



# SEXUAL & REPRODUCTIVE HEALTH: APPROACHES TO LITERACY INTERVENTIONS FOR CHILDREN & ADOLESCENT YOUTH

Ayla Badr, Hyojeong Kim, & Ryan Van Vuitton

*ABSTRACT: In this paper, the researchers attempt to explore the multifaceted influences on sexual health tendencies in adolescent populations. A global emphasis is placed on this population to corroborate the interconnected nature of sexual health education. The researchers investigate sexually influenced decisions, statistical patterns such as the prevalence of unintended pregnancies amongst adolescents, and the factorial dissection of the social-ecological model. A program, named "Consider Me" was designed to facilitate an interdisciplinary approach to implementing sexual health education in settings of varying characteristics, including, medical and academic environments. The potential impacts of the program could result in the promotion of individual and community empowerment, the reduction of sexually transmitted diseases, and the depletion of stigmatization revolving around sexual health education. Through community-based participatory research, the effectiveness of the program can be assessed in real-time.*

## Introduction & Background

What influences sexual tendencies in adolescents throughout the world? Is it the media they consume? If so, what does that entail? In terms of popular culture, how has its evolution affected the developing perceptions of adolescent youth regarding sexual and reproductive health? To answer these questions, the study takes a holistic approach that goes over the interconnectedness of youth perceptions, psycho-social behaviors, virtual realities created from the media they are exposed to, and statistical data collected and analyzed from multiple peer-reviewed sources. Furthermore, the term adolescent defines ages ranging from 10 to 24 (Vamos, 2020). In an academic setting, this age range includes elementary, middle, and high school students, along with college students.

To accumulate a better understanding of health literacy and its impact, our study will focus on

children along with adolescent youth. This will provide an evolutionary perspective on sexual health education at each age and academic level. Another goal of this study is to develop an answer to the question of focus: how can sexual health literacy be effective at equipping children and adolescent youth with the cognitive and physical tools to make smarter choices?

Before doing so, consider statistical illustrations of the outcomes produced by sexually influenced decisions. These are influenced by several factors, including the level of individual sexual health literacy, perception, behavior, cognitive biases, social and natural environments, and income, among others. On a spectrum, this could mean having a minimal understanding of what a contraceptive is supposed to do or having a developed understanding of sexually transmittable diseases (STDs). In a recent study, it was reported that the annual estimated incidence of pregnancies among females aged 15-19 years



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is 21 million in developing countries and 12 million in low- to middle-income countries (Manwong et al., 2022). Approximately 50% of these pregnancies were unintended (World Health Organization, 2023). Because of the lack of sexual health education and the sparsity of resources, adolescents, especially females, are not prepared for unexpected events such as pregnancies. It also has to be recognized if they are taking part in consensual sex or are being coerced into the act. In this case, their sexually influenced decision would be considered a probability; additionally, a discussion of ethics.

Strictly, what does teen pregnancy look like in the United States? In 2019, as reported by the Centers for Disease Control and Prevention (CDC), the birth rates among adolescents varied across different racial/ethnic groups (Centers for Disease Control and Prevention, 2021). Specifically, the birth rates for Hispanic teens (25.3%) and non-Hispanic Black teens (25.8%). Notably, the birth rate of American Indian/Alaska Native teens was the highest among all ethnicities, recorded at 29.2% (Centers for Disease Control and Prevention, 2021). As described earlier, several factors could be assumed here including the lack of education, the limited exposure to sexual and reproductive literacy programs, cultural influences, income, and age.

Another factor could be the transtheoretical, or 'stages of change,' model; however, this would assume that all individuals associated with these statistics are taking part in the decision-making process of consensual sex, which is never the case (Barikani et al., 2020). Lacking a sense of subjective education is the leading factor in weak decision-making skills (Barikani et al., 2020). To expand on the general idea of health literacy, exploring its effectiveness can widen individuals' knowledge of health care.

