school.

There were no statistically significant responses for items within scale 4; however, differences in responses did emerge based on age (F(4,256 = 2.315 with p = .058) and race (F(5,202 = .772 with p = .571). Agreement increased from students who were 17 years old (M = -.14, SD = .50), to 15 years (M = -.005, SD = .48), to 16 years (M =.06 , SD = .51), to 18 years (M = .10, SD = .43), to 14 years old (M = .14, SD = .42), in that order. In addition, agreement increased in order from students who identified as Asian (M = -.20, SD = .42), to Multiracial (M = -.06, SD = .51), to White (M = -.005, SD = 49), to AI/AN (M = .04, SD = .44), to B/AA (M = .13, SD = .54), to NH/PI (M = .15, SD = .59).

4.3.4.2.3. Influences on Self-Image and Worth (Scale 10)

Scale 10 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. This scale measured perceived importance for high school students to learn about the "brain's impact on how young people think, interact, and feel," as well as the influence of friends, family, media, society, religion, and culture on the "way people think about and see themselves." The mean response for items within scale 10 was "very important."

No statistically significant differences in perceived level of importance emerged for scale 10; however, non-significant differences did exist based on grade (F(4,255) = .751 with p = .588). Level of importance increased in order from students in the 12th grade (M = -.04, SD = .24), to 10th grade (M = -.01, SD = .30), to 11th grade (M = .005, SD = .29), to 9th grade (M = .02, SD = .28). Non-significant differences in response also

emerged based on race ($F(5, 202 = 1.210$ with $p = .306$). Level of agreement regarding the importance of influences on image and self-worth increased from students who identify as Asian (M = -.12, SD = .26), to AI/AN (M = -.01, SD = .26), to White (M = .003, SD = .28), to Multiracial (M = .04, SD = .78), to NH/PI (M = .10, SD = .34), to B/AA (M = .11, SD = .26), in that order.

4.3.4.3. Identity

4.3.4.3.1. Bullying and Sexual Violence (Scale 11)

Scale 11 indicated good overall fit ($\chi^2(5) = 4.305$ with $p = 0.5064$, RMSEA = 0.000, CFI = 1.000, SRMR = 0.012). Items within this scale measured perceived importance regarding the chance to learn about "possible bullying and sexual violence situations and behaviors," "bullying and sexual violence laws," "why using tricks, threats, and force in relationships is wrong," "why rape and sexual assault victims are not at fault," and how "influences and societal messages impact attitudes about bullying and sexual violence." The mean response for all items within this scale was "very important."

The one-way ANOVA identified a statistically significant difference based on gender identity ($F(2,257) = 4.247$ with $p = .015$). A post hoc test revealed a statistically significant increase in agreement ($p = .006$) from students who identified as male (M = -.14, SD = .74) to students who identified as female (M = .10, SD = .67). While not statistically significant ($p = .486$), agreement regarding the importance of learning about bullying and sexual violence further increased from female students to students who identified as a gender other than male or female (MD = .45, SD = .47).

4.3.4.3.2. Promote Positive Relationships and Environments (Scale 13)

Scale 13 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Youth identified through this scale how important they believe it is to learn ways to "talk with adults about bullying, harassment, abuse, and assault" and "respond when others are being bullied and harassed," as well as "promote safe environments and respectful treatment for everyone." The mean response for all items within scale 13 was "very important."

The one-way ANOVA identified a statistically significant difference based on gender identity ($F(2,258) = 5.915$ with $p = .003$). A post hoc test revealed a statistically significant increase ($p = .001$) in perceived importance from students who identified as male (M = -.15, SD = .64) to students who identified as female (M = .11, SD = .56). While not statistically significant ($p = .619$), agreement regarding the importance of learning about promoting positive relationships and environments decreased from female students to students who identified as a gender other than male or female (MD = -.10, SD = 1.00).

In addition, while not statistically significant ($F(3,251) = .973$ with $p = .406$), differences in agreement emerged based on sexual experience. Perceived level of importance increased in order from students who have had sexual contact with females (M = -.07, SD = .60), to never had sexual contact (M = .03, SD = .59), to had sexual contact with males and females (M = .092, SD = .50), to students who have had sexual contact with males (M = .093, SD = .54).

4.3.4.3.3. Recognize and Help Bullying and Sexual Violence Victims (Scale 14)

Scale 14 indicated good overall fit (RMSEA = 0.000, CFI = 1.000, SRMR = 0.000). Chi-square test of model fit was significant ($\chi^2(0) = 0.000$ with $p = 0.000$); however, this test is sensitive to sample size. Within this scale, youth indicated how important they believe it is to learn in school about the "influence of a person with more control in relationship," as well as how to find correct information to help "someone being bullied or harassed" and "sexual violence survivors." The mean response for all scale items was "very important."

The one-way ANOVA also identified a statistically significant difference based on gender identity ($F(2,258) = 4.589$ with $p = .011$). A post hoc test revealed that agreement increased from students who identified as male (M = -.09, SD = .45) to students who identified as female (M = .06, SD = .41) was statistically significant ($p = .006$). Agreement further increased to students who identified as a gender other than male or female (MD = .37, SD = .10); however, this increase was not statistically significant (M = .31, 95% CI (-.2876, .9086), $p = .308$).

Table 4.4 Students Expressing Highest Level of Agreement.

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
2	11+	16+	A+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have^	Males & Females+
3	12+	18+	C+	Other+*	Black/ AA+	Non-Hispanic^	Have^	Have^	Males & Females^
4	10+	14+	T+	Other+*	NH/PI+	Non-Hispanic+	Have Not+	Have Not+	Males & Females+
10	9+	14+	R+	Other+*	Black/ AA+	Non-Hispanic+	Have+	Have+	Males & Females+
11	11+	16+	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
12	10+	16^	T+	Other+*	NH/PI^	Non-Hispanic+	Have+	Have+	Males & Females+
13	9+	18+	A+	Female+	Black/ AA+	Hispanic+	Have Not+	Have Not+	Males+
14	10+	18+	A+	Other+*	Black/ AA+	Hispanic+	Have+	Have+	Males & Females+

+Not Statistically Significant; ^Statistically Significant; * Can't fully explain due to small sample size

Table 4.5 Students Expressing Lowest Level of Agreement.

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
2	12+	17+	R+	Male+	Asian+	Hispanic+	Have Not+	Have Not^	Females+
3	9+	17+	R+	Male+	AI/AN+	Hispanic^	Have Not^	Have Not^	Females^
4	12+	17+	C+	Male+	Asian+	Hispanic+	Have+	Have+	Females+
10	12+	17+	C+	Male+	Asian+	Hispanic+	Have Not+	Have Not+	Females+
11	12+	17+	R+	Male+	Asian+	Non-Hispanic+	Have Not+	Have Not+	Females++
12	12+	17^	C+	Male+	Asian^	Hispanic+	Have Not+	Have Not+	Have Not+
13	11+	17+	C+	Male+	Asian+	Non-Hispanic+	Have+	Have+	Females+
14	12+	17+	R+	Male+	NH/PI+	Non-Hispanic+	Have Not+	Have Not+	Females+

+Not Statistically Significant; ^Statistically Significant; ± Can't fully explain due to small sample size

4.3.5. Instructional Preferences of Youth

As part of this study, students who completed the survey also indicated their preferences for where, how, and from whom they would like to learn about sexual health. Findings revealed that 93% of respondents said they would like to learn sexual health information in school, compared to just 33% who said they would prefer to learn at home, 15% in an afterschool setting, and 5% at church. Furthermore, 67% of students said they would like for teachers to teach or talk with them about sexual health. This compares to 47% who want to learn from parents, 39.5% from friends, 23.8% from a family member, 13.8% from a community worker, and 4.6% from a pastor. Lastly,

students expressed a diverse interest in how they would like to learn, including 57.7% of students who support learning directly from their teacher, 55.6% by discussing the topic as a class, 53.3% from in-class activities, 43.3% through school technology, 28.7% using a technology-based app, and 22.6% through role-play scenarios.

4.4. Discussion

Youth 14 - 18 years of age participating in this study identified all sexual health content related to relationships, identity, and safety as important to very important to learn in school. The level of importance placed on content was influenced by student characteristics, with several statistically significant differences emerging based on age, grade, gender identity, race, ethnicity, and experience with sexual intercourse, oral sex, and sexual contact with individual(s) of the same and/or different gender.

This study contributes to the field of sexual health education by providing a detailed overview of sexual health content and skills youth believe is important to learn in school. Based on an extensive review of existing literature, this study provides the most detailed information to date related to youth-informed sexual health education. This study included the successful development and implementation of a survey designed to assess student support of the NSES. A total of 15 factors, 8 of which are represented within this manuscript, were identified and verified. The use of multiple model fit indices indicated good overall fit; however, it is important to note the poor RMSEA and Chi-square results. While simulation research to explore possible explanations for inconsistencies between fit indices is limited (Lai & Green, 2016), it is known that RMSEA can be influenced by a variety of factors such as sample size, model

size, factor loadings, and model condition (Shi et al., 2019). One possible explanation for the poor RMSEA value for scale 4 could be due to the small degrees of freedom (1 *df*) and sample size (n = 258) (Kenny et al., 2015). The poor RMSEA could also be reflective of a limitation within the current research and could possibly be improved in the future through increasing the sample size, adding more survey items, or even changing the language used within the survey items. Regarding the 6 scales with a significant Chi-square test of model fit, sample size could offer a possible explanation as a small degree of misfit can lead to significant findings when the sample size is not small (Browne & Arminger, 1995).

