

Social Media Usage and Sexual Health and Risk-Taking in Adolescents

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### **Abstract**

Many sexual health programs in schools focus on abstinence, pregnancy, and sexually transmitted infections. While these topics are important and need to be addressed during the period of adolescence, when students begin to be at higher risk for sexual practice, there is a lack of comprehensive sexual health programs that are evidence-based and unbiased by teacher views, as well as include the depth and diversity prevalent in today's culture. Due to this, adolescents turn toward media and evolving technologies available to them to determine and understand their sexual relationships, communication, sexual identities, and more. However, the media and technology typically accessed is not always a reliable source. It may portray abusive relationships, unsafe sex practices, miscommunication, and other harmful situations that adolescents connect to, or feel that they should desire to connect to, that contribute to an overall riskier sexual education and experience.

This paper aims to identify and analyze the impact of social media usage on adolescent sexual health practices and risk-taking, but may also identify the gaps of the current adolescent sexual health education programs in relation to media and technology developments, as well as more diverse topics. These findings could be used to determine the efficacy of including media- and technology-enhanced sexual health education programs in schools, higher education institutions, and community public health and learning centers in the future. This research will result in a better overall understanding of sexual habits and practices for adolescents and young adults with easy access to social media, will aid in identifying the reasoning and outcomes of adolescents in risky sexual situations within media, and may aid in developing plans for more comprehensive sexual health education, leading to healthier sexual outcomes in adolescents.

## Introduction

Young adults and adolescents are increasingly adept at using the Internet and new developing technologies, and with the development and rising popularity of social media platforms, adolescents can more easily control their media consumption and keep it private from others, such as their parents. The usage of media or devices to access or share sexual content is a growing problem and leads to a more apathetic view towards risky sexual behaviors (Harris, 2011). The amount of access and technology available to these adolescents significantly increases their chances of viewing sexually explicit content and participating in sexual risk-taking behaviors. El Kazdough et al. (2019) found that students and teachers agreed that new technologies, such as smartphones, make it easier for teenagers to engage in risky sexual behavior by providing a wide range of pornographic content and facilitating communication and “sexting” between boys and girls at an early age via social media, specifically Facebook and Whatsapp, medias that are not marketed toward developing sexual or romantic relationships. Bradbury-Jones et al. (2019) concluded that sexting is a prevalent theme in adolescent sexual risk-taking, and negatively influences the sexual and mental health of the adolescents involved. Scull et al. (2020) identified that many adolescents rely on the media when developing their ideas and feelings about sex and relationships, and that many of them do so due to the lack of unbiased, evidence-based programs in schools. The majority of sexual health information available in school curriculums covers content such as contraception, abstinence, and sexually transmitted infections, but information regarding consent, communication, and healthy relationships is sparse (Scull et al., 2020).

Scull et al. (2020) suggests that a web-based program that combines the teaching of comprehensive sexual health, including relationships, gender, violence, and other topics typically

left out of sexual education, with the education of students on media literacy will promote better student sexual health outcomes. In addition, Goldfarb and Lieberman (2020) observed that scaffolding sexual education beginning in elementary school and continuing through high school supported better outcomes for students, as well as teaching a more inclusive sexual health education involving topics such as relationship development, sexual diversity, and media literacy. Another gap in the literature may address the discretion of the schools and parents on the topic of media and sexual health during adolescence.

The area of social media impact on adolescents' sexual health and behavior is under researched and is critical information to understand, especially as technology continues to evolve. The effects of social media on adolescent sexual health may have an impact on sexual health throughout the lifespan, and should be properly examined in order to promote the best health outcomes possible. This analysis of social media and technology effects on sexual risk-taking is essential to improve the quality of adolescents' sexual- and relationship-related health education and practices, and will aid in the development of sexual health programs that incorporate safe social media usage.

### **Methodology**

A literature search was performed to examine articles related to social media, sexual health, and risk-taking behaviors in adolescents. In addition, articles relating to media-based sexual health education were reviewed to determine the feasibility of implementing social media education into current sexual education programs in order to build a more comprehensive program for adolescents. The literature search was performed in the CINAHL, PubMed, PsycINFO, ERIC, and Cochrane Library databases, using the search terms or database-produced subject headings "social media"; risk-taking, "risk taking," or "risk taking behavior"; sex or

sexuality; and teenagers or adolescents. The articles produced were filtered to show results from 2015 to 2022. In addition, when available, the search was filtered to only show peer-reviewed publications. The ERIC database only returned one article, which did not match the search criteria. The Cochrane Library database produced no systematic reviews on this topic, and the list of randomized controlled trials was minimal and not related to the search criteria. Due to these results, ERIC and Cochrane Library were excluded from this review.

