

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

Vo Minh Vinh¹, Dao Thai An², Nguyen Di Thuan³

¹Faculty of Management and Economics, University of Tomas Bata

²Christian Heritage Academy, Oklahoma, USA

³Faculty of Business Administration, University of Greenwich

ABSTRACT: This study discovers how individual rights and consent, education about online harassment impact sex education in the digital age as well as the moderating role of digital privacy awareness. The researchers applied a quantitative research approach and collected primary data from 260 respondents across Asian high schools, colleges, and institutions with international students from various Asian regions. The study employed SPSS software for descriptive statistics, Cronbach's alpha, exploratory factor analysis, linear regression and moderator variable analysis. The results indicate individual rights & consent and education about online harassment significantly impact sex education in the digital age at coefficient of 0.76 and 0.63 respectively as well as the fairly strong moderating role of digital privacy awareness at 0.68. This study devotes to the growing body of literature on digital-age sex education by emphasizing the need for comprehensive educational strategies addressing both individual and systemic factors. It provides practical insights for educators and policymakers to develop inclusive, adaptive sex education programs advocating digital responsibility and respect.

KEYWORDS: Sex education, digital age, adolescent sexual harassment, individual rights and consent, moderating role of digital privacy awareness.

1. INTRODUCTION

Born into the digital age, teens have the advantage of having access to an online world where information, communication and interaction are all at their fingertips. However, as they enter the stages of developing their sexual identity, understanding their sexuality, managing their sexual emotions, and exploring their connection to interpersonal romantic and sexual relationships, Personally, growing up in this era also poses challenges. Without proper education about sexual consent or self-defense skills against unwanted sexual situations, these challenges can hinder their sexual development and potentially affect their long-term health (Kuzma *et al.*, 2024). Traditionally, sexual harassment is most common in schools and local neighborhoods. However, recent studies have identified social media platforms such as Facebook, Instagram, Snapchat and text messaging as additional spaces where girls are increasingly facing such harassment (Reed *et al.*, 2019). Risks associated with digital media and the societal concern surrounding adolescents' online intimate interactions or unwanted encounters present intricate challenges for sex education providers (Pinsky, 2023). The digital age, while contributing vast educational opportunities, has also posed such risks such as exposure to inappropriate content, cyberbullying, and harassment. As society increasingly integrates technology into daily life, finding effective educational strategies for young people to push back these challenges has become a pressing need.

Current studies on sex education often emphasize on traditional, in-person methods which overlook the complexities of digital interactions. Studies have suggested approaches that focus on school-based sex education that prioritize students' perspective on their interactions with digital technology (Pinsky, 2023) or audience-focused approach involves actions that deliberately designed to align with the audience's needs, values, motivations and concerns (Putkonen *et al.*, 2024). While these approaches are widely promoted for the inclusivity, their practical outcomes still remain limited, particularly in the context of digital challenges. Given the rapid technological advancements and the immediate adoption and abandonment of platforms by young people, policy, practical response and research often struggle to keep pace (Scott *et al.*, 2020). Therefore, the authors integrate two theoretical frameworks, Social Learning Theory and Ecological Systems Theory, to examine the influence of adolescents' sexual interactions on sex education. Additionally, this paper highlights the urgent need to equip young people with broader knowledge and skills to navigate digital spaces safely, ensuring they are better protected against the risks of sexual harassment in the digital age.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

This study seeks to bridge these gaps by exploring two primary research questions. The first main questions investigate: “How positively do individual rights & consent and education about online harassment impact sex education in the digital age?” The second research question examines: “How positively does digital privacy awareness moderate the connection between education about online harassment and sex education in the digital age?”. The goals of this study are threefold: First, the paper seeks to light on the conceptual framework surrounding individual rights & consent, alongside education about online harassment, and analyze how these mechanisms influence sex education. Secondly, the authors will explore the moderating role of digital privacy awareness in forming firm educational knowledge of sex for adolescents in the digital society. Finally, this paper aspires to provide practical insights to improve current educational environments by proposing actionable strategies that prevent adolescent from sexual harassment. Methodologically, the researchers applied a quantitative research approach and conducted an online survey to collect primary data from 260 respondents across Asian high schools, colleges, and institutions with international students from various Asian regions. The study employed SPSS software for descriptive statistics, Cronbach's alpha, exploratory factor analysis, linear regression and moderator variable analysis. The remainder of this paper is organized into five sections: section 2 outlines the conceptual framework, highlighting the factors that shape sex education in the digital age; sections 3 and 4 detail the research methodology and present the research findings, respectively; section 5 provides an in-depth discussion, while the final section offers practical solutions, suggests future research directions, and summarizes the main findings.