A considerable weakness of this study was limiting ANOVA to one-way analysis. As a result, we were unable to examine statistically significant findings on a deeper level to determine if group differences could be further explained by other student characteristics. As an example, we were unable to assess whether other characteristics, such as age or sexual experience, played an influential role for content in which female students expressed a statistically significant higher level of agreement than males. Another weakness was the inability to assess findings based on sexual orientation and gender identity due to the small sample size of students who did not identify as heterosexual or cisgender. This is a notable weakness as it is critically important to assess the needs of all youth, not just the sexual majority.

4.4.1. Youth-Informed Educational Needs

4.4.1.1. Healthy Relationships

Youth expressed strong interest in healthy relationships, identifying all relationship content as "very important" to learn in school. Learning how to find correct information about relationships, as well as how to talk about sharing personal intimacy and sexual behavior boundaries and avoiding or ending an unhealthy relationship was of particular importance to students who have had oral sex. One possible explanation for this statistically significant difference is that adolescents who have had oral sex are more likely to be in a serious relationship (Goldstein & Halpern-Felsher, 2018), resulting in an need to learn more about relationship decisions and boundaries.

Students who indicated a statistically significant higher level of importance for learning about respect and responsibilities within relationships included 16-year-old students compared to their 17-year-old peers, as well as students who identified as White, AI/AN, Multiracial, B/AA, and NH/PI in comparison to students who identified as Asian. Content within this topic of interest includes, 1) learning about an individual's responsibility for STD testing and telling their partner about their STD status; 2) steps to using a condom correctly; 3) ways to respect the intimacy and sexual boundaries of others, and 4) ways to use social media safely, legally, and respectfully. Clear explanations for these statistically significant responses could not be identified within existing literature; however, possibly explanations are provided. According to Meier and Allen (2009), middle adolescence reflects the time period in which youth transition from group-based to one-on-one dating, a process that often includes an increase in intimate

behavior. While middle adolescence broadly encompasses youth ages 15-17, the difference in response between 16- and 17-year-old students could reflect where they fall along the spectrum of development (State Adolescent Health Resource Center, 2013). Miller and Broman (2017) noted that Asian adolescents are largely understudied in comparison to their peers; however, existing research suggests Asian adolescents are less likely to participate in risky sexual behaviors such as having sexual intercourse with multiple partners or early age drug use.

4.4.1.2. Identity

Of notable interest, statistically significant differences in perceived level of importance emerged for four groups of students regarding the need to learn about the differences between gender assignment at birth compared to gender identity, sexual orientations, as well as sexual orientation in comparison to sexual behavior and sexual identity. Groups indicating higher importance included non-Hispanic/Latino students, students who have had sexual intercourse, students who have had oral sex, and students who have had sexual contact with males and females. A deeper understanding of group characteristics is essential for a more accurate explanation regarding statistically significant responses; however, the sexual identity and sexual experience of responding students could be a factor. According to Kann et al. (2015), youth who have had sexual contact with both male and females as well as youth who have only had sexual contact with someone who identifies as the same gender, experience a higher prevalence of risky sexual behavior compared to their peers. Kann et al. specifically notes a higher prevalence of ever having sexual intercourse, having sexual intercourse before the age of

13, having 4 or more sexual intercourse partners, being sexually active, as well as a lower prevalence of using a condom, birth control, or using any pregnancy prevention method. Given that identity development is a key task during adolescence, youth who do not identify as heterosexual or cisgendered could also be seeking additional information to explore and affirm their identity (Morgan, 2012).

While still considered "important" to learn in school, learning about assigned gender and gender identity was the lowest mean response of all survey items. One possible explanation for this unique response is existing stigma and prejudice regarding gender minority youth (GLSEN, 2019). According to GLSEN, gender minority youth experience a higher rate of victimization at school compared to their cisgender heterosexual and LGBQ peers.

While there were no statistically significant responses, students considered it "very important" to learn about other identity-related content in school, including how to encourage safety, respect, awareness, and acceptance and promote school policies and programs that support these efforts. Influences on identity were of specific interest, with students expressing the need to learn about the brain's impact on how young people think, interact, and feel, as well as the influence of friends, family, media, society, religion, and culture on the way people think about and see themselves and express their gender, sexual orientation, identity.

4.4.1.3. Safety

Students also considered all content related to personal safety and interpersonal violence as “very important” to learn in school. This topic consists of a diverse range of content and skills, including the need to learn about situations and behaviors that could be considered bullying or sexual violence, bullying and sexual violence laws, why it is wrong to use tricks, threats, and force in relationships, and why rape and sexual assault victims are not at fault. Students also expressed a need to learn more about the influence of a person with more control in relationship, as well as how influences and societal messages impact attitudes about bullying and sexual violence. Furthermore, it was considered “very important” to learn how to find correct information to help someone being bullied or harassed and sexual violence survivors, as well as ways to talk with adults about bullying, harassment, abuse, and assault, respond when others are being bullied and harassed, and promote safe environments that encourage dignified and respectful treatment for everyone. Gender identity played an influential role in student responses, with students who identified as female being statistically more likely than male students to express a higher level of importance for learning about this topic in school. Findings from the Center for Disease Control and Prevention (CDC) Youth Risk Behavior Survey (YRBS) 2009 - 2019 Data Summary & Trends Report can possibly help to explain these results (CDC, 2019). Over the last decade, there was an increase in the overall number of youth who did not go to school due to not feeling safe, with females being more likely than males to report this behavior. In addition, females

remained more likely than their male peers to experience physical and sexual dating violence, forced sex, online bullying, and bullying at school (CDC, 2019).

4.4.1.4. Instructional Preferences

Students expressed interest in learning about sexual health from a variety of sources and in a variety of settings; however, school-based sexual health education was identified as the top preference with 93% of students wanting to learn in school and 67% of students wanting to learn from teachers. In addition, students identified learning directly from their teacher, classroom-based discussions, and in-class activities as their top three choices for how they want to learn about sexual health. While multiple avenues are available for youth to learn about sexuality, these findings align with other studies showing youth identify school as a primary and preferred source for obtaining sexual health information (Byers et al., 2013; Coleman, 2008; Selwyn & Powell, 2006).

Findings from this study show that youth who participated in the survey believe it is important for the National Sexuality Education Standards to be taught in high school. In addition, these findings show youth participants prefer to learn about sexual health in a school setting from their teacher and through other classroom-based opportunities. While limited in sample size, these findings represent valuable information as they reflect the voices of youth, a population all too often left out of decisions related to sexual health education. Furthermore, this study provides a convincing case for why youth should be respected as experts regarding their own health and educational needs, as well as recognized as a valuable addition to the growing team

of advocates diligently working to ensure sexual health education is equitable, inclusive, and accessible to all youth.

Given the second edition of the NSES (FOSE, 2020) is "infused with principles of reproductive justice, racial justice, social justice, and equity" (p. 8) among other revisions, it is important to conduct a similar study in the future that evaluates student perception regarding importance of the new standards being taught in school. Future research efforts should also purposefully explore the school-based sexual health education needs of the LGBTQ+ community, including youth of color, transgender youth, and bisexual, pansexual, queer, and sexually fluid youth, to further inform the development and implementation of education that is inclusive of everyone. It would be beneficial to further investigate the need for youth to learn more about gender assignment at birth versus gender identity. While still considered "important" to learn in school by survey participants, this was the only item of the entire survey that didn't have a mean score of "very important" or "extremely important." It is important to know if there is a trend to this ranking and if so, if the lower level of importance is due to stigma, an already accepting culture of youth regarding gender identity, or some other underlying influence.

4.4.2. Limitations

One limitation of the current study was the inability to pilot the study and conduct a follow-up survey with an independent sample due to time constraints. As an alternative, survey results were treated as pilot data for the purposes of establishing

criterion and construct validity to create a final version of the survey that can be implemented or adapted for other settings in the future.

Sample size was another limiting factor, impacting the ability to adequately explore the impact of certain student characteristics on survey responses. Several factors affected the lower than anticipated survey response rate. Considering that the surveys were implemented within a school setting during normal class time, the ability to inform students of the research study and distribute consent forms was limited.

Finally, a total of 8 items were deleted from the survey during factor analysis as the items were not sufficiently correlated with other items to be considered a factor. Essentially, these 8 items represent 8 pieces missing from the overall NSES puzzle. As a result, this study can only show student support for the NSES excluding these 8 items.

4.5. Conclusions

Findings from this study add to a small but powerfully informative group of existing studies that have focused on giving youth a voice regarding their school-based sexual health education needs and interests. Together, these studies show that youth desire and deserve sexual health education that is comprehensive in content and skill development, responsive to their evolving needs and interests, and respectful in approach and environment.

Building a stronger future requires a thorough understanding of the past and present, including a willingness to confront uncomfortable truths and meaningfully examine the context for deeply rooted beliefs and practices. It also requires a belief that

change is possible and a sense of innovation to explore new solutions to existing problems. Results from this study should inspire those working to advance sexual health education to meaningfully embrace youth as partners, including researchers, educators, policymakers, and other youth serving professionals. While there is much left to be done, so much more can be accomplished when working with youth rather than making decisions about them without them. Armed with accurate and unbiased information and resources, young people represent ideal agents of change, capable of challenging and overcoming damaging stereotypes and creating the type of change they want to see in the world.