The database literature search produced 127 results, and after removing duplicates, there were 121 articles left. Articles were reviewed according to their title and abstract, and eliminated if they did not apply to the topic or match the search criteria, leaving twenty articles available for review. Ten of these articles were selected for in-depth review, based on how relevant they were to the topic of interest. Articles were excluded if they did not mention how social media affects sexual health, did not focus on adolescents, or did not directly address how social media usage affects adolescent risk-taking.

In addition, potential survey questions were developed to determine further research needed and to address topics not mentioned in the articles reviewed that may be pertinent to understanding adolescents' sexual health and risk-taking as it relates to social media usage.

## **Review of the Literature**

### *Effect of social media on risk-taking*

A study conducted by Romo et al. (2017), examined Hispanic adolescent social media use, sexting, and sexual risk behaviors, as well as the association between parent monitoring of social media and risky social media use. The social media included in the research were applications and websites that were not marketed toward dating or sexual encounters. The

sample consisted of 333 primarily Hispanic adolescents, aged 13 to 21, recruited from primary care pediatric clinics, who were publicly insured. A self-administered anonymous paper survey was used to obtain the research data; the survey was taken in a private area of the pediatric clinics from which the adolescents were recruited, and available to them in either English or Spanish. The results indicated that frequent social media use increased the odds of having any kind of sexual contact (oral, vaginal, or anal), but was not associated with risky sex behaviors, defined in this study as having four or more lifetime partners, more than one partner in the last three months, or history of having a sexually transmitted infection. Adolescents who participated in sexting had greater odds of having any kind of sexual contact (oral, vaginal, or anal) and greater odds of risky sex behaviors. In addition, females that engaged in both high social media use and sexting had higher odds of contraceptive use (condoms, hormonal contraception, and emergency contraception, excluding long-acting reversible contraceptives, such as IUDs). It was found that males that had high social media use and engaged in sexting had higher odds of being unsure of their partners' contraceptive methods. Adolescents who reported having parental discussions about social media safety and privacy had lower odds of sexting and were more likely to have privacy settings in place on their social media. Furthermore, parent discussions were found to have no association on the amount of time the adolescent used social media. Romo et al. (2017) concluded that adolescents engaging in frequent social media use and sexting have increased odds of sexual activity. It was determined that frequent social media use was not associated with risky sex behaviors, however, engaging in sexting did increase the likelihood of risky sex behaviors. Finally, parent monitoring of social media and parent discussions about social media use reduces the risk of an adolescent participating in sexting.

Smith et al. (2016) conducted a study to examine if sexual content in new media (defined as media accessed via the Internet or a private technological device) is linked to sexual risk behaviors (such as condom use and the number of sexual partners) in young people. Additionally, they examined the relationship between exposure to sexually explicit websites (SEWs) and sexting to the sexual attitudes and practices of young people. The study consisted of a systematic review and meta-analysis, incorporating 14 cross-sectional studies, including participants between the ages of 10 and 24. Six of these studies examined exposure to SEWs (10,352 participants) and eight studies examined sexting (10,429 participants). The results of this meta-analysis found that exposure to SEWs was positively correlated with having condomless sex (two studies), and participation in sexting was correlated with ever having vaginal, oral or anal intercourse (five studies), being sexually active in the past one to two months (two studies), alcohol or drug use before sexual intercourse in the past three months to one year (two studies), and having multiple sexual partners in the past three months to one year (two studies). Sexting was not correlated with having condomless anal intercourse in the past one to two months (two studies). Smith et al. (2016) concluded that exposure to SEWs and sexting is linked to increased sexual activity (defined as having had intercourse or having recent sexual activity) and risky sexual behaviors (defined as having multiple partners or condomless sexual intercourse).