2. LITERATURE REVIEW

2.1. Sex Education

Sexual harassment can be defined in many ways in laws of different nations but despite the different descriptions of these laws between countries, but they all share the same ground of looking at sexual harassment as “unwelcome” or “unwanted” circumstances that can only be determined through the harassed individual’s personal experience of it (Lundgren and Wieslander, 2024). Adolescents, as they transition to adulthood, they undergo significant physical, mental, and social development (Kuzma *et al.*, 2024), are particularly vulnerable to this form of abuse. Factors such as the integration of digital technologies, insufficient sex education, and enduring societal gender inequalities have worsened the prevalence of adolescent sexual harassment, making it a common and alarming problem. In the context of digital age, internet usage in the least developed countries is increasing at an annual rate of 22%, significantly outpacing the global growth rate of 7.2%; given that rapid growth of internet in countries with high gender inequality and rooted patriarchal norms increases opportunities for online sexual violence, abuse, and harassment (Sheikh and Rogers, 2024). In India, for instance, there have been numerous reports of online sexual harassment targeting female adolescents from minority communities and activists, illustrating the “crisis of Indian masculinity”, intersection of cultural stigmas and the misuse of digital platforms (Dey, 2024). In this context, sex education comes in as a crucial tool in addressing adolescent sexual harassment, as it equips young people, especially teenage girls, with knowledge and skills to recognize, report, and resist such behavior. Moreover, sex education can adopt broader societal change by challenging harmful norms and promoting a culture of respect and equality.

Sociological perspectives expose the intricate ways in which the digital age enlarge the issue of sexual harassment. Symbolic interactionism, its core principle is that individuals rely on language and meaningful symbols to interact with one another (Carter and Fuller, 2016), it suggests that behaviors and norms are created and reinforced through communication and shared understanding. Through the lens of symbolic interactionism, digital platforms emerge where harmful gender norms are not only mirrored but amplified, normalizing harassment through viral content and repeated exposure to toxic interactions. Feminist theory critically examines the systemic power imbalances inherent in patriarchal societies, Carastathis (2014) expresses the perspective of Feminist theory frequently asserts that women’s lives are shaped by various interconnected systems of oppression. This perspective reveals how digital platforms, far from being neutral, often reflect and reinforce gendered hierarchies, allowing harassment to keep on and escalate under the form of anonymity. Meanwhile, Structural functionalism posits that for a system to endure, it must fulfill specific conditions, including defining the function of each element (Izadi *et al.*, 2024). This theory views society as a system of interrelated parts, each functioning to maintain stability; highlighting how the digital age has disrupted this balance by introducing rapid technological advancements that outpace the evolution of societal norms and regulations, potentially leading to gaps where harmful behaviors, like sexual harassment, can grow unchecked due to lack of control in digital environments.

2.2. Anchoring theoretical framework

2.2.1. Social Learning Theory

Social Learning Theory by Albert Bandura, suggests that individuals actively engage in and regulate their learning processes, with their cognitive, emotional, and behavioral development shaped by interactions with peers and the surrounding environments