### Health Literacy

As elucidated by the Centers for Disease Control and Prevention (CDC), personal

health literacy is defined as "the extent to which individuals possess the capability to locate, comprehend, and employ information and services, to make informed health-related decisions and undertake appropriate actions for both themselves" (Centers for Disease Control and Prevention, 2020). Health literacy plays a large role in keeping individuals as healthy, both physically and mentally, as possible. More specifically, health literacy helps in preventing injuries, deaths, and feelings of anxiety and depression (Barikani et al., 2020). Health literacy is crucial, as it aids an individual in comprehending their diagnosis, its severity, and the risks and benefits of their treatment plan.

An individual comprehending their diagnosis, and its severity, allows them to have a stronger awareness of future diagnoses that may be similar to their current one; by doing this, they begin to understand how to prevent these illnesses in the future. An individual analyzing the risks and benefits of their treatment plan aids them in choosing one that best fits their lifestyle (both mentally and physically) so that their treatment is as effective as possible. Health literacy could be impactful based on the fact that it can allow future generations to make decisions best fit for themselves, soon creating a society full of healthy (both mentally and physically) individuals. This is particularly crucial for marginalized communities, such as the LGBTQ+ community, people of color, and women - these groups of individuals having high literacy rates allow them to realize the power they have over their health, and soon motivate them to spread their knowledge to more individuals (marginalized communities that are within third world countries).

### Sexual Health Literacy Throughout Academia

Providing sexual health education for children is a stepping stone for high-capacity decision making. Individually, the process may produce variability; however, children need a grasp of their anatomical identity. The first exposure to



this information could be from their parents. Depending on the country, this exchange could be delivered with varying degrees of passion. Illustratively, it has been asserted that, from an Islamic perspective, parents or guardians hold a pivotal role as primary agents in the learning process of Muslim children (Binti Abdullah et al., 2020). In this context, they are regarded as the “primary school” responsible for the education of a child (Binti Abdullah et al., 2020). In other words, the way sexual health literacy is delivered is dependent on the culture a child is exposed to. If there is a strong emphasis placed on the parents acting as “primary school” teachers, then the learning experience would be received differently than someone who is taught in a less engaged way.

In middle school adolescents, sexual health literacy starts to assess the overlap of social life and its influence on behavior. Social aspects of life may include the type of media one is exposed to. This could be virtual pictures, videos, or music. In more recent studies, popular music seems to have a more sexual effect on adolescent youth, especially middle school students (Manwong et al., 2022). For example, in 2022, a correlation study was conducted between electronic music and sexual tendencies in middle school students (Manwong et al., 2022). The findings of the study revealed that adolescents who expressed a preference for electronic dance music nightclubs exhibited a higher likelihood of refraining from condom use during sexual intercourse, and demonstrated increased dependence on chemical substances (Manwong et al., 2022). As adolescents age in the academic setting, more social factors begin to influence their judgment.

High school students have a more developed understanding of the virtual world. The media they are exposed to can influence their sexual attitudes and behaviors (Scull, 2022). In actuality, though, the differences that exist in sexual health literacy between middle school and high school students differ in the sense that

they are at varying age ranges. High school students are exposed to an environment that may have mature forms of sexual health programs that, in turn, can positively impact their future (Scull, 2022).

Freedom and experimentation start to define college life for adolescents being introduced to the environment. However, these perceived positives could lead to the avoidance of “doing the right thing.” In translation, this means that, although college adolescents may have a well-developed understanding of sexual and reproductive health, they may favor their rights to experiment. As indicated by researchers, sexually transmitted infections (STIs) manifest at elevated rates within the college-age population, surpassing prevalence rates across other age groups throughout their lifespan (Vamos, 2020). According to estimates from the CDC, the age group spanning 15–24 years acquires approximately half of all new STIs annually (Vamos, 2020). This supports the perception change college students undergo when entering an environment away from familial or authority figures.

### **Purpose Statement**

The purpose of this study is to further understand sexual health literacy and its impact on young adolescents and children. The goal of this study is to successfully educate individuals to make them aware of the benefits of education and exposure to preventative measures. Therefore, examples of certain contraceptives or cognitive and physical tools may be used to help these young adolescents make better decisions. By delving deeper into the social-ecological model and acknowledging the various impacts of sexual health on children and adolescents, more people will be made aware of the issue and a safe, welcoming community will be established.