Similarly, a systematic review by Vannucci et al. (2020) examined the magnitude of associations between social media use and engagement in risky behaviors during adolescence including overall risky behaviors, substance use, risky sexual behaviors, and violence-related behaviors. The study consisted of a meta-analysis of 27 cross sectional studies, with a total of 67,407 adolescents between the ages of 12 and 18 included from around the world. This analysis defined risky sexual behaviors as those that contribute to unintended pregnancy, or diagnosis of

human immunodeficiency virus (HIV) or sexually transmitted infection (STI), such as early age at first intercourse (prior to age 15), having multiple sexual partners, having concurrent sexual partners, having one-night stands, using drugs or alcohol prior to having sexual intercourse, having sex in exchange for money, and lack of pregnancy prevention methods during last intercourse, whether hormonal contraceptives or condom use. Studies also were included if they assessed risky online sexual behaviors, including sharing, posting, or exchanging sexual content via electronic devices (sexting, cybersex), engaging in sexual communication with strangers online, and meeting with people online for the purposes of sexual activity either online or offline. The results indicated that there were statistically significant small-to-medium effects for the correlation between social media use and risky behaviors, the correlation between social media use and substance use, and the correlation between social media use and engagement in risky sex behaviors. There was an insufficient number of studies to determine the effect of social media use on violent behaviors. Vannucci et al. (2020) concluded that increased social media use increases the probability of adolescents' risk-taking behaviors, specifically the probability of engaging in substance use and risky sexual behaviors, and was unable to identify a correlation between increased social media use and violent behaviors.

A study performed by Nesi & Prinstein (2019) was created with the purpose of determining if digital status seeking behaviors were longitudinally associated with substance use and sexual risk behaviors when compared with the effects of offline popularity on the same behaviors. Digital status seeking behaviors were defined in this study as attempts to obtain social-media-based indicators of peer status, specifically likes, comments and activity on social media posts. Sexual risk behavior was evaluated by self-reporting of the number of partners the participants had sexual intercourse with in the previous year. The study consisted of 716 students



from lower-middle class rural schools in the southeast United States, aged 15 to 18 at the start of the study, and 630 students were retained for the second survey 1 year later. The research was done via a computer-based self-report, peer-reports, and observational studies of randomly selected student Instagram accounts. The results indicated that digital status seeking has implications for adolescent adjustment, and may be longitudinally associated with higher levels of engagement in health-risk behaviors, including substance use and sexual risk behavior. In addition, peer influence via social media was shown to affect adolescent perceptions of peer risk-taking and highlighted the need for ongoing investigation into adolescent social media use. Nesi & Prinstein (2019) concluded that adolescents with a reputation for digital status seeking, which refers to putting high effort into strategies to obtain more likes, followers, and retweets, are at increased risk for substance use and risky sexual behaviors.

During the process of this literature review, it was determined that social media is associated with an increase in the risk-taking behaviors of adolescents, both overall and in a sexual health capacity. This increase in risk-taking may be emphasized by adolescents' minimal experience regarding sexual health or sex education, depending on the age that sexual education programs begin being taught in schools. Sexting and accessing social media websites or apps where sexual content can be easily found or encountered is becoming increasingly easy, with new technological developments and a large portion of communication and social interactions taking place in an online format. Students are exposed to more risks and sexual content due to this easy access, and are influenced by the depictions of sex and relationships they view. Few studies were found that directly identified specific social media websites or applications that were the most likely to have sexual content or communication, the typical usage of those medias, and the association of specific medias to specific sexual risk behaviors or exposures. Overall, the

most common sexual risk-taking behaviors influenced by social media were having more than one recent sexual partner, contraceptive use or nonuse, condom use or nonuse, and the use of drugs or alcohol prior to engaging in sexual activity. Sexting was assessed as a separate variable that was compared with social media as another variation of online communication, and had more sexual risk-taking behaviors associated with engagement in the activity, likely due to its inherently explicit nature. Social media websites and apps have the potential to expose adolescents to sexual content, but it is not always present, as many social media websites or apps are not marketed toward making sexual or romantic connections that could lead to sexual experiences, whereas sexting, by definition, exposes everyone who participates in it to explicit sexual content, whether through the sending, receiving, requesting, or forwarding of sexual images or messages.