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

(Yu *et al.*, 2010). The core principle of Social Learning Theory is that behavior arises from the interplay between individual factors and situational influences, rather than being solely determined by one or the other (Hanna *et al.*, 2013). In today's digital landscape, particularly social media can serve as an effective intervention tool to promote maturity, broaden access to information, and encourage the exchange of personal experiences about sexuality (Burns *et al.*, 2021). Digital privacy awareness plays a moderating role here by helping adolescents understand the risks associated with sharing personal information online, thereby enhancing the effectiveness of educational initiatives on online harassment and promoting safe digital engagement (O'Keeffe and Clarke-Pearson, 2011). Adolescents are profoundly influenced to this which can shape their understanding of sexual norms and behaviors. Preadolescents and adolescents who are not fully aware of privacy issues often share inappropriate messages, images, and videos without realizing "what goes online stays online". In other words, cognitive process is regarded as misunderstanding digital permanence that reflects a gap in cognitive learning about online behavior (O'Keeffe and Clarke-Pearson, 2011). Adolescents are also vulnerable to encountering inappropriate content on social media, which includes violence, pornography, and hate speech (Jones and Omar, 2023). By fostering digital privacy awareness, adolescents can better identify and report online harassment, reducing their exposure to harmful content and supporting their development of healthy digital boundaries. Conversely, observational learning and consent education suggest adolescents can easily and anonymously access information online regarding their health concerns (O'Keeffe. and Clarke-Pearson, 2011), given how online platforms offer opportunities for positive modeling, so young people can learn about healthy relationships, consent, and bystander intervention. By leveraging Social Learning Theory, education initiative can emphasize the importance of promoting positive behaviors and attitudes, ultimately empowering adolescents to challenge and resist harassment while building a culture of respect and safety.

2.2.2. Ecological Systems Theory

In conjunction with Social Learning Theory, Ecological Systems Theory by Urie Bronfenbrenner provides a comprehensive lens through which to examine the multiconnected influences on adolescents' experience of sexual harassment. This theory places the individual within a network of interconnected systems, such as personal, family, and community influences, along with broader cultural factors and digital environments, all of which interact and evolve over time (Mendelson and Letourneau, 2015). By applying this framework, we can explore how different systems intersect to affect adolescents' understanding of sexual harassment. For example, various elements like characteristics of the child and family, environmental conditions, cultural contexts, and societal perceptions (Alaggia, 2010) all play significant roles in shaping attitudes and behaviors. Digital policy and privacy regulations act as a moderator by influencing how adolescents respond to school-based digital literacy programs and parental monitoring practices, ensuring that they recognize the importance of protecting personal boundaries online while engaging with educational content about online harassment (Jang and Ko, 2023). Systemic interventions can be identified through this lens, such as encouraging school-family collaboration of digital platforms, implementing school-based education intervention programs and exerting a strong peer influence by launching social marketing and communication campaigns that create supportive environments for adolescents (Khurana *et al.*, 2015). With heightened digital privacy awareness, adolescents become more capable of applying online harassment prevention strategies taught in these programs, effectively integrating them into their digital interactions and reducing the likelihood of harmful experiences (Jones *et al.*, 2023). Integrating Ecological Systems Theory into the discussion can eventually allow for a more complete approach in combatting adolescent sexual harassment, emphasizing the need for collaborative efforts across multiple levels of society to create a safer, more informed generation.

2.3. The impact of Individual rights and consent on Sex education in the Digital Age

Individual rights are universal, inherent entitlements recognized by international law, belonging to all individuals regardless of status, while consent is defined as a deliberate and intentional agreement, requiring a clear intention to make morally valid, particularly regarding personal and sexual matters (Luci, 2023; Dougherty, 2015). Together, these principles are critical in safeguarding adolescents, especially in the digital age, where their interactions often involve sharing personal information and navigating complex social spaces. From the philosophical perspective, John Stuart Mill's Principle of Liberty states that power should only be justifiably exercised over an individual in a civilized society against their will to prevent harm to others (Powers *et al.*, 2012), emphasizing the importance of individual autonomy, which aligns closely with the idea of consent in building respectful relationships. Meanwhile, Kohlberg's theory of moral development involves forming progressively advanced cognitive reasoning for ethical decision-making, with each stage qualitatively distinct and more comprehensive than the last (Mathes, 2021), underlying the need for adolescents to understand ethical principles like consent as part of their progression to higher levels of moral reasoning. However, the current state shows gaps, many adolescents still lack awareness of their rights and the concept of consent due to insufficient support from school leadership, faculty, and parents (Girio-Herrera *et al.*, 2019), leading to vulnerabilities in both online and offline interactions.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