4.6. References

Berglas, N. F., Constantine, N. A., & Ozer, E. J. (2014). A rights-based approach to sexuality education. *Perspectives on Sexual and Reproductive Health, 46*(2), 63 – 72. https://www.jstor.org/stable/10.2307/48576658

Boyer, J. (2018). New name, same harm: Rebranding of federal abstinence-only programs. *Guttmacher Policy Review, 21*, 11-16. https://www.guttmacher.org/sites/default/files/article_files/gpr2101118.pdf

Braeken, D., & Cardinal, M. (2008). Comprehensive sexuality education as a means of promoting sexual health. *International Journal of Sexual Health*, *20*(1-2). 50-62. https://doi.org/10.1080/19317610802157051

Braveman, P., & Gottlieb, L. (2014). The social determinants of health: It's time to consider the causes of the causes. *Public Health Reports, 129*(2), 19-31. https://doi.org/10.1177/00333549141291S206

Browne, M. W., & Arminger, G. (1995). Specification and estimation of mean-and covariance-structure models. In G. Arminger, C. C. Clogg, & M. E. Sobel (Eds.), *Handbook of statistical modeling for the social and behavioral sciences* (pp. 185-249). Springer. https://doi.org/10.1007/978-1-4899-1292-3_4

Buettner-Schmidt, K. & Lobo, M. L. (2012). Social justice: A concept analysis. *Journal of Advanced Nursing, 68*(4), 948–958. https://doi.org/10.1111/j.1365-2648.2011.05856.x

Burton, L. J., & Mazerolle, S. M. (2011). Survey instrument validity part I: Principles of survey instrument development and validation in athletic training education research. *Athletic Training Education Journal, 6*(1), 27-35. https://doi.org/10.4085/1947-380X-6.1.27

Byers, E. S., Sears, H. A., & Foster, L. R. (2013). Factors associated with middle school students' perceptions of the quality of school-based sexual health education, *Sex Education, 13*(2), 214-227. https://www.tandfonline.com/doi/abs/10.1080/14681811.2012.727083

Byers, E.S., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A. D. (2003a). An adolescent perspective on adolescent sexual health education at school and at home: I. High school students. *The Canadian Journal of Human Sexuality, 12*(1), 1-17. https://www.researchgate.net/profile/Angela_Weaver/publication/285688129_An_adolescent_perspective_on_sexual_health_education_at_school_and_at_home_II_Middle_school_students/links/56728e2108ae3aa2fcf0bd99/An-adolescent-

perspective-on-sexual-health-education-at-school-and-at-home-II-Middle-school-students.pdf

Byers, E.S., Sears, H.A., Voyer, S.D., Thurlow, J.L., Cohen, J.N., & Weaver, A. D. (2003b). An adolescent perspective on sexual health education at school and at home: II. Middle school students. *The Canadian Journal of Human Sexuality*, *12*(1), 19-33. https://www.researchgate.net/profile/Angela_Weaver/publication/285688129_An_adolescent_perspective_on_sexual_health_education_at_school_and_at_home_II_Middle_school_students/links/56728e2108ae3aa2fcf0bd99/An-adolescent-perspective-on-sexual-health-education-at-school-and-at-home-II-Middle-school-students.pdf

Centers for Disease Control and Prevention. (2019). *Youth Risk Behavior Survey: Data summary and trends report 2009-2019*. https://www.cdc.gov/healthyyouth/data/yrbs/pdf/YRBSDataSummaryTrendsReport2019-508.pdf

Coleman, L. (2008). Preferences towards sex education and information from a religiously diverse sample of young people. *Health Education*, *108*(1), 72 - 91. https://doi.org/10.1108/09654280810842148

Connell, C., & Elliott, S. (2009) Beyond the birds and the bees: Learning inequality through sexuality education. *American Journal of Sexuality Education, 4*(2), 83-102. https://doi.org/10.1080/15546120903001332

Cook-Sather, A. (2002). Authorizing students' perspectives: Toward trust, dialogue, and change in education. Educational Researcher, 31(4), 3-14. https://doi.org/10.3102/0013189X031004003

Crockett, L. J., & Silbereisen, R. K. (Eds.) (2000). *Negotiating adolescence in times of social change*. Cambridge University Press.

De Leon, R., & Allegrante, J. P. (2020). Strengthening comprehensive sexuality education anew: A commentary. *Journal of School Health, 90*(11), 825-829. https://doi.org/10.1111/josh.12945

DiStefano, C., & Hess, B. (2005). Using confirmatory factor analysis for construct validation: An empirical review. J*ournal of Psychoeducational Assessment, 23*(3), 225-241. https://doi-org.srv-proxy2.library.tamu.edu/10.1177/073428290502300303

Donovan, M. K., (2017). The looming threat to sex education: A resurgence of federal funding for abstinence-only programs? *Guttmacher Policy Review, 20*, 44-47. https://www.guttmacher.org/sites/default/files/article_files/gpr2004417.pdf

Dunfey, T. S. (2019, May 29). *What is social change and why should we care?* Southern New Hampshire University. https://www.snhu.edu/about-us/newsroom/2017/11/what-is-social-change

Eisenstein, Z. (November 12, 2019). *SIECUS announces major rebrand, changing conversations around sex ed after 55 years*. SIECUS. https://siecus.org/siecus-rebrand-announcement/

Elia, J. P. (2009). School-based sexuality-education: A century of sexual and social control. In E. Shroeder & J. Kuriansky (Eds.), *Sexuality education: Past, present, and future issues* (Vol. 1, pp. 33-57). Praeger Publishers.

Elia, J. P., & Eliason, M. J. (2010a). Dangerous omissions: Abstinence-only-until-marriage school-based sexuality education and the betrayal of LGBTQ youth. *American Journal of Sexuality Education*, *5*(1), 17-35, https://doi.org/10.1080/15546121003748848

Elia, J. P., & Eliason, M. (2010b). Discourses of exclusion: Sexuality education's silencing of sexual others. *Journal of LGBTQ Youth, 7*(1), 29-48. https://doi.org/10.1080/19361650903507791

Elia, J.P. & Tokunaga, J. (2015), Sexuality education: Implications for health, equity, and social justice in the United States. *Health Education*, *115*(1), 105-120. https://doi.org/10.1108/HE-01-2014-0001

Farmer, J. L., & Wilson, K. L. (2021a). *A systematic review: Youth informed school-based sexual health education* [Unpublished doctoral dissertation article]. Texas A&M University.

Farmer, J. L., & Wilson, K. L. (2021b). *Youth informed sexual health education: I. What youth want to learn in school about pregnancy, STIs, and related influencing factors* [Unpublished doctoral dissertation article]. Texas A&M University.

Future of Sex Education (2012). *National sexuality education standards: Core content and skills, K-12.* https://answer.rutgers.edu/file/national-sexuality-education-standards.pdf

Future of Sex Education (2020). *National sexuality education standards: Core content and skills, K-12* (2nd edition). https://advocatesforyouth.org/wp-content/uploads/2020/03/NSES-2020-web.pdf

Giami, A. (2002). Sexual health: The emergence, development, and diversity of a concept. *Annual Review of Sex Research, 13*(1), 1-35. https://doi.org/10.1080/10532528.2002.10559801

GLSEN. (2019). *The 2019 national school climate survey: The experiences of lesbian, gay, bisexual, transgender, and queer youth in our nation's schools*. file:///C:/Users/m_r_f/Downloads/w3lFull.pdf

GLSEN. (2018). *Laws prohibiting "promotion of homosexuality" in schools: Impacts and implications* [Research Brief]. https://www.glsen.org/sites/default/files/2019-10/GLSEN-Research-Laws-that-Prohibit-Promotion-of-Homosexuality-Implications.pdf

Goldfarb, E. S., & Lieberman, L. D. (2020). Three decades of research: The case for comprehensive sex education. *Journal of Adolescent Health, 68,* 13-27. https://doi.org/10.1016/j.jadohealth.2020.07.036

Goldstein, R., & Halpern-Felsher, B. (2018). Adolescent oral sex and condom use: How much should we worry and what can we do [Editorial]? *Journal of Adolescent Health, 62*, 363-364. https://doi.org/10.1016/j.jadohealth.2018.01.002

Guess, T. J. (2006). The social construction of whiteness: Racism by intent, racism by consequence. *Critical Sociology, 32*(4). 649 - 673. https://doi.org/10.1163/156916306779155199

Guttmacher Institute (2021, June 1). *State laws and policies: Sex and HIV education* [Policy brief]. https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education#

Hackman, H. W. (2005). Five essential components for social justice education. *Education, Equality & Excellence, 38*(2), 103-109. https://doi.org/10.1080/10665680590935034

Hall, K. S., Sales, J. M., Komro, K. A., & Santelli, J. (2016). The state of sex education in the United States. *Journal of Adolescent Health, 58*(6), 595–597. https://doi.org/10.1016/j.jadohealth.2016.03.032

Harley, C. S. (2019). *Sex ed is a vehicle for social change. Full stop*. SIECUS. https://siecus.org/sex-ed-is-a-vehicle-for-social-change/

Harris, A. C. (2009). Marginalization by the marginalized: Race, homophobia, heterosexism, and "the problem of the 21st century." *Journal of Gay & Lesbian Social Services, 21*(4), 430-448. https://doi.org/10.1080/10538720903163171

Hauser, D. (2005). Teens deserve more than abstinence-only education. Virtual Mentor: Ethics Journal of the American Medical Association, 7(10), 710 - 715. 10.1001/virtualmentor.2005.7.10.oped2-0510

Herek, G. M. (2004). Beyond "homophobia": Thinking about sexual prejudice and stigma in the twenty-first century. Sexuality Research & Social Policy, 1, 6-24. https://doi-org.srv-proxy2.library.tamu.edu/10.1525/srsp.2004.1.2.6

Hillard, A. G. (1988). Conceptual confusion and the persistence of group oppression through education. *Equity & Excellence in Education*, *24*(1), 36-43. https://doi.org/10.1080/1066568880240106