## Literature Review

### Social Ecological Model

To understand individuals' behavior within their environment, it is important to apply a multi-faceted approach that targets multiple factors. These being intrapersonal, interpersonal, organizational, community, and policy factors of the social-ecological model. Intrapersonal factors involve individuals' knowledge, intellect, and skills relating to the broader aspect of sexual health education. Interpersonal factors include relationships, for example, that influence adolescent decision-making skills amidst sexually driven decisions. Organizational factors imply the impact of infrastructures or resources on an adolescent. This can include public health facilities and the efficacy of its intervention programs regarding sexual health education. Community factors in this context include cultural and societal norms that condition individuals' perspectives on certain things. This can mean religious views altering one's understanding of the benefits of sexual health education. Lastly, policy factors address the legality of sexual health interventions, laws, and the accessibility of corresponding services. More emphasis is placed on each part of the social-ecological model in the proceeding sections.

### Intra/Interpersonal Factors

Individual interventions focus on the personal values of someone, to then, facilitate the creational aspect of a support-based program. Intra- and interpersonal-based intervention programs directly benefit those involved, with professionals, working one-on-one with each individual. An individual intervention focused on sexual health can aid knowledge growth in all ages; especially, children and adolescents, and young adults. For example, college students are at a higher risk for accumulating STDs. This is because they are introduced to an environment that removes a sense of familial authority, ultimately, introducing them to the

experimental aspect of adulthood (Vamos et al., 2020). Additionally, women from the ages of 20-24 have higher unintended pregnancy rates; this range is indicative of college students (Vamos et al., 2020). Although sexual health literacy may be an available resource offered by their institute, college students may purposely become ignorant of its existence due to personal reasons.

A patient-centered health literacy intervention that is supplemented with an incentive can promote individual participation. In the United States, this exact study was conducted in a college university with female participants being the priority group (Vamos et al., 2020). The researchers concluded that the sexual health literacy (SHL) scores for their focus group were significantly low (Vamos et al., 2020). Based on these results as well as the brainstorming session in phase 2 of the study, the researchers developed an online edutainment program via the social media application, Facebook. The researchers stated that various methods along with tools are supplemented through the online program (Vamos et al., 2020).

The accumulated data was from one university. This means that the results cannot be generalized. The sample of students was generally smaller since some participants left the program due to personal circumstances. Although most participants were undergraduate students, there was a mixture of graduate students, mainly being Ph.D. candidates. Most of the students were heterosexual, meaning that if the participants were evenly mixed between say, homo- and heterosexual groups, taking into account the other characteristics that define their identity, then their results would accumulate unique data— although, not implying that the results are not unique, but minutely homogenous. More female participants were recruited, although this was intentional. The researchers state that bias may have been present in the study considering the research topic leans more to the personal side of the spectrum.





### Organizational Factors

Organizations can either help assist or hinder individuals in receiving support from resources that enhance their quality of health. Organizations can also reduce the shame and stigma surrounding more vulnerable topics within society (more specifically, young adolescents concerning sexual health). When it comes to young Thai adolescents receiving treatment (surrounding their sexual health) they felt nervous and anxious, as they thought that the healthcare providers would view them as a “troubled adolescent” (Wiwatkamonchai et al., 2023). This just displays the fact that organizations not only provide accurate medical support but offer individuals a safe space. More specifically, young adolescents are in a period of their life in which they are just being introduced to sexual health and all the problems that can occur as a result of it. These young adolescents are willing to reach out for help, as it pertains to their sexual health, but the non-existence of sexual and reproductive health services in the area and sex being a taboo topic - prevents this. An example of this would be an adolescent’s community holding negative views of the adolescent who obtained sexual and reproductive health services - more specifically, the community strongly believes the adolescent is a troubled child and that their parents are not fulfilling their duties of taking proper care of their child (Wiwatkamonchai et al., 2023). This just portrays the fact that there are organizations that have the proper knowledge to guide these adolescents to resources that help assist with sexual health issues, but the power of shame surrounding a topic that is already so vulnerable can completely prevent this.

### Community Factors

Communities often play a big role in influencing people’s thoughts and opinions based on world views. Especially for young adolescents, the school setting is the prime example of where socializing can affect one’s

health when it comes to sexual health. While many schools and communities advocate the importance of being educated on sexual health, certain restrictions can prevent students from gaining access to such resources. For example, more and more young adolescents between the ages of 10 and 19 in China are engaging in sexual behavior with little to no education on sexual health (Chen et al., 2023). This lack of knowledge is alarming as these young adolescents are not aware of the risks of engaging in unsafe sexual behavior such as sexually transmitted diseases.