If individual rights and consent are effectively promoted, they can transform sex education in the digital age by fostering safer online environments and encouraging informed decision-making among adolescents. A study by Livingstone and Third (2017) suggests that institutions can embed digital literacy into their curricula, enabling students to develop the competencies required to navigate the digital world responsibly and securely. This aligns with Freire's critical pedagogy which questions the social, environmental, and economic frameworks, as well as social relationships, that influence the circumstances in which individuals exist (Kirylo *et al.*, 2010); emphasizing to empower students through critical awareness of their rights in order for them to make informed decision in digital contexts. Similarly, research by Stanley *et al.* (2018) indicates that emphasizing consent in educational programs leads to healthier relationship practices among youth. However, some scholars argue that while focusing on individual rights is beneficial, it may not sufficient without addressing broader societal norms. Some perspectives remain neutral, such as Robinson *et al.* (2020), who argue that the effectiveness of rights-based education depends on cultural contexts and systemic support. Powell (2010) suggests that the societal norms that undermine women's sexuality must be confronted, consent education alone may have limited impact. These perspectives connect with Maslow's hierarchy of needs theory that promotes a balanced approach to personal development, indicating that individuals should address lower-level needs, or deficiency needs (e.g. physiological, safety, social), before moving to higher-level needs, or being needs (e.g. esteem, self-actualization), leading to understanding and respecting individual rights and consent are foundational to achieve higher levels of personal development and security (Hale *et al.*, 2019). This theory resonates with neutral perspectives that emphasize the importance of basic stability before pursuing higher aspirations.

Conversely, if individual rights and consent are not prioritized seriously, sex education can suffer significant setbacks. A study by Snaychuk and O'Neill (2020) underscores how the absence of comprehensive education on digital consent and individual rights leaves adolescents vulnerable to technology-facilitated sexual violence, emphasizing that without adequate awareness, young people are at great risk of exploitation and harassment in online spaces. In the context of Asia, initiatives have been implemented to educate adolescents about their rights and consent online. The term "digital literacy" refers to skills and abilities individuals need to engage effectively in a society powered by digital technologies (Yue *et al.*, 2019), as they strengthen young individuals to recognize and respond to inappropriate behaviors, protect their privacy, and engage in safe online interactions. "Digital Citizenship Education in Asia-Pacific", the concept of "digital citizenship", is defined as the utilization of digital technologies ethically and responsibly (Cleofas and Labayo, 2024), this initiative focuses on equipping teachers and students with the necessary competencies to navigate the digital world effectively, aiming to foster a generation of informed digital citizens. These programs target to push back cyberbullying and promote safer digital interactions by providing adolescents with sufficient tools and knowledge to shield themselves from the complexities of the digital era. By adopting an environment emphasizing individual rights and informed consent, these initiatives contribute to healthier online communities and encourage young people to clearly define their own autonomy in both digital and real-life situations.

Anchoring the theoretical framework of Social Learning Theory (Bandura), observational learning and consent education of adolescents are expressed through observing digital role models, influencers, and educational content (Pérez-Torres, 2024). Therefore, individual rights and consent (observational learning) positively impact sex education in the digital age. Additionally, grounded in Bronfenbrenner's Ecological Systems Theory, digital platforms and peer influence reflect adolescents' interactions on social media and educational platforms that shape their understanding of individual rights and consent (Khurana *et al.*, 2015). As a result, digital platforms and peers drive the relationship between individual rights and sex education. The first hypothesis is as follows:

H1: Individual rights and consent have a positive impact on Sex education in the Digital Age