Kann, L., Olsen, E. O., McManus, T., Harris, W. A., Shanklin, S. L., Flint, K. H., Queen, B., Lowry, R., Chyen, D., Whittle, L., Thornton, J., Lim, C., Yamakawa, Y., Brener, N., & Zaza, S. (2016). Sexual identity, sex of sexual contacts, and health-related behaviors among students in grades 9–12 — United States and

selected sites, 2015. *Morbidity and Mortality Weekly Report: Surveillance Summaries, 65*(9), pp. 1-202. https://www.jstor.org/stable/10.2307/24805814

Kelly, G. F. (2005). Re-visioning sexuality education: A challenge for the future. *American Journal of Sexuality Education, 1*(1), 5-21. https://doi.org/10.1300/J455v01n01_02

Ko, L. (2016, January 29). *Unwanted sterilization and eugenics programs in the United States*. PBS. https://www.pbs.org/independentlens/blog/unwanted-sterilization-and-eugenics-programs-in-the-united-states/

Lai, K. & Green, S. B. (2016). The problem with having two watches: Assessment of fit when RMSEA and CFI disagree. *Multivariate Behavioral Research, 51*(2-3), 220-239. https://doi.org/10.1080/00273171.2015.1134306

Ladson-Billings, G. (1998). Just what is critical race theory and what's it doing in a nice field like education? *International Journal of Qualitative Studies in Education, 11*(1), 7-24. https://doi.org/10.1080/095183998236863

Loewenthal, K. M. (2001). *An introduction to psychological tests and scales* (2nd ed.). UCL Press.

MacDonald, J. A., Gagnon, A. J., Mitchell, C., Meglio, G. D., Rennick, J. E., & Cox, J. (2011). Asking to listen: Towards a youth perspective on sexual health education and needs. *Sex Education, 11*(4), 443-457. https://doi.org/10.1080/14681811.2011.595268

McCarty-Caplan, D. M. (2013). Schools, Sex Education, and Support for Sexual Minorities: Exploring Historic Marginalization and Future Potential. *American Journal of Sexuality Education, 8*(4), 246-273. https://doi.org/10.1080/15546128.2013.849563

Maddock, J. W. (1997). Sexuality education: A history lesson. *Journal of Psychology & Human Sexuality, 9*(3-4), 1 - 22. https://doi.org/10.1300/J056v09n03_01

Morgan, E. M. (2012). Contemporary issues in sexual orientation and identity development in emerging adulthood. *Emerging Adulthood, 1*(1), 52-66. https://doi.org/10.1177/2167696812469187

National Academies of Sciences, Engineering, and Medicine. (2017). *Communities in action: Pathways to health equity*. The National Academies Press. https://doi.org/10.17226/24624

Ott, M. A., & Santelli, J. S. (2007). Abstinence and abstinence-only education. *Current Opinion in Obstetrics and Gynecology, 19*(5), 446-452. doi: 10.1097/GCO.0b013e3282efdc0b

Pernick, M. S. (1997). Eugenics and public health in American history. *American Journal of Public Health, 87*(11), 1767 - 1772. DOI: 10.2105/ajph.87.11.1767

Pharr, S. (1993). Homophobia: A weapon of sexism. *Sex Information and Education Council of the U.S.*, 21(3), 1-4.

Pollack, T. M., & Zirkel, S. (2013). Negotiating the contested terrain of equity-focused change efforts in schools: Critical race theory as a leadership framework for creating more equitable schools. *The Urban Review, 45*(3). 290-310. https://doi.org/10.1007/s11256-012-0231-4

Portes, P. R. (2005). *Dismantling educational inequity: A cultural-historical approach to closing the achievement gap*. Peter Lang Publishing, Inc.

Pound, P., Langford, L., & Campbell, R. (2016). What do you people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. *BMJ Open, 6*(9), 1-14. https://dx-doi-org.srv-proxy1.library.tamu.edu/10.1136%2Fbmjopen-2016-011329

Rodriguez, A. J. (2001). Courage and the researcher's gaze: (Re)defining our roles as cultural warriors for social change. *Journal of Science Teacher Education, 12*(4), 277-294. https://doi.org/10.1023/A:1014264212029

Ruggles, S. (2015). Patriarchy*, power, and pay: The transformation of American families, 1800-2015. Demography, 52*(6), 1797-1823. https://www.jstor.org/stable/43699138

Sanjakdar, F., Allen, L., Rasmussen, M. L., Quinlivan, K., Brömdal, & Aspin, C. (2015). In search of critical pedagogy in sexuality education: Visions, imaginations, and paradoxes. *Review of Education, Pedagogy, and Cultural Studies, 37*(1), 53-70. https://doi.org/10.1080/10714413.2015.988537

Santelli, J. S., Kantor, L. M., Grilo, S. A., Speizer, I. S., Lindberg, L. D., Heitel, J. Schalet, A. T., Lyon, M. E., Mason-Jones, A. J., McGovern, T., Heck, C. J., Rogers, J., Ott, M. A. (2017). Abstinence-only-until-marriage policies and programs: An updated position paper of the Society for Adolescent Health and Medicine. *Journal of Adolescent Health, 61*(3), 273-280. https://doi.org/10.1016/j.jadohealth.2017.05.031

Santelli, J. S., Ott, M. A., Lyon, Rogers, J., M. E., Summers, D., Schleif, R. (2006). Abstinence and abstinence-only education: A review of U.S. policies and programs. Journal of Adolescent Health, 38(1), 72-81. https://doi.org/10.1016/j.jadohealth.2005.10.006

Schalet, A.T., Santelli, J.S., Russell, S.T., Halpern, C. T., Miller, S. A., Pickering, S. S., Goldberg, S. K., & Hoeing, J. M. (2014). Invited commentary: Broadening the evidence for adolescent sexual and reproductive health and education in the United States. *Journal of Youth and Adolescence*, *43*, 1595–1610. https://doi.org/10.1007/s10964-014-0178-8

Selwyn, N., & Powell, E. (2006). Sex and relationships education in schools: the views and experiences of young people. *Health Education, 107*(2):219-231. https://doi.org/10.1108/09654280710731575

Segal, E. A., (2011). Social empathy: A model built on empathy, contextual understanding, and social responsibility that promotes social justice. *Journal of Social Service Research, 37*(3), 266-277. https://doi.org/10.1080/01488376.2011.564040

Shah, C. Q. (2015). *Sex ed, segregated: The quest for sexual knowledge in progressive-era America.* University of Rochester Press.

Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the Model Size Effect on SEM Fit Indices. *Educational and Psychological Measurement*, 79(2) 310–334. https://doi.org/10.1177/0013164418783530

SIECUS (n.d.). *A history of federal funding for abstinence-only-until-marriage programs*. https://siecus.org/wp-content/uploads/2018/07/4-A-Brief-History-of-AOUM-Funding.pdf

SIECUS (2021). *History of Sex Education*. https://siecus.org/wp-content/uploads/2021/03/2021-SIECUS-History-of-Sex-Ed_Final.pdf

Solorzano, D. G. (1997). Images and words that wound: Critical race theory, racial stereotyping and teacher education. *Teacher Education Quarterly*, *24*(3), 5–19. https://www.jstor.org/stable/23478088

State Adolescent Health Resource Center (2013). *Understanding adolescence: Developmental tasks and attributes of middle adolescence (ages 15-17)*. Konopka Institute, University of Minnesota. http://www.amchp.org/programsandtopics/AdolescentHealth/projects/Documents/SAHRC%20AYADevelopment%20MiddleAdolescence.pdf

Swaby, A. Texas education board approves new sex ed policy that does not cover LGBTQ students or consent. *The Texas Tribune.* https://www.texastribune.org/2020/11/18/Texas-sex-education-LGBTQ/

Teaching Tolerance. (2016). *Social justice standards: The teaching tolerance anti-bias framework.* https://www.learningforjustice.org/sites/default/files/2020-09/TT-Social-Justice-Standards-Anti-bias-framework-2020.pdf

Waxman, Henry (Prepared For). (2004). *The Content of Federally Funded Abstinence-Only Education Programs*. United States House of Representatives, Committee on Government Reform – Minority Staff, Special Investigations Division. https://spot.colorado.edu/~tooley/HenryWaxman.pdf

Wiedeman, C. R. (2002). Teacher preparation, social justice, equity: A review of the literature. *Equity & Excellence in Education, 35*(3), 200-211. https://doi.org/10.1080/713845323

Wiley, D., & Wilson, K. (2009). *Just say don't know: Sexuality education in Texas schools*. Texas Freedom Network. https://tfn.org/cms/assets/uploads/2015/11/SexEdRort09_web.pdf

William, B., Onsman, A., & Brown, T. (2010). Exploratory factor analysis: A five-step guide for novices. *Journal of Emergency Primary Health Care, 8*(3), 1-13. https://doi.org/10.33151/ajp.8.3.93

Woolf, S. H., Johnson, R. E., Phillips, R. L., & Philipsen, M. (2007). Giving everyone the health of the educated: An examination of whether social change would save more lives than medical advances. *American Journal of Public Health, 97*(4), 679-683. doi:10.2105/AJPH.2005.084848

United Nations Population Fund. (2014). *Programme of action of the international conference on population development (20th anniversary ed*.). https://www.unfpa.org/sites/default/files/pub-pdf/programme_of_action_Web%20ENGLISH.pdf

5. CONCLUSIONS

While youth are expected to apply the knowledge, skills, and resources they receive in school to make healthy and safe choices, adults have traditionally determined what, when, where, and how youth should receive sexual health information (Allen, 2005). While this adult-driven model of education is rooted in a well-intentioned desire to protect and guide youth (Powers & Tiffany, 2006), adults ultimately make educational decisions based on perceived risk, need, and appropriateness of content (Millstein & Halpern-Felsher, 2002). As a result, youth may experience the opposite of protection and guidance due to stigmatizing and shame-based instruction, censored and inaccurate information, disrespectful and untrustworthy educators, as well as unsafe and unsupportive learning environments (Elia & Tokunaga, 2015; Hauser, 2005; Santelli et al., 2017; Wiley & Wilson, 2009).