The overall education regarding reproductive health among these students is at risk of worsening due to public hesitation in speaking about this topic. However, to potentially “fix” this situation, a study was completed using randomized controlled trials to reduce selection bias and hope to see an increase in the student’s knowledge about sexual health (Chen et al., 2023). The researchers of this study used a module called “You and Me” which is a “non-governmental organization that specializes in sexual education” (Chen et al., 2023). The “You and Me” module ended up being successful in helping students become more educated on sexual health.

Keeping in mind the different demographics, academics, and lifestyles of each student, they were all able to gain more knowledge about sexual health by the end of the study. In the end, the researchers were able to find out that using an effective model such as the one used in this study is effective in sharing knowledge about sexual health, especially in countries where culture makes it difficult to talk about this topic. These findings matter because they can show that sharing knowledge and educating people about a certain topic consistently can help them become more informed and work towards creating a community that is more open to discussing such topics. Towards a wider audience, the relevance would be that people—not only high school students, but also adults—



can learn more about sexual health that can keep them safe.

### Policy/Cultural Factors

During major events, such as pandemics, adults who practice sexual intercourse may be negatively affected. This is because resources became limited. For example, if a law is placed in a country prohibiting its citizens from leaving their house, then their access to sexual health resources will become limited; unless an intervention plan is tested and set in place (Manwong et al., 2022). Policy interventions cause institutional change. In terms of sexual health, a policy intervention researched in Thailand, resulted in the implementation of an edutainment program that was created for a virtual audience (Manwong et al., 2022). The study was divided into two phases. Phase 1,

titled “Phase 1 quantitative phase” a total of 4654 middle school students residing in the 8th grade were recruited across 71 schools in the Eastern region of Thailand. This region is located in a rural province that is a major agricultural producer of fruits (Manwong et al., 2022).

The researchers concluded that the sexual health literacy (SHL) scores for their focus group were significantly low (Manwong et al. 2022). This prompted the creation of an edutainment program that was accessible to children in the region, as well as netizens (Manwong et al., 2022). In itself, the research was able to educate academic professionals about the importance of health literacy, further implementing a policy that regarded sexual health literacy as a requirement for adolescent youth in their community (Manwong et al., 2022). By

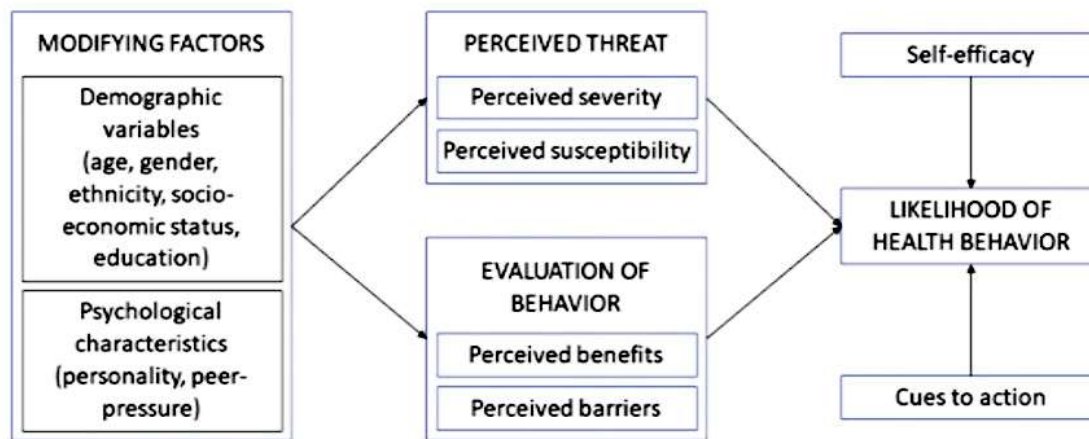


Figure 1 Health Belief Model Kerry McKellar and Elizabeth Sillence, 2020, a schematic representation of the health belief model.



implementing a policy like this, students may be able to develop their understanding of sexual health literacy at an early age, equipping them with a medical lexis that is usable in, likewise, medical facilities.