#### *Effect of social media on sexual education*

In the mini systematic review by Cookingham & Ryan (2015), it was determined that high-risk behavior portrayed on social media endorses this behavior as normal, and the more high-risk behavior adolescents viewed via social media, the more likely they were to engage in or perceive that their peers were engaging in risky behaviors both on and offline. It was also indicated that social media can be used to educate adolescents about sexual health, and that adolescents are more comfortable receiving sexual health information online as opposed to an in-person or face-to-face discussion or lecture. However, the information accessed via social media may be unreliable, when retrieved from sources that do not provide medically accurate information, such as peer sources and personal social websites, and social media-based sexual education cannot be used as a replacement for comprehensive sexual education programs or education received from a licensed healthcare provider.

A study conducted by Scull et al. (2022) investigated the efficacy of *Media Aware*, a media literacy education program, as part of a sexual health education curriculum for high school students in the immediate and short-term (three months) post-intervention period. The program was designed to enhance and improve adolescent outcomes related to media, sexual health, and communication. The study consisted of 590 9th and 10th grade students who were fluent in English and obtained parent permission to receive school-based sexual education. The study used web-based questionnaires for pretesting and post testing immediately before and after *Media Aware* as well as for follow up testing three months after completion of the program. The *Media Aware* program was completed on individual student laptops during class times. The results indicated that *Media Aware* is an effective web-based program for positively enhancing high school students' media, sexual health, and sexual health communication outcomes. Students who participated in *Media Aware* displayed lower perceived realism of sexual media messages, more advanced media deconstruction skills, lower descriptive normative beliefs about risky teen sex, and more correct answers on sexual health knowledge tests after the program, but had no significant change regarding sexual health communication. It was found that females were more likely to discuss sexual health with a parent after completing *Media Aware*, and males were more likely to identify and condemn dating violence after completion of the program. Additionally, adolescents expressed being more comfortable learning sexual health related topics via *Media Aware*, compared to traditional learning and teacher discussions. This study replicated the findings from the preliminary feasibility study of the *Media Aware* program done by Scull et al. (2020). Unfortunately, the follow up questionnaire analyses were underpowered, as the COVID-19 pandemic and social distancing guidelines went into effect in the three months between the immediate posttests and the follow up tests; only 9 of the 17 schools originally included in the

study reported sufficient data from the follow up questionnaires. Scull et al. (2022) determined that the implementation of *Media Aware* is effective at positively impacting adolescents' social media use and consumption, and adolescent sexual health and communication outcomes. In addition, it was concluded that the media literacy program can serve as effective part of a sexual health education program for high school students.

Stevens et al. (2017) examined what sources of sexual health information are associated with youth adopting sexual risk reduction behaviors and whether social media is an influential source of sexual risk reduction information. The study consisted of 249 African American and Latino youth, between the ages of 13 and 24, who were sexually active, and living in disadvantaged neighborhoods of a specific city in the northeastern United States. The research data was collected via cross sectional behavioral surveys and modified venue-based sampling, using computerized self-assisted questionnaires accessed via a private identification code, and administered at eight community-based nonprofit organizations at the participants' convenience, as well as on the primary investigator's college campus. The results indicated that exposure to sexual risk reduction information on social media was positively correlated with practicing recent sexual risk reduction behaviors; specifically, youth who were exposed to contraception information on social media were 2.69 times more likely to report using contraception at last intercourse, and youth exposed to sexual risk reduction messages through social media were 2.49 times more likely to have used a condom at last intercourse. In addition, word of mouth or gossip and social media had the largest associations with contraceptive use, more than parents, school, or traditional media (TV, videos, or music). Youth who reported parents as an information source for HIV and STD prevention were more likely to have used a condom during their last sexual encounter, and other significant predictors of contraception and condom use were

multiple previous pregnancy experiences, which was associated with lower use of contraceptives and condoms, and neighborhood quality, which was positively associated with increased condom and contraceptive use. Stevens et al. (2017) concluded that exposure to sexual risk reduction information on social media was positively correlated with practicing recent sexual risk reduction behaviors in high-risk adolescents.

The effect of social media on sexual education is a current discussion, and while there have been promising results so far, none of the studies reviewed have provided a longitudinal effect on adolescents' continuing sexual health with regards to sexual health education via social media or the Internet, or sexual health education that includes a media literacy component. The studies included in this paper identified that the use of social media and web-based applications are effective at teaching safe sex practices and safe social media practices to adolescents. In addition, adolescents and young adults are more comfortable learning about these potentially controversial or uncomfortable but necessary topics through social media or a web-based program as opposed to face-to-face learning. This gives a positive outlook to the future sexual health education and subsequent risk-taking of adolescents and sets a precedent for teaching social media interactions as part of a comprehensive sexual education program. However, this type of program may be difficult to implement, as parents and teachers have a more difficult time understanding the process and reasoning of effective social media use in young people, and this may be a barrier to introducing social media topics and media literacy into sexual health education (Kachingwe et al., 2020).