2.4. The impacts of Education about online harassment on Sex Education in the Digital Age

Online harassment can be a concept refers to a wide range of actions targeting individuals, such as insults, image or video manipulation, identity theft, and threats, all of which are widely recognized in online harassment research (Oksanen *et al.*, 2022). Given how vulnerable children can be in the context of online spaces, the alarming need for education about online harassment is being called for, this involves teaching individuals, especially adolescents, to recognize, prevent, and respond to harmful behaviors such as cyberbullying, stalking, and digital sexual harassment. Drawing on the psychological perspective of Moral Disengagement Theory by Bandura, the processes of this theory separate our internal standards from our interpretation of our actions, making those standards futile (Moore, 2015), which means online harassment often occurs when individuals rationalize harmful actions by disengaging from moral standards, using mechanisms like minimizing consequences or dehumanizing victims. Education aims to disrupt these patterns by forming empathy, accountability, and critical reflection on digital behavior. Similarly, the concept of Funds of Knowledge Theory by developed by Lusi Moll defines that these bodies of knowledge and skills, which have been historically accumulated and culturally developed, are essential for the functioning and well-being of individuals

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

(Esteban-Guitart and Moll, 2014); emphasizing the importance of integrating adolescent's cultural and social experiences into educational strategies. This approach can ensure that programs addressing online harassment are relevant, relatable, and effective in empowering young people to navigate digital interactions responsibly and ethically. Despite the importance of education about online harassment, many adolescents are not armed with the necessary skills and knowledge to locate the complexities of online interactions effectively. A study by Wright (2016) investigates how perceived support from peers can influence adolescents' experiences of cyber victimization, stressing the role of parental and school support in helping adolescents cope with online harassment. This gap highlights pressing need for comprehensive educational initiatives that embolden young people to recognize, respond to, and report online harassment.

In order to significantly heighten digital citizenship and promote safer online environment, education about online harassment need to be implemented effectively. For instance, a study by Nascimbeni and Vosloo (2019) aims to provide insights into how children can effectively use digital technologies and develop essential skills in the digital world, underscoring the need for inclusive digital literacy education, which can involves understanding and preventing online harassment. This approach supported by Constructivist Learning Theory by, which have been a well-received approach with significant potential, as it actively involves learners in the educational process, allowing them to contribute their unique perspectives to the learning experience (Thomas, 2014); reminding the importance of experiential learning in building knowledge and skill through social interaction and reflection. Additionally, the application of Critical Pedagogy by Freire encourages students to question the societal norms and power dynamics that contribute to online harassment, gaining critical awareness of their rights and responsibilities in digital contexts. While the benefits of education about online harassment are evident, some scholars express concerns about its limitations. A bibliometric analysis by Cretu and Morandau (2024), for example, suggests that while educational interventions are indispensable, they must be part of a broader strategy that includes policy changes and community involvement to efficiently tackle cyberbullying. Aligning with this perspective is Ecological Systems Theory which speculates that an individual's evolvement is influenced by various environmental systems, underlining the necessity for community and family involvement in educational efforts.

In contrast, if education about online harassment is not prioritized, adolescents may stumble on related phenomena with severe consequences. A study by Cantone and colleagues (2015) states that the prolonged occurrence of this phenomenon can lead to the development of low self-esteem and depressive symptoms, which may continue into adulthood; proving that the absence of effective education on online harassment leaves young people defenseless to cyberbullying, which can potentially lead to psychological distress and long-term emotional trauma. In Asia, several regional initiatives focus on educating adolescents about online harassment and promoting digital safety. ASEAN's Regional Approach to Combating Cyberbullying demonstrates as ASEAN leaders acknowledging the importance of strengthening collaboration to combat cybercrime and safeguard the ASEAN community, the alliance, with over five decades of unity, must now harmonize its legal frameworks to empower children to safely harness the vast potential of cyberspace through practical and impactful regional strategies (Sari, 2024; Rahamathulla, 2021). Similarly, UNESCO's "From Insult to Inclusion" report emphasizes the need for inclusive educational policies and programs in the Asia-Pacific region. The report highlights how addressing online harassment through education can foster a safe and respectful environment, especially for marginalized groups (UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific, 2015). By integrating these approaches, educational initiatives can empower young people to challenge harmful norms and behaviors while building empathy and accountability. However, with the intention of long-term effectiveness, education must be supported by policy reforms, community engagement, and comprehensive strategies that address systemic issues. Strengthening these efforts can help create a safer, more inclusive digital landscape, ensuring adolescents can thrive both online and offline.