The limitations in this intervention involved issues participants had accessing resources. These are telehealth resources that are inaccessible or non-feasible for some age ranges (Manwong et al., 2022). This could be due to physical and resource constraints such as limited access to a library or personal technological items. Access to in-person clinics, in terms of COVID-19's early effects, could be limited.

### Major Contributors: A Summary

All these factors come together to slowly influence one another - more specifically, the intra/interpersonal factors are composed of professionals working one-on-one with individuals surrounding sexual health education, which in turn impacts the community factors to have less public hesitancy surrounding the topic of sex. This in turn impacts the organizational factors to access resources that support one having sexual health issues, which also impacts the policy/cultural factors to make people more prepared to have sexual health supplies - just in case the government restricts access to them. Based on all this information, the health belief model can guide sexual health issues prevention programs and promote modern and detailed information - surrounding preventing sexual health issues. Figure 1 provides a visual representation of this model.

### Potential Solutions

#### Proposed Program

A multifaceted approach that facilitates the depth of sexual health literacy should combine education, accessibility, and destigmatization. The program, "Consider Me" includes

components that address the characteristics of an inclusive environment, further establishing its versatility. "Consider Me" could be integrated as a sexual health education curriculum in, first, academic settings – second – medical settings such as clinics, hospitals, and dental facilities, and – third – non-medical facilities. Through workshops translated into the context of its presented setting, "Consider Me" will cover the anatomical and physiological functions of humans, address contraindications of drug use in the context of sexual arousal (such as poppers, cocaine, etc.), as well as fostering a supportive environment through group discussion. Additional resources, such as pamphlets, and readings such as articles in physical or digital form, may be presented to participants.

### Considerations for Implementation

To optimize paramount support for participants, implementing a community-based participatory framework may significantly impact participant attitudes toward intervention programs. Thus, equipping the intervention with factors such as cultural sensitivity, inclusive language, promoter training initiatives, and parental or guardian involvement can influence a collectivist environment.

Cultural sensitivity is crucial for program development. This includes assessing the demographic of individuals in a particular population to further analyze social discrepancies within a community. While analyzing from a collectivist perspective, it is important to cultivate awareness of individual experiences. To recognize the individual first is to widen the perspectives surrounding a successful program. If a cohort of researchers were to conduct sexual health research within a community, without their voices being the centerpiece of the study, then the program would be cultivated and implemented with subliminal undertones of biases. A professional team may have years of research about the topic at hand, ultimately, making their claims, results,



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and overall experimentation reliable. However, by acknowledging community voices within the context of a professional research project, power can be placed in both directions rather than one.

The use of inclusive language is a key factor in program communication. This can be developed through a community-based lexicon in which professionals and community members explore the common terms associated with cultures, traditions, friends, descriptors, etc., within the context of members' communities. By employing language that aligns with the literacy level of all participants, the development of the program will be capable of mitigating bias from a professional perspective, and influencing the overarching theme of understanding. This approach facilitates clear communication between both parties. Furthermore, it influences the successful trajectory of the program's creation and implementation.

Equipping promoters or program leaders with equitable and informational training sessions can establish purpose and meaning for them, the program, and the participants. Refraining from training sessions that result in burnout is accomplished through promoter opinions about ways in which information could be relayed with more engagement and fulfillment. Promoter training is also an avenue that can influence the trajectory of the program's content.

In addition to community involvement, promoters can identify ways in which sexual health education can be taught to the transgender community. Put differently, how could the program be established in a way that includes all bodies within a community without diminishing or misrepresenting their identities? Therefore, adequate training contributes to the overall effectiveness and sustainability of the intervention.

Addressing familial relationships and involving parents or guardians in the program is essential for participating minors and

adolescents. To commit to the engagement of all community members, it is important to consider parental involvement as a key determiner in a child's development, as well as the type of information they are taking into consideration, in terms of sexual health education. In a hypothetical situation, sexual health education may be divided. This would be influenced by community members, including parents, and promoters.