#### *Effect of non-explicit media*

A meta-analysis by Coyne et al. (2019), analyzed whether exposure to non-explicit sexual media influenced the viewers' sexual attitudes and behaviors. A literature search was performed

that included 59 studies, and analyzed media including TV shows, movies, music or music videos, and video games. The results indicated that non-explicit sexual media was positively correlated with increased permissive attitudes about sex (defined in this review as the acceptability of premarital sex, casual sex, or uncommitted sexual exploration), rape myth acceptance, sexual experiences, risky sexual behaviors, and perception of peer sex norms. Although viewing sexual media was not correlated to the age of sexual initiation, adolescents aged 11 to 17 were found to be more affected by exposure to sexual media than emerging adults aged 18 to 25. The more sexual media the participants were exposed to, the higher the rates of unprotected sex, sexually transmitted infections, unplanned pregnancies, and one-night stands were reported. Coyne et al. (2019) determined that non-explicit media depicts sex as casual and mostly risk-free, and that more consistent media use and consumption of non-explicit sexual media contributes to the sexual experiences of young viewers, influences their mental health, and increases physical risks related to their sex practices.

Media that references or depicts sexual activity, even if it is non-explicit, still affects adolescent views of sex, safe sex practices, and the nature of healthy relationships. Media portrayal of relationships and casual sex have a strong influence on the younger adolescents evaluated in Coyne et al. (2019). However, these media depictions are often inaccurate to the way relationships and sexual encounters work in the real world, and often downplay or completely ignore the risks and consequences related to the risky situation, which can have long-term, real-world consequences on the sexual health and practices of the adolescents that consume this media. The perception of peer sexual activity has been shown to be increased due to social media usage, potentially because adolescents can view more private moments in their peers' lives than before. In another study, participants in all three groups [students, teachers, and

parents] stated that risky behaviors, including sexual behavior, have become accepted as normal within the [conservative and religious] society (El Kazdoun et al., 2019). The normalization of early sexual activity and sexual risk-taking is a concern for the sexual health of adolescents, as sexual education may not be implemented early enough to catch some of these risky behaviors at the beginning of adolescent and youth engagement in the activities, and the normalization may continue to extend to more risky behaviors, leading to further negative outcomes.

### *Effect of sexting in the sexual minority*

A study conducted by Van Ouytsel, Walrave, & Ponnet (2019) investigated differences in the prevalence of a wide range of sexting behaviors among heterosexual and sexual minority adolescents. The study consisted of a convenience sample of 14 schools in Dutch-speaking Belgium, which included 3,109 participants between the ages of 12 and 15. The students were administered an anonymous paper survey, provided in Dutch, during class time that reported on student sexual orientation, sexting behaviors, and sociodemographic variables. The results indicated that being an older adolescent (14 to 15 years old) and a high amount of Internet or social media use were significantly associated with all sexting behaviors, which included sending a sexting image, asking someone to send a sexting picture, receiving a sexting picture, having been asked by someone else for a sexting picture, and experiencing pressure to engage in sexting. In the students who self-reported being in the sexual minority (any orientation other than heterosexual), sexting prevalence was 12.3%, and sexual minority adolescents were found to be more likely to be engaged in non-coercive and non-abusive sexting behaviors (sending, receiving, and asking for sexually explicit images), more likely to be victimized by being pressured to send sext images of themselves, and are more at risk for digital forms of abuse and harassment compared to those who identified as heterosexual. Sexual minority adolescents were

not more likely to be involved in perpetration of nonconsensual forms of sexting compared to heterosexual students. Van Ouytsel, Walrave, & Ponnet (2019) concluded that sexual minority students are exposed to more risk factors relating to sexting behaviors than their heterosexual peers, that a higher engagement with the Internet and social media increases the probability of participating in sexting, and that sexual education should include information related to sexting practices and safety, as well as addressing bystander training related to the forwarding of sexually explicit messages and images.