Youth dissatisfaction with the existing approach to teaching about sexual health in school is well documented (Corcoran et al., 2020; Pound et al., 2016); however, little is actually known about what youth believe is important to learn in a school setting about sexual health (Kimmel, 2013). Without a clear understanding of youth needs and interests, adults will continue to decide what constitutes effective sexual health education (Allen, 2005; Wilson et al., 2018). Given the continued growth in support, guidance, and advocacy for comprehensive sexual health education (Brener et al., 2017; Haberland & Rogow, 2015; SIECUS, 2018), now is an ideal time to ensure education is

designed to be relevant, engaging, and effective as defined by youth (Cook-Sather, 2002; MacDonald et al., 2011). Furthermore, eliciting youth insight provides an opportunity to assess current approaches to adult-driven education and evaluate youth support for the most comprehensive guidance for sexual health educators to date within the U.S., the National Sexuality Education Standards (Future of Sex Education [FoSE], 2012; FoSE, 2020).

As described within this dissertation, the purpose of this study was to give youth a voice regarding what they want to learn in school about sexual health. This study included a systematic literature review designed to assess what is already known about the needs and interests of youth. A total of 23 studies published between 1997 and 2018, representing eight countries from around the world, were ultimately included in this review. This study also included the development and implementation of a survey designed to assess how important youth believe it is to learn about the sexual health content and skills represented within the first edition of the National Sexuality Education Standards (FoSE, 2012), as well as instructional preferences for learning about sexual health. A total of 258 students between the ages of 14 to 18 years representing 4 high schools within an urban city in Central Texas completed the survey. Findings from the systematic literature and study are summarized briefly below and implications for policy, practice, and future research are discussed based on these findings.

Findings from this study broadly support the implementation of comprehensive sexual health education. The systematic literature review revealed that youth included in

the studies overwhelmingly supported sexual health education that is: 1) comprehensive in content and responsive to their physical, emotional, and social needs, 2) respectful and engaging in content and instructional approach, and 3) taught within a safe and supportive learning environment. A need for more detailed research with youth related to this topic area was also a finding of this review due to the small collection of studies that have specifically focused on school-based sexual health education over the past two decades. Survey results showed youth overwhelmingly support implementation of the National Sexuality Education Standards (NSES) in school. On average, youth indicated the NSES content and skills represented within the survey were "very important" to "extremely important" to learn in school, with just one survey item considered "important." Furthermore, survey results supported school-based education in comparison to other settings and sources of information. The majority of students identified school as their primary choice for learning location, teachers as their preferred choice for educator, and classroom-based instruction and discussion as their preferred choices of instructional method.

5.1. Study Implications for Policy and Practice

Findings of this dissertation complement other studies that have: 1) elicited youth feedback regarding previous sexual health education (Corcoran et al., 2020; Pound et al., 2016), 2) assessed the impact of censored and inaccurate instruction (Hauser, 2005; Santelli et al., 2006), and 3) examined the broad range of benefits associated with comprehensive sexual health education (Goldfarb & Lieberman, 2020). Together, the

combined studies paint a picture that shows youth identify irrelevant and unengaging education as insufficient, experience harm from stigmatizing and shame-based education, and desire a holistic education that responds to their physical, social, and emotional needs. This collaborative illustration provides a strong argument for significant, evidence-informed policy and practice revisions. While we will continue to learn more about the specific needs and interests of youth through future research, it is already undeniably clear the current patchwork of policies and practices that shape school-based sexual health education are not helping our nation's youth to make informed decisions about their health and safety (Constantine, 2008; Guttmacher Institute, 2021).

5.1.1. Active and Meaningful Youth Involvement

Policymakers and practitioners should consider how youth can play a role in future decisions and actions that impact school-based sexual health education. Youth can no longer be viewed as passive recipients of education, they deserve to play a meaningful role beyond the traditional scope of providing feedback on previous experiences (United Nations Educational, Scientific and Cultural Organization [UNESCO], 2018). Youth should be involved during the planning, development, implementation, evaluation and revision process to ensure equitable education (MacDonald, 2011, UNESCO 2005). This dissertation combined with other studies expressing youth dissatisfaction with previous sexual health education (Corcoran et al.,

2020; Pound et al., 2016) serve as a clear indicator that youth are more than capable of assessing and articulating their needs and interests.

Sexual health educators should seek to integrate youth voice in their overall approach to education. While this study involved the design and development of a survey to assess the National Sexuality Education Standards, educators can elicit youth needs and interests related to a variety of classroom activities. Educators could work with youth to identify topic areas of interest, specific content and skills needs, guide instructional methods, redesign the learning environment, and so much more. This approach acknowledges the value of youth and aligns with their desire to be respected and not be patronized by teachers (Eisenberg et al., 1997; Lester and Allan, 2006). Furthermore, actively listening and responding to the educational needs and interests of students can strengthen learning outcomes given that youth are more likely to retain and apply knowledge and skills when they find what they are learning to be relevant and engaging (Byers, 2013).

Youth serving organizations should purposefully assess the needs and elicit interests of youth to make informed decisions regarding sexual health activities, programs, and services. Youth can also play a meaningful role in helping organizations secure and support new as well as existing services. Grant funding requests and support from stakeholders can both be strengthened by published research and organizational-based assessments that indicate organizational services respond to the needs and interests of youth.

5.1.2. Holistic Sexual Health Education

While additional youth elicitation research will further evaluate similarities and differences between youth and adult perceptions of effectiveness, findings from this dissertation support implementation of the NSES in school. Educators should seek guidance from the National Sexuality Education Standards for the minimum content and skills that should be taught to youth in school. The NSES can serve as a tool for educators when selecting, framing, and implementing instruction, as well as a tool when advocating to school decision makers for increased time and resources both within and across school years.

In addition to implementing relevant and engaging content and skills, educators should also deeply reflect on their overall approach to providing sexual health education. This assessment should include consideration of selected information, including topics, framing, instructional methods, and timing. In addition, this reflection should include educators assessing how they interact with youth, their level of instructional knowledge and comfort, the physical learning space, and overall classroom environment. Meaningful introspection of this topic could identify a need for professional development, physically changing the learning environment, integrating new approaches to teaching, or adjusting timing of instruction.

5.1.3. Powerful Partnerships

Youth represent a powerful addition to the table of sexual health influencers, decision makers, educators, and researchers. Youth are uniquely positioned to disrupt debate between adults by directly speaking about their needs, the impact of inequitable education, advocating for change, and informing solutions to existing challenges to providing quality sexuality education. Youth-adult partnerships have the potential to transform sexual health education, as well as improve other school-based outcomes related to health, academic success, social interactions (Mitra, 2009).

5.2. Study Implications for Future Research

This study has contributed to a small but powerful group of research studies dedicated to ensuring school-based sexual health education meets the needs of all youth, by: 1) presenting a systematic review of studies from around the world that have examined the needs of youth regarding sexual health education in school, 2) developing a survey that can be used to directly assess what NSES content and skills youth desire to learn in their school classroom, 3) identifying specific NSES content and skills youth believe is important, very important , and extremely important to learn about sexual health in school, and 4) examining the instructional preferences for where, from whom, and how youth want to learn about sexual health. This study also revealed the need for additional research to address existing gaps within the youth informed sexual health education research.

5.2.1. Increase Number of Studies and Diversity of Youth Participants

To ensure sexual health education centers the needs of all youth, it is essential that youth representing a range of identities and backgrounds have an opportunity to meaningfully express their educational needs and interests (Elia & Eliason, 2010b). Several significant findings emerged from this study that support the need for future research to purposefully expand the total number and diversity of youth that participate in research to inform school-based sexual health education. First, the systematic literature review revealed that a total of just 23 studies have been published in English worldwide between 1997 and 2018. With only two of these studies taking place within the United States (U.S.), representing a total sample size of just 59 youth (Eisenberg et al., 1997; Gowen & Winges-Yanez, 2014), findings from this review might not accurately reflect the current needs of youth within U.S. schools. Furthermore, while the reviewed studies included youth representing a range of ages, gender identities, sexual orientations, races, ethnicities, and religions, the small number of studies included in the review limits application of findings to youth representing these identities.

Given the historical and current practice of excluding, stigmatizing, and shaming certain youth through specific approaches to school-based sexual health education (Elia, 2009; Elia & Eliason, 2010a; Elia & Eliason, 2010b), additional research is needed that specifically focuses on identifying and understanding the needs of marginalized individuals to ensure future education is inclusive and affirming of all identities. Populations of specific interest for future research include: 1) the LGBTQ+ community,

including youth who identify as bisexual, pansexual, queer, sexually fluid, and transgender, 2) youth of color, 3) youth with intellectual and developmental disabilities, and 4) youth with intersecting marginalized identities (Elia & Tokunaga, 2015).

5.2.2. Study Design

Data collection and type of analyses are also important considerations for future research to ensure equitable education. The use of one-way ANOVAs in this study to assess if statistically significant differences in perceived level of importance highlighted the need for more thorough analyses designed to explore the influence of intersecting identities. While several statistically significant differences emerged based on age, gender, race, ethnicity, and sexual experience; it was difficult to identify possible explanations for these unique findings without a deeper understanding of the student. In addition, sample size limited the ability to analyze the needs of students who identified as a gender other than male or female, as well as youth who have only had sexual contact with someone who identifies as the same gender. Special consideration should be taken by researchers in the future to ensure their study is designed to adequately assess the needs of youth, particularly youth who do not identify as heterosexual or cisgender.