If a parent or guardian is comfortable with allowing their child to participate in a sexual health class that corroborates multiple perspectives from various communities, including transgender, female, and male identities, then their child will be placed in consideration to their request. Contrastingly, if a parent or guardian feels as though they may not be comfortable with courses characterized by those gender categories, and would rather their child focus on their anatomies, then that request would be respected. The goal of this perspective is to facilitate the inclusion of all community members, regardless of their political and religious stance.

### **Review of Program Effectiveness**

To effectively assess the program, a randomized controlled trial may be a plausible scientific experiment to incorporate; especially because qualitative and quantitative results are better assessed this way regarding the context surrounding the program. Conducting the experiment in school settings provides a linear flow of data. This is because student bodies primarily remain static within an academic term. Briefly, the steps of the experiment will be conducted in the following order: gathering data, randomly assigning one group with the intervention, and the other, a general sexual health education program, assessing individual progress, and collecting and dissecting data.

Participants will be gathered from two different schools. An initial analysis will be





conducted to identify disproportionate outcomes based on gender and grade level distribution. A survey will be relayed to academic bodies to facilitate its dispersion to students. It will include information about gender identity, religious affiliations, and accommodations, short answer responses about their current understanding of sexual health terms; in which, a list will be presented, and a numeric scale, spanning from 1 to 5, will be used to determine their knowledge. The survey will be presented to parents, students, and prospective promoters.

Following this, participants will be randomly assigned to either the variable group, receiving the intervention, or the control group, exposed to a general sexual health education program. The general sexual health education program will include information regarding a basic view of anatomy and physiology, puberty and development, contraception and reproductive health, sexually transmitted infections (STIs), consent and communication, healthy relationships, mental and emotional well-being, and medical literacy. This program will be delivered in a classroom, as with the intervention. However, the intervention will be community focused. Unlike the controlled group, discussions will be had by students, professionals, and community members in the variable group. Open environments would facilitate this approach. This includes, but may not be limited to, museums based on the human anatomy, interdisciplinary collaborations with other areas of study, such as music, to add a more creative approach to the curriculum, and visits to medical facilities.

To assess individual progress, surveys will be administered every two months. The program will last 6 months. These surveys will gauge individuals' development, in terms of attitude and knowledge, of the curricula.

The subsequent phase involves the collection of data, themes, statistical patterns, and the overall effectiveness of the program in

comparison to the outcomes observed in the control group. This approach aims to provide a focused evaluation regarding community-based participatory research.

### **Potential Impact**

By naming the program "Consider Me," our main goal is to ensure that every participant's genetic makeup, intellectual ability, along other important factors that make an individual authentically them, are considered. Adolescents, adults, and seniors among others, need to be made aware of the importance of their sexual identity and orientation. As undergraduate researchers, we believe that by implementing a program like "Consider Me" in varying settings, directional achievements could be reached; both by researchers and participants. These include but are not limited to individual empowerment, stigma reduction, and preventing (sexual) health issues.

By placing the power in the hands of community members, students, and promoters, individuals may recognize the uniqueness of their bodies through the knowledge they gain from the program. This empowerment stems from the understanding of the genetic, physiological, psychological, and ecological self, stimulating self-appreciation and confidence.

Additionally, the program aims to reduce the stigma surrounding sexual health. Incorporating community voices in the research cultivation and implementation process can reduce individual stigma about research, as a profession. This inclusive approach challenges misconceptions while promoting open dialogue.

Another outcome anticipated is the reduction of sexual health issues. The program may help reduce rates of STIs, unintended pregnancies, and scenes of sexual violence. Through close collaboration with parents, teachers, professionals, and students, the program can produce successful outcomes. Furthermore, introducing the concept of sexual health



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education at a young age can prepare young adults and adolescents with the proper tools to establish a sense of

### Conclusion

By recognizing these achievements, we envision the fruition of the program, “Consider Me,” to be adapted into various formats. These being, asynchronous or virtual translations through Zoom, academic software such as Canvas, or experimentation with the metaverse via virtual reality equipment. Moreover, we hope this program serves as a catalyst for sexual health advocacy among community members. By creating a culture of inclusivity through informed dialogue, acceptance, and empowerment, a positive ripple effect that transcends the program’s boundaries will contribute to an enlightened and proactive approach to sexual health in diverse communities.

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