Specifically pertaining to engagement in sexting, the potential for sexual minority adolescents to be more exposed to sexting behaviors indicates a need for special attention to the education of this high-risk group. As discussed in the previous reviews, participation in sexting increases the risk of participating in other risky sexual practices on and offline. Sexual education should not only provide a focus on media usage and sexting, but also how different groups are more at-risk for victimization via social media or the Internet due to their sexual orientation. Information and education pertaining to the sexual minority is minimal in school-based sexual education, although advances are being made. Due to the small amount of information provided, these sexual minority adolescents may be even more susceptible than their heterosexual peers to unreliable sexual education and information retrieved from social media or websites, in addition to being more likely to be involved in sexting.

#### *Effect of adolescent mindset on social media consumption*

In the study by Merrill & Liang (2019), the purpose was to identify how adolescents' use of media is associated with internalizing and externalizing problems, specifically depressive symptoms, suicidality, and sexual risk behaviors. The study consisted of 13,156 students from public and private school districts in the United States, between the ages of 12 and 18.



Participants who reported being sexually active (5603 students) were asked about engagement in higher-risk sexual behaviors, including early sexual debut (before age 15), having multiple sexual partners, condom use at last intercourse, contraceptive use at last intercourse, and drug or alcohol use before last intercourse. The results indicated that social media consumption may impact adolescents' emotional well-being based upon an emerging depressive self, and that social media consumption and television may not be practically associated with poorer mental health. In addition, both social media and hours watching TV had a non-significant association to risky sexual behaviors, instead indicating that adolescents choose media based upon an emerging sexual being, unlikely affecting risk behaviors. However, adolescents that reported engaging in risky sexual behaviors also reported poorer overall mental health. Merrill & Liang (2019) concluded that social media and TV consumption does not have a significant effect on adolescent mental health or risky sexual behaviors, instead that adolescents seek out the media that relates to their mindset, and that education of students regarding safer sex practices and emotional regulation strategies is imperative to their development and well-being.

The article by Merrill & Liang (2019) was the only article reviewed that indicated that social media use and TV consumption does not influence the development of adolescent sexual health and education, or effect the potential for risk-taking behaviors associated with sex. Instead, the correlation between social media and the content adolescents consume is related to the personal mindset of the adolescent at that time; if they are experiencing depressive symptoms, their social media use reflects that; if they are already engaging in risky sexual behaviors, their consumed content reflects like-minded people and content, as opposed to showing people or content that promotes safer sex practices. Social media has been referred to as a "super peer" for adolescents, and as stated in Scull et al. (2022), the more frequently

adolescents view or perceive their peers and friends engaging in risky sexual behaviors on social media, the more likely they themselves are to participate in those behaviors as well. Coyne et al. (2019) also indicated that media influences sexual attitudes and behaviors. Moreover, El Kazdough et al. (2019) reported that the perceptions of risk-taking behavior on social media help to normalize those behaviors for young adolescents. Yet, Merrill & Liang (2019) suggest that these correlations determined between social media and sexual risk-taking are not so much causation as recursive reflections of the people who are consuming the content.

### **Implications**

The studies reviewed in this paper indicate that increased social media usage in adolescents influences their sexual health perceptions and practices as well as influences their risk-taking in sexual situations. The increase of the number of social media websites and apps available puts these adolescents at more risk than in previous years, and as technology continues to evolve, the risks associated with the social media they consume will only become more prevalent. Scull et al. (2022) was able to develop a media literacy program to add to the sexual health education curriculum of high school students that improves sexual risk-taking behavior and perceptions of the students who participated in the program. In addition, Cookingham & Ryan (2015) and Stevens et al. (2017) determined that social media can be an effective learning tool for adolescents. These studies set the precedent for social media-based sexual health education programs to be developed further and incorporated into high school curriculums' required sex education. More research should be conducted to determine the most effective age to begin sexual health education and media literacy programs in order to promote the best sexual

health outcomes and risk-reduction for youth and adolescents. More research is needed to determine which social media applications would be best for communicating sexual health risk-reduction topics, and which specific sexual health topics are the least well-known and therefore are some of the most important to include in a new comprehensive sexual education program. Better sexual health education introduced to both school settings and community resource centers that are regularly populated by adolescents, as well as offered in online formats will greatly improve adolescents' sexual health outcomes, both immediately and in the long term.