5.2.3. Expanding Exploration of Needs

Despite this study providing the most comprehensive review to date of what youth consider important to learn in school about sexual health, the design of this study ultimately limited youth suggestions to a predefined list of content and skills represented

by the NSES. While the NSES represent unprecedented guidance for sexual health education within the U.S. (Boonstra, 2012), these standards still represent the minimum content and skills considered essential for youth to learn about sexual health (FoSE, 2012) as defined by adults. Future research should be designed to allow for deeper exploration of needs and interests, purposefully not restrained by adult perceptions of effectiveness. Qualitative or mixed methods research could provide an opportunity to dig deeper into areas of interest to better understand specific content and instructional needs. More detailed information will be critically important for educators seeking to provide a responsive, engaging, and effective educational experience.

5.2.4. Special Topics of Interest

Several topics emerged over the course of this study as specific areas in which additional research with youth is needed to guide educators in selection of developmentally appropriate content and trauma informed instruction. The systematic literature review identified pleasure (Forrest et al., 2004; Hilton, 2007; Suter et al., 2012), pornography (Ekstrand et al., 2011; Hilton, 2007), masturbation (Forrest et al., 2004; Hilton, 2007; Mkumbo, 2010) as well as sexual harassment, assault, and rape (Eisenberg et al., 1997; Ekstrand et al., 2011; Kennedy et al., 2014; McKay & Holowaty, 1997) as topics youth are interested in learning about in school. The importance of learning about gender assignment at birth compared to gender identity also emerged from the survey as a specific topic that should be further explored. Youth participating in the survey considered on average all NSES content and skills to be "very important" to

"extremely important" to learn in school, except for this item. While still considered to be "important," it would be beneficial for content and messaging to understand if this lower perception of importance is reflective of a larger trend and if so, if this belief is due to stigma, acceptance, or some other reason. There is growing recognition regarding the importance of addressing these topics within an educational setting; however, these topics represent new areas of growth as they have not traditionally been included within sexual health education.

Educator characteristics, instructional methods and timing, as well as learning environment all emerged as important factors that influence the sexual health education experience. While the expectation was to identify content-related suggestions through the systematic literature review, youth identified one or more of these topics as an area of need in 15 of the 23 studies. Further research is needed to determine if other youth-informed studies have been published specifically related to these influencing factors. One specific educator characteristic in need of further exploration is the preference for youth to learn from an expert rather than their teacher or peers (Lester & Allan, 2006; O'Higgins & Gabhainn, 2010; Reeves et al., 2006). Further insight is needed to understand if this preference is due to youth not recognizing their teachers or peers as experts in sexual health, or if youth are more interested in learning from an outside expert teaching sexual health in a school-based setting rather than someone they know and interact with on a regular basis. The need to explore these topic areas through research is further supported by the fact that youth continue to identify school as a preferred choice for learning about sexual health education despite often considering

existing education to be insufficient (Akers, et al., 2010; Gardner, 2015; Rose & Friedman, 2017)

This study is based on the first edition of the NSES, published in 2012 (FoSE, 2012); however, an updated version of the NSES was recently released in 2020 (FoSE, 2020). Standards have been revised and added to integrate a trauma-informed and intersectional approach, focus on social determinants of health and associated health inequities, as well as "infused with principles of reproductive justice, racial justice, social justice, and equity" (FoSE, 2020, p. 8). Given the increasing popularity and adoption of the NSES by educators across the U.S. (HHS CDC, 2016), it would also be beneficial to implement a similar study designed to align with the second edition of the standards. Findings from this additional research would provide educators and other NSES users with an updated review of what youth consider important to learn in school about the revised NSES.

5.3. References

Akers, A., Youmans, S., Lloyd, S., Smith, D., Banks, B., Blumenthal, C., Albritton, T., Ellison, A., Smith, G., & Adimora, A. (2010). Views of young, rural African Americans of the role of community Social Institutions in HIV Prevention. *Journal of Health Care for the Poor and Underserved 21*(2), 1-12. http://proxy.library.tamu.edu/login?url=https://www.proquest.com/docview/603850618?accountid=7082

Allen, L. (2005). 'Say everything': exploring young people's suggestions for improving sexuality education, *Sex Education, 5*:4, 389-404. https://doi.org/10.1080/14681810500278493

Brener, N.D., Demissie, Z., McManus, T., Shanklin, S.L., Queen, B., & Kann, L. (2017). *School health profiles 2016: Characteristics of health programs among secondary schools*. Centers for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/profiles/pdf/2016/2016_Profiles_Report.pdf

Boonstra, H. D. (2012). *Progressive and Pragmatic: The National Sexuality Education Standards for U.S. Public Schools.* Guttmacher Institute [Policy Review Vol. 15 No. 2]. https://www.guttmacher.org/sites/default/files/article_files/gpr150202.pdf

Byers, E. S., Sears, H. A., & Foster, L. R. (2013). Factors associated with middle school students' perceptions of the quality of school-based sexual health education, *Sex Education, 13*(2), 214-227. https://www.tandfonline.com/doi/abs/10.1080/14681811.2012.727083

Constantine, N. A. (2008). Converging evidence leave policy behind: Sex education in the United States [Editorial]. *Journal of Adolescent Health, 42*, 324-326. https://doi.org/10.1016/j.jadohealth.2008.01.004

Corcoran, J. L., Davies, S. L., Knight, C. C., Lanzi, R. G., Li, P., Ladores, S. L. (2020). Adolescents' perceptions of sexual health education programs: An integrative review. *Journal of Adolescence, 84*, 96-112. https://doi.org/10.1016/j.adolescence.2020.07.014

Ekstrand, M., Engblom, C., Larsson, M., & Tyden, T. (2011). Sex education in Swedish schools as described by young women. *The European Journal of Contraception and Reproductive Health Care, 16*(3), 210–224. https://doi.org/10.3109/13625187.2011.561937

Eisenberg, M. E., Wagenaar, A., & Neumark-Sztainer, D. (1997). Viewpoints of Minnesota students on school-based sexuality education. *Journal of School Health, 67*(8), 322-326. https://doi.org/10.1111/j.1746-1561.1997.tb03465.x

Elia, J. P. (2009). School-based sexuality-education: A century of sexual and social control. In E. Shroeder & J. Kuriansky (Eds.), *Sexuality education: Past, present, and future issues* (Vol. 1, pp. 33-57). Praeger Publishers.

Elia, J. P., & Eliason, M. J. (2010a). Dangerous omissions: Abstinence-only-until-marriage school-based sexuality education and the betrayal of LGBTQ youth. *American Journal of Sexuality Education, 5*(1), 17-35, https://doi.org/10.1080/15546121003748848

Elia, J. P., & Eliason, M. (2010b). Discourses of exclusion: Sexuality education's silencing of sexual others. *Journal of LGBTQ Youth, 7*(1), 29-48. https://doi.org/10.1080/19361650903507791

Elia, J.P. & Tokunaga, J. (2015), Sexuality education: Implications for health, equity, and social justice in the United States. *Health Education, 115*(1), 105-120. https://doi.org/10.1108/HE-01-2014-0001

Forrest, S., Strange, V., Oakley, A., & The RIPPLE Study Team (2004). What do young people want from sex education? The results of a needs assessment from a peer-led sex education programme. *Culture, Health, & Sexuality, 6*(4), 337-354. https://doi.org/10.1080/13691050310001645050

Future of Sex Education (2012). *National sexuality education standards: Core content and skills, K-12.* https://answer.rutgers.edu/file/national-sexuality-education-standards.pdf

Future of Sex Education. (2020). *National sex education standards: Core content and skills, K-12* (2nd ed.). https://advocatesforyouth.org/wp-content/uploads/2020/03/NSES-2020-web.pdf

Gardner, E. (2015). Abstinence-only sex education: College students' evaluations and responses. *American Journal of Sexuality Education, 10*(2), 125-139. https://doi.org/10.1080/15546128.2015.1015760

Goldfarb, E. S., & Lieberman, L. D. (2020). Three decades of research: The case for comprehensive sex education. *Journal of Adolescent Health, 68,* 13-27. https://doi.org/10.1016/j.jadohealth.2020.07.036

Gowen, K. L., & Winges-Yanez, N. (2014). Lesbian, gay, bisexual, transgender, queer, and questioning youths' perspectives of inclusive school-based sexuality education. *Journal of Sex Research, 51*(7), 788 - 800. https://www.tandfonline.com/doi/abs/10.1080/00224499.2013.806648

Guttmacher Institute (2021, July). *State laws and policies: HIV and sex education* [Policy brief]. https://www.guttmacher.org/state-policy/explore/sex-and-hiv-education#

Haberland, N., & Rogow, D. (2015). Sexuality education: Emerging trends in evidence and practice. *Journal of Adolescent Health, 56*(1), S15-S21. https://doi.org/10.1016/j.jadohealth.2014.08.013

Hauser, D. (2005). Teens deserve more than abstinence-only education. Virtual Mentor: Ethics Journal of the American Medical Association, 7(10), 710 - 715. 10.1001/virtualmentor.2005.7.10.oped2-0510

Hilton, G. L. S. (2007). Listening to the boys again: an exploration of what boys want to learn in sex education classes and how they want to be thought. *Sex Education, 7*(2), 161-174. https://doi-org.srv-proxy1.library.tamu.edu/10.1080/14681810701264508