Anchoring the theoretical framework of Social Learning Theory (Bandura), adolescents learn about the consequences of online harassment through online discussions, punishments, or victim testimony (O'Keeffe and Clarke-Pearson, 2011). Therefore, online harassment education positively impacts sex education in the digital age. Additionally, grounded in Bronfenbrenner's Ecological Systems Theory, school-family collaboration on online harassment through digital literacy programs reinforces education on online harassment (Khurana *et al.*, 2015). As a result, school-family collaboration enhances the impact of online harassment education on sex education. The second hypothesis is as follows:

H2: Education about online harassment have a positive impact on Sex education in the Digital Age

2.5. Moderating role of Digital Privacy Awareness

Due to the extensive consumption of the Internet, various digital data security issues have arisen, including viruses, data breaches, technical failures and software vulnerabilities; the rising risks from mobile device use make it essential for users to be aware of threats and have the knowledge need to protect themselves (Saritepeci *et al.*, 2024). Digital privacy awareness stands

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

for the understanding and consciousness Internet users possess about protecting personal information in digital environments, stressing how critical this awareness is for adolescents in the digital world where they frequently interact with online platforms that often lack transparency about data privacy. The Protection Motivation Theory by Rogers, explains the initiation and maintenance of protective behaviors through threat assessment and coping assessment, these two key processes together generate protective motivation, driving intentions to adopt protective actions (Alrawhani *et al.*, 2024). This matches with studies by Livingstone *et al.* (2018) which discusses how young people with greater awareness of privacy risks engage in safer online practices, demonstrating the serious link between privacy education and behaviors. Additionally, Media System Dependency Theory posits that the cognitive, behavioral, and emotional effects of media consumption are based on both individual characteristics and the surrounding social environment (Ognyanova and Ball-Rokeach, 2015), reflecting on how reliance on digital platforms increases awareness of privacy issues as users encounter potential risks, stressing the necessity of education that addresses these dependencies. From a psychological perspective, the Heuristic-Systematic Model by Chaiken explores how human social activities involve two types of information processing: heuristic (quickly and intuitively) and systematic (deliberately and analytically) (Chen *et al.*, 2021). Adolescents often rely on heuristics, such as assuming familiar websites are safe, which makes them vulnerable to privacy risks. Education about digital privacy can encourage systematic thinking, helping young people critically evaluate online interactions and data-sharing behaviors.

Digital privacy awareness plays a pivotal role in stimulating the relationship between Education about online harassment and Sex education in the digital age. While teenage student may be educated about online harassment, those lacking privacy awareness often struggle to apply lessons on consent and boundaries efficiently, limiting the broader impact of sex education. Conversely, integrating Digital privacy awareness into Education about online harassment enhances the effectiveness of Sex education by fostering a comprehensive understanding of digital consent, safe interactions, and respectful online behaviors. A study by Livingstone and colleagues (2019), for example, emphasizes the need for privacy education to help younger people understand digital risks and their consequences, which is essential for developing policies that protect adolescents' privacy online. This shares a common ground with Diffusion of Innovation Theory by Rogers, which is defined as the manner in which an innovation is shared through particular channels among the members of a social group (Chang, 2010), or in other words, how new ideas and practices spread within a social system. Digital privacy awareness can be framed as an innovation, with its adoption by adolescents influenced by factors like peer influence, perceived advantages, and ease of integration into daily behavior. Education about online harassment can use Digital privacy awareness to accelerate the diffusion of safe and respectful in digital interactions. However, Digital privacy awareness can be seen as only moderate or inconsistent to the relationships between Education about online harassment and Sex education in digital age. A study by Bhagavatula *et al.* (2021) suggests that awareness alone is insufficient to drive behavioral change, requiring comprehensive education and support systems to encourage responsible online practices. Though the study by Livingstone *et al.* (2019) stresses how important it is for adolescents to gain privacy education, the authors also address their limitations, pointing out the absence of institutional support, such as trained educators and systemic integration, privacy education alone may struggle to create lasting behavioral change. This challenge reflects Ecological Systems Theory by Bronfenbrenner, which underlines the multiconnected role of family, schools, and communities in reinforcing privacy education. Without a supportive ecosystem, the ability of Digital privacy awareness to heighten the relationship of education about online harassment and sex education may remain limited.