Most of the studies found in this literature review were cross-sectional and did not have sufficient data to estimate the long-term effects of social media use on adolescent sexual health. The single longitudinal study determined that digital status seeking influenced sexual risk-taking of adolescents (Nesi & Prinstein, 2019), but did not address the effects of consuming social media on the sexual habits and practices of adolescents, other than to identify that peer influence via social media affects perceptions of peer risk-taking. More research is needed to determine the longitudinal effects of social media use on adolescent sexual health, as especially in recent years, adolescents and young adults are turning more and more to online communication and social media to interact with peers, seek information, and develop their sexual identities. Specific data that could be collected related to longitudinal social media use should include the age at which unrestricted access to social media websites or apps became prevalent or available, the determination of how much parental oversight is a protective effect, and the social media apps or websites where adolescents most frequently come into contact with any kind of sexual content. Sexual content in these future studies should include both explicit or non-explicit exposure, as well as whether the adolescents were exposed to the content accidentally or were seeking out the content. The identification and analysis of longitudinal effects of social media on adolescent

sexual health and risk-taking will aid in the creation and implementation of better sexual education programs that incorporate media literacy and social media safety practices as well as safer sexual habits.

One barrier to the potential implementation of a social media-based or media literacy sexual health program could be attributed to the generational gap between young people and the adults most likely to be teaching them about sexual health and safe sex practices. Kachingwe et al. (2020) found that many caregivers and staff members of a youth foster care group home feel that they have inadequate information about social media and how adolescents use it to connect with others. They stated that a better understanding of the specific social media platforms adolescents used the most would improve their understanding of adolescent sexual perceptions and risk-taking behaviors when correlated with those social media websites. The same study found that while adults typically view adolescents as being too careless with their personal information and portrayals online, youth are aware of the dangers associated with social media use and take measures to protect themselves against them, including potential sexual risks. Eleuteri, Saladino, & Verrastro (2017) determined that it is essential for clinical providers working with adolescents and families with adolescents to offer support for the positives that youth experience via technology while also working with them to develop preventative and coping strategies to address the risks they may encounter in online environments. When discussing the implementation of a social media-based or media literacy inclusive sexual education program, it was acknowledged that youth are the experts on social media interactions, and that programs that engage the adolescents with the material in a way they can better understand and apply to their own practices will aid in improving their sexual health outcomes. Clinicians involved in developing these updated sexual education programs need to understand

that the use of technology by adolescents is mostly not harmful, and it is an important aspect of their identity development, as well as the development of their relationships and sexuality; however, they also need to be able to understand and ask questions assessing the uncritical and unconditioned use and abuse of technology, which if left unchecked can lead to risky behaviors (Eleuteri, Saladino, & Verrastro, 2017). Kachingwe et al. (2020) indicated that a youth-led program focusing on safe social media usage might be more informative and well-received than one developed and taught by members of an older generation.

Additionally, another line of research is needed to determine the effect of the COVID-19 pandemic on the increase in adolescent usage of social media and the Internet to obtain information about sexuality, sexual education, and sexual risks, as well as to enable sexual exploration may have been impacted by the recent COVID-19 pandemic, which increased the amount of time many people spent on social media apps and websites. Adolescents during this time connected with their peers and sought information even more frequently via social media than before the pandemic (Marciano et al., 2022), potentially speeding up the shift from in-person or peer learning to more technology and social media-based information gathering and communication. Very few studies have been done to determine the effects of the pandemic on adolescent social media usage so far, and the lasting impacts of the pandemic on social media usage and subsequent sexual risk-taking should be evaluated in later studies.

### **Conclusion**

In this literature review and analysis, articles were chosen to help identify how social media usage in adolescents affects their sexual health and risk-taking behaviors. This

information is pertinent to today's society where a major part of adolescent communication and relationship building is conducted over the Internet and via private mobile devices. With increasing technology advancements and access, youth are more likely to be exposed to sexual content, whether explicit or non-explicit. Studies reviewed in this paper indicated that exposure to this sexual content and engagement in sexting are strong indicators of exposure to sexual risks, and that adolescents need improved sexual health education programs available that incorporate media literacy and safe social media practices, as well as expanding the sexual content topics to include more diverse situations and risks. This study may be used to develop future sexual health education programs and future studies to further identify the usage of specific social medias and the specific sexual risks they incur, as well as develop interventions that appropriately address these risks. If these studies and programs are developed, tested, and implemented, longitudinal data of adolescent sexual health should display better sexual health outcomes for adolescents and their peers.

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