Kennedy, E. C., Bulu, S., Harris, J., Humphreys, D., Malverus, J., & Gray, N. J. (2014). "These issues aren't talked about at home": a qualitative study of the sexual and reproductive health information preferences of adolescents in Vanuatu. *BMC Public Health, 14*(770), 1-12. https://link.springer.com/article/10.1186/1471-2458-14-770

Kimmel, A., Williams, T., Veinot, T., Campbell, B., Campbell, T., Valacak, M., & Kruger, D. (2013). 'I make sure I am safe and I make sure I have myself in every way possible': African-American youth perspectives on sexuality education. *Sex Education, 13*(2), 172-185. https://doi.org/10.1080/14681811.2012.709840

Lester, C., & Allan, A. (2006). Teenage sexual health needs: Asking the consumers. *Health Education, 106*(4), 315-328. https://doi-org.srv-proxy1.library.tamu.edu/10.1108/09654280610673490

McKay, A., & Holowaty, P. (1997). Sexual health education: A study of adolescents' opinions, self-perceived needs and current and preferred sources of information. *Canadian Journal of Human Sexuality, 6*(1), 29-38. http://web.a.ebscohost.com/ehost/pdfviewer/pdfviewer?vid=0&sid=69c1c0be-01e3-4497-8e65-24c4dc978c66%40sessionmgr4007

Millstein, S., & Halpern-Felsher, B. (2002). Perceptions of risk and vulnerability. *Journal of Adolescent Health, 31*(1), 10-27. https://doi.org/10.1016/S1054-139X(02)00412-3

Mitra, D. E. (2009). Collaborating with students: Building youth-adult partnerships in schools. *American Journal of Education, 115*(3), 407-436. https://www.jstor.org/stable/10.1086/597488b

Mkumbo, K.A. (2010). What Tanzanian young people want to know about sexual health: implications for school-based sex and relationships education. *Sex Education, 10*(4), 405-412. https://doi.org/10.1080/14681811.2010.515097

O'Higgins, S., & Gabhainn, S. N. (2010). Youth participation in setting the agenda: learning outcomes for sex education in Ireland, *Sex Education*, *10*(4), 387-403. https://doi-org.srv-proxy2.library.tamu.edu/10.1080/14681811.2010.515096

Powers, J. L., & Tiffany, J. S. (2006). Engaging youth in participatory research and evaluation. *Journal of Public Health Management and Practice*, *12*(6), S79-S87. https://journals.lww.com/jphmp/fulltext/2006/11001/engaging_youth_in_participatory_research_and.15.aspx

Pound, P., Langford, L., & Campbell, R. (2016). What do you people think about their school-based sex and relationship education? A qualitative synthesis of young people's views and experiences. *BMJ Open*, *6*(9), 1-14. https://dx-doi-org.srv-proxy1.library.tamu.edu/10.1136%2Fbmjopen-2016-011329

Reeves, C., Whitaker, R., Parsonage, R. K., Robinson, C. A., Swale, K., & Bayley, L. (2006). Sexual health services and education: Young people's experiences and preferences. *Health Education Journal*, *64*(4), 368-379. https://doi-org.srv-proxy1.library.tamu.edu/10.1177/0017896906069381

Rose, I. D., & Friedman, D. B. (2017). Schools: A missed opportunity to inform African American sexual and gender minority youth about sexual health education and

services. *The Journal of School Nursing, 33*(2), 109-115. https://doi.org/10.1177/1059840516678910

Santelli, J. S., Kantor, L. M., Grilo, S. A., Speizer, I. S., Lindberg, L. D., Heitel, J. Schalet, A. T., Lyon, M. E., Mason-Jones, A. J., McGovern, T., Heck, C. J., Rogers, J., Ott, M. A. (2017). Abstinence-only-until-marriage policies and programs: An updated position paper of the Society for Adolescent Health and Medicine. *Journal of Adolescent Health, 61*(3), 273-280. https://doi.org/10.1016/j.jadohealth.2017.05.031

Santelli, J. S., Ott, M. A., Lyon, Rogers, J., M. E., Summers, D., Schleif, R. (2006). Abstinence and abstinence-only education: A review of U.S. policies and programs. Journal of Adolescent Health, 38(1), 72-81. https://doi.org/10.1016/j.jadohealth.2005.10.006

SIECUS. (2018). *On our side: Public support for sex education*. https://siecus.org/wp-content/uploads/2018/08/On-Our-Side-Public-Support-for-Sex-Ed-2018-Final.pdf

Suter, S., McCracken, W., & Calam, R. (2012). The views, verdict and recommendations for school and home sex and relationships education by young deaf and hearing people. *Sex Education, 12*(2), 147–163. https://doi.org/10.1080/14681811.2011.609042

United Nations Educational, Scientific and Cultural Organization (2005). *Young people speak out on quality education: Views and proposals of students participating in the UNESCO Associated Schools Project Network*. https://unesdoc.unesco.org/ark:/48223/pf0000141232

United Nations Educational, Scientific, and Cultural Organization. (2018). *International technical guidance on sexuality education: An evidenced informed approach (revised ed.)*. https://www.unaids.org/sites/default/files/media_asset/ITGSE_en.pdf

Wiley, D., & Wilson, K. (2009). *Just say don't know: Sexuality education in Texas schools*. Texas Freedom Network. https://tfn.org/cms/assets/uploads/2015/11/SexEdRort09_web.pdf

Wilson, K. L., Maness, S. B., Thompson, E. L., Rosen, B. L., McDonald, S., & Wiley, D. C. (2018). Examining sexuality education preferences among youth at risk for poor sexual health outcomes based on social determinants of health factors. *American Journal of Sexuality Education*, *13*(3), 283-296. https://doi.org/10.1080/15546128.2018.1447414

APPENDIX A

DESCRIPTIVE DATA FOR VARIABLES RELATED TO PREGNANCY, STIS, RELATED INFLUENCING FACTORS, HEALTHY RELATIONSHIPS, IDENTITY, AND PERSONAL SAFETY

Survey Item #	Survey Item	Mean	Standard Deviation	N	Description of Results
It is important in high school for students to have the chance to learn about...					
2	How the brain impacts the way teens and young people think, interact, and feel.	2.95	.859	258	Very Important
3	The difference between being born male or female and how a person identifies as male or female.	2.48	1.120	252	Important
4	Sexual orientations (what gender a person is attracted to) including heterosexual (like the opposite gender), gay and lesbian (like the same gender), and bisexual (like both genders).	2.57	1.107	252	Very Important
5	Differences between sexual orientation, sexual behavior, and sexual identity.	2.83	.945	252	Very Important
6	Advantages and disadvantages of different kinds of contraception (ways to prevent pregnancy), including abstinence (choosing not to have sex) and condoms.	3.38	.825	258	Very Important
7	Emergency contraception (prevents a pregnancy from happening after sex, example - Plan B, Morning After Pill) and how it works.	3.31	.746	258	Very Important
8	Laws that can affect health care during pregnancy.	3.05	.876	258	Very Important
9	Signs of pregnancy.	3.36	.778	258	Very Important
10	Pregnancy laws, adoption laws, abortion laws, and parenting laws.	3.24	.812	258	Very Important
11	Symptoms of and treatments for sexually transmitted diseases (STDs) (infections that a person can get through sexual contact), including HIV.	3.53	.747	254	Extremely Important
12	Abstinence (choosing not to have sex), condoms, and other ways to prevent STDs.	3.24	.855	254	Very Important
13	Sexual health care laws, including STD and HIV testing and treatment.	3.30	.804	254	Very Important
16	Sexual consent (giving permission) and why it is important when making decisions about sexual behaviors.	3.16	.844	258	Very Important
17	The positive and negative roles of technology and social media (Facebook, twitter) in relationships.	2.66	1.039	258	Very Important

APPENDIX A Continued

18	Situations and behaviors that may be considered bullying and sexual violence.	3.20	.883	259	Very Important
19	Laws related to bullying and sexual violence.	3.13	.908	259	Very Important
20	Why using tricks, threats, or force in relationships in wrong.	3.16	.908	259	Very Important
21	Why a person who has been raped or sexually assaulted is not at fault.	3.27	.934	259	Very Important
It is important in high school for students to have the chance to learn about the influence of...					
22	Friends, family, and media (music, TV) on the way people think about and see themselves.	2.65	.968	258	Very Important
23	Society, religion, and culture on the way people think about and see themselves.	2.64	1.013	258	Very Important
24	Friends, family, and media (music, TV) on how people express their gender (male, female, transgender), their sexual orientation (what gender a person is attracted to), and identity.	2.66	1.070	258	Very Important
25	Society, religion, and culture on how people express their gender (male, female, transgender), their sexual orientation (what gender a person is attracted to), and identity.	2.66	1.105	258	Very Important
26	Media on a person's beliefs about what a healthy sexual relationship is.	2.71	.962	258	Very Important
27	Alcohol and other drugs on a person's ability to give or understand consent (permission) for sexual activity.	3.14	.851	258	Very Important
28	What it looks like when one person has more control in a relationship.	2.98	.914	257	Very Important
It is important in high school for students to have the chance to learn how influences (friends, family, media, society, and culture) can impact decisions …					
29	About if and when they will participate in sexual behaviors.	2.98	.876	259	Very Important
30	Made during a pregnancy.	3.02	.911	259	Very Important
31	About whether and when to become a parent.	3.14	.932	259	Very Important
It is important in high school for students to have the chance to learn how…					
33	Influences and societal messages impact people's attitudes about bullying and sexual violence.	3.18	.844	259	Very Important
It is important in high school for students to have the chance to learn how to find correct information about…					
34	Contraceptive methods (ways to prevent pregnancy), including emergency contraception (prevents a pregnancy from happening after sex) and condoms.	3.37	.768	259	Very Important
35	Emergency contraception (prevents a pregnancy from happening after sex).	3.26	.863	259	Very Important