On the other hand, if digital privacy awareness is poor or misinformed, it could cause setbacks on the connection between Education about online harassment and Sex education. For instance, a study by Finkelhor *et al.* (2021) explores challenges of teaching privacy to young people and highlights that inadequate privacy education can leave children vulnerable to online risks, warning that without proper understanding, efforts in related educational areas may be undermined. This not only limits the success of Sex education in a digital age but also fails to provide adequate tools to combat online harassment. Across Asia, regional initiatives highlight how crucial digital privacy awareness is in strengthening the relationship of Education about online harassment and Sex education, such as UNESCO's Comprehensive Sexuality Education (CSE) program in digital spaces; a structured curriculum designed to teach and facilitate learning about the cognitive, emotional, physical, and social dimensions of sexuality (Kolah *et al.*, 2021), and integrating digital literacy and privacy awareness into sexuality education. As it is UNESCO's efforts across the Asia-Pacific region emphasize equipping young people with the knowledge and skills to navigate online spaces safely. Similarly, United Nations Children's Fund (2019) conducted a comprehensive review titled "Digital Sexuality Education: Opportunities for East Asia and the Pacific". The review's emphasis was about without proper privacy protections, young people seeking information on sensitive topics online can face risks of exposure to online harassment or exploitation. By adding digital privacy awareness into sexuality education programs, the initiative aims to empower young individuals to direct themselves into the light of safety while reducing their vulnerabilities to cyber risks. Together, these examples illustrate the indispensable role of Digital privacy awareness in developing safe and more respectful online behaviors among adolescents.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

Anchoring the theoretical framework of Social Learning Theory (Bandura), cognitive processes and digital privacy awareness enhance adolescents' understanding of online boundaries and safe behaviors, influencing their responses to online harassment education (O'Keeffe. and Clarke-Pearson, 2011). Therefore, digital privacy awareness (cognitive processes) positively moderates the influence of online harassment education on sex education in the digital age. Additionally, grounded in Bronfenbrenner's Ecological Systems Theory, digital policy and privacy regulations influence adolescents' awareness of digital boundaries (Jang and Ko, 2023). As a result, digital privacy awareness acts a positive moderation role for this impact. The third hypothesis is as follows:

H3: Digital privacy awareness positively moderates the influence of education about online harassment on Sex education in the Digital Age

2.6. Conceptual Framework

The adjusted conceptual framework integrates Social Learning Theory and Ecological Systems Theory to align with the three hypotheses. This alignment ensures strong theoretical contributions, demonstrating how individual, social, and environmental factors shape adolescents' digital-age sex education.

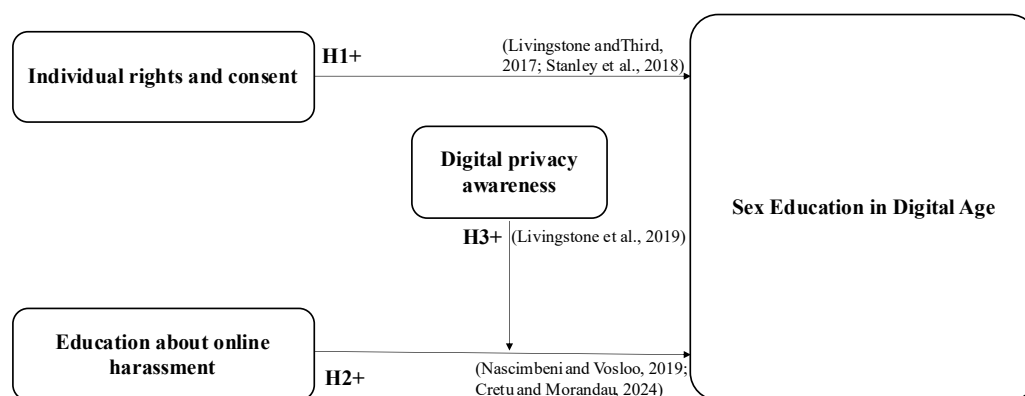


Figure 1 The paper's conceptual framework

3. METHODOLOGY

3.1. Research approach and strategy

Quantitative and qualitative research methods are widely applied in the social sciences. In this study, we have chosen a quantitative research approach. According to Creswell and Creswell (2018), this approach involves gathering and analyzing numerical data to explore and validate phenomena. By utilizing statistical techniques, it allows for an objective and measurable assessment of data (Babbie, 2010). This process enables us to effectively address the research questions and examine relationships between variables. The study follows a deductive methodology, which aligns with the quantitative approach, supporting the development of inferences, predictions, and hypothesis validation through statistical evidence.

3.2. Sampling technique and procedure

Scientific research typically uses two main sampling strategies: probability sampling and non-probability sampling (Bryman, 2012). In this study, the researchers chose probability sampling to increase the precision of the findings. A survey method was considered appropriate for this purpose, using a 5-point Likert scale to collect numerical responses. Participants indicated their level of agreement, ranging from 1 ("strongly disagree") to 5 ("strongly agree") (Brown, 2011). The survey questionnaires were distributed in person and online through the websites of local Asian high schools, colleges, and institutions that host international students from various Asian regions. For the sampling technique, a stratified sampling method was employed to ensure an even distribution, with 60% of respondents coming from Asian countries and the remaining 40% being local participants. Based on the guidelines of Krejcie and Morgan (1970), a sample size of 260 was considered appropriate for social and behavioral research involving a defined population. From the 632 valid observations collected, a simple random sampling method was used to select 260 respondents. The sample was further stratified by age: 60% (156 participants) were adolescents aged 13 to 19 years, 20% (52 participants) were college or university students aged 20 to 22 years, and 20% (52 participants) were working adults aged 23 years and above.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

3.3. Data analysis description

SPSS software was used to conduct a thorough analysis of descriptive statistics for the main variables derived from the survey data. Then, Cronbach's Alpha was used to measure reliability and assess the internal consistency of the survey items. Subsequently, Exploratory Factor Analysis (EFA) was conducted to explore the relationships between multiple sub-variables and consolidate them into a set of smaller components. After that, Pearson correlation analysis was applied to determine the strength and direction of the linear relationships between the variables. Next, linear regression analysis was performed to test the hypotheses and assess whether the two independent variables, individual rights & consent and education about online harassment, had a significant effect on the dependent variable, which was defined as sex education in the digital age. Finally, the study incorporated the "SPSS Process Macro" plugin to analyze the impact of the moderator variable.

4. FINDINGS

4.1. Descriptive analysis

As shown in Table 1, the mean of SE1 was 4.62, indicating that, on average, people strongly agreed that sex education can adopt broader societal change by challenging harmful norms and promoting a culture of respect and equality. The mode of SE1, recorded as 5, indicates that most participants strongly agreed with this view. The standard deviation of SE1, measured at 0.735, reflects the variability in responses, illustrating how closely they clustered around the mean of 4.62. A similar analysis was conducted for the remaining variables in Table 1. In addition, descriptive statistics were applied to assess the two independent variables and the moderator variable.

4.2. Cronbach's Alpha

As shown in Table 2, all sub-variables in sex education in the digital age had corrected item-total correlation coefficients of 0.3 or higher. The Cronbach's Alpha coefficient was calculated at 0.776, which is well above the recommended threshold of 0.6. In addition, Cronbach's Alpha values did not increase when any individual item was removed, further confirming the internal consistency of the measure. Similar reliability results were found for the other variables. Therefore, Table 3 presents the final test results for each group of variables, namely individual rights & consent (IRC), education about online harassment (EOH) and digital privacy awareness (DPA).

4.3. Exploratory Factor Analysis (EFA)

The rotated component matrix in Table 4 classified the 12 sub-variables into four separate factors, with no factors being removed during the process. All sub-variables showed factor loadings above 0.5, confirming their contribution to the respective factors.

4.4. Linear Regression Model

As shown in Table 5, the significance level Sig. = 0.00 from the t-test was lower than $\alpha = 0.05$ for both independent variables. The findings showed that individual rights