APPENDIX A Continued

36	Pregnancy and pregnancy choices (keeping the baby, adoption, abortion).	3.39	.777	259	Very Important
37	Health care services available to pregnant women.	3.19	.856	259	Very Important
38	Local testing and treatment services for sexually transmitted diseases (STDs) (infections that a person can get through sexual contact) and HIV.	3.40	.766	261	Very Important
39	Preventing STDs.	3.57	.684	261	Extremely Important
40	Relationships.	2.89	.914	257	Very Important
It is important in high school for students to have the chance to learn how to find correct information to help…					
41	Someone who is being bullied or harassed.	3.20	.860	257	Very Important
42	Survivors of sexual abuse, incest, rape, sexual harassment, sexual assault, and dating violence.	3.47	.776	257	Very Important
It is important in high school for students to have the chance to learn ways to talk about…					
44	Ways to avoid or end an unhealthy relationship.	3.13	.869	257	Very Important
45	Personal intimacy and sexual behavior boundaries (what you are comfortable doing in a relationship).	3.14	.915	257	Very Important
It is important in high school for students to have the chance to learn ways to…					
47	Talk with trusted adults about bullying, harassment, abuse, or assault.	3.27	.844	258	Very Important
48	Respond when someone else is being bullied or harassed.	3.25	.837	258	Very Important
It is important in high school for students to have the chance to learn decision making steps to use…					
50	When choosing how to prevent pregnancy, including abstinence (choosing not to have sex) and condoms.	3.24	.808	260	Very Important
51	When thinking about the skills and resources needed to become a parent.	3.26	.824	260	Very Important
52	When making choices about safer sex practices, including abstinence (choosing not to have sex) and condoms.	3.28	.810	260	Very Important
It is important in high school for students to have the chance to learn ways to develop a plan to…					
53	Avoid sexually transmitted diseases (STDs) (infections that a person can get through sexual contact), including HIV.	3.58	.744	254	Extremely Important
It is important in high school for students to have the chance to learn…					
54	How to encourage safety, respect, awareness, and acceptance of other people.	3.17	.805	258	Very Important
55	The steps to using a condom correctly.	3.26	.866	257	Very Important

APPENDIX A Continued

56	Why an individual is responsible for STD (infections that a person can get through sexual contact) testing and telling sexual partners about their STD status.	3.37	.780	257	Very Important
57	Ways to respect the intimacy and sexual behavior boundaries (what someone is comfortable doing in a relationship) of other people.	3.26	.800	257	Very Important
58	Ways to use social media (Facebook, twitter) safely, legally and respectfully.	2.54	1.221	257	Very Important
It is important in high school for students to have the chance to learn ways to promote…					
59	School policies and programs that encourage dignity and respect for all.	2.94	.976	258	Very Important
60	Sexually transmitted disease (STD) (infections that a person can get through sexual contact) testing and treatment for all sexually active youth.	3.26	.890	261	Very Important
61	Safe environments that encourage dignified and respectful treatment of everyone.	3.15	.901	258	Very Important

APPENDIX B

SCALE CHARACTERISTICS

Survey #	Scale Name	# of Items	Survey Item #	Cronbach's Alpha	KMO	Bartlett's Test of Sphericity	Total Variance Explained
1	*Influences on Sexual Health Beliefs and Practices*	4	16,17,26,27	.765	.747	.000	59.135%
2	*Relationship Decisions and Boundaries*	3	40,44,45	.764	.677	.000	68.069%
3	*Identity and Sexual Orientation*	3	3,4,5	.786	.666	.000	70.526%
4	*Influences on Expression and Respect*	4	24,25,54,59	.782	.639	.000	60.895%
5	*Pregnancy Prevention, Signs, and Laws*	5	6,7,8,9,10	.831	.810	.000	59.875%
6	*Influences on Sexual Behavior and Pregnancy Decisions*	3	29,30,31	.870	.737	.000	79.476%
7	*Accessing Pregnancy Related Information*	4	34,35,36,37	.839	.739	.000	68.070%
8	*STI Prevention, Signs, and Treatment*	4	11,12,13,53	.802	.771	.000	63.298%
9	*Access and Promote STI Information*	3	38,39,60	.777	.703	.000	69.839%
10	*Influences on Self-Image and Worth*	3	2,22,23	.734	.567	.000	65.983%
11	*Bullying and Sexual Violence*	5	18,19,20,21,33	.866	.862	.000	65.392%
12	*Respect and Responsibilities within Sexual Relationships*	4	55,56,57,58	.705	.720	.000	57.313%
13	*Promote Positive Relationships and Environments*	3	47,48,61	.783	.660	.000	70.207%
14	*Recognize and Help Bullying and Sexual Violence Victims*	3	28,41,42	.733	.644	.000	65.979%
15	*Decision Making Steps for Pregnancy and Safe Sex*	3	50,51,52	.747	.646	.000	66.708%

APPENDIX C

MODEL FIT FOR SCALES 1 - 15

Scale	Chi Square	RMSEA < .05	CFI > 0.95	SRMR < 0.06
1	0.4640	0.000	1.000	0.006
2	0.000**	0.000	1.000	0.000
3	0.000**	0.000	1.000	0.000
4	0.0482*	0.105	0.993	0.010
5	0.0865	0.063	0.991	0.020
6	0.000**	0.000	1.000	0.000
7	0.0151*	0.111	0.985	0.022
8	0.6874	0.000	1.000	0.007
9	0.000**	0.000	1.000	0.000
10	0.000**	0.000	1.000	0.000
11	0.5064	0.000	1.000	0.012
12	0.1180	0.066	0.992	0.019
13	0.000**	0.000	1.000	0.000
14	0.000**	0.000	1.000	0.000
15	0.0000*	0.000	1.000	0.000

*$p < 0.05$, ** $p < 0.01$

APPENDIX D

STUDENTS EXPRESSING HIGHEST LEVEL OF AGREEMENT

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
1	10+	16+	A+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have^	Males & Females+
2	11+	16+	A+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have^	Males & Females+
3	12+	18+	C+	Other+*	Black/AA+	Non-Hispanic^	Have^	Have^	Males & Females^
4	10+	14+	T+	Other+*	NH/PI+	Non-Hispanic+	Have Not+	Have Not+	Males & Females+
5	10+	15+	T+	Other+*	NH/PI ^	Non-Hispanic+	Have^	Have^	Males & Females+
6	11+	16^	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Females+
7	11+	18+	A+	Female+	NH/PI+	Non-Hispanic+	Have^	Have^	Males & Females+
8	11+	15+	T+	Female+	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
9	11+	18+	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
10	9+	14+	R+	Other+*	Black/AA+	Non-Hispanic+	Have+	Have+	Males & Females+
11	11+	16+	T+	Other+*	NH/PI+	Hispanic+	Have+	Have+	Males & Females+
12	10+	16^	T+	Other+*	NH/PI^	Non-Hispanic+	Have+	Have+	Males & Females+
13	9+	18+	A+	Female+	Black/AA+	Hispanic+	Have Not+	Have Not+	Males+
14	10+	18+	A+	Other+*	Black/AA+	Hispanic+	Have+	Have+	Males & Females+
15	12+	18+	T+	Other+*	NH/PI+	Non-Hispanic+	Have+	Have+	Males & Females+

+Not Statistically Significant, ^Statistically Significant, * Can't fully explain trend due to small sample size

APPENDIX E

STUDENTS EXPRESSING LOWEST LEVEL OF AGREEMENT

Scale	Grade	Age	School	Gender	Race	Ethnicity	Sexual Intercourse	Oral Sex	Sexual Contact w/
1	12+	17+	R+	Male+	Asian+	Hispanic+	Have Not+	Have Not^	Have Not+
2	12+	17+	R+	Male+	Asian+	Hispanic+	Have Not+	Have Not^	Females+
3	9+	17+	R+	Male+	AI/AN+	Hispanic^	Have Not^	Have Not^	Females^
4	12+	17+	C+	Male+	Asian+	Hispanic+	Have+	Have+	Females+
5	11+	14+	R+	Male+	AI/AN^	Hispanic+	Have Not^	Have Not^	Have Not+
6	12+	14^	A+	Male+	AI/AN+	Non-Hispanic+	Have Not+	Have Not+	Males & Females+
7	10+	17+	C+	Other+*	AI/AN+	Hispanic+	Have Not^	Have Not^	Have Not+
8	12+	17+	A+	Other+*	Asian+	Non-Hispanic+	Have Not+	Have Not+	Have Not+
9	9+	17+	C+	Male+	Asian+	Non-Hispanic+	Have Not+	Have Not+	Have Not+
10	12+	17+	C+	Male+	Asian+	Hispanic+	Have Not+	Have Not+	Females+
11	12+	17+	R+	Male^	Asian+	Non-Hispanic+	Have Not+	Have Not+	Females++
12	12+	17^	C+	Male+	Asian^	Hispanic+	Have Not+	Have Not+	Have Not+
13	11+	17+	C+	Male^	Asian+	Non-Hispanic+	Have+	Have+	Females+
14	12+	17+	R+	Male^	NH/PI+	Non-Hispanic+	Have Not+	Have Not+	Females+
15	11+	17+	C+	Male^	Asian+	Hispanic+	Have Not+	Have Not+	Have Not+

+Not Statistically Significant, ^Statistically Significant, * Can't fully explain trend due to small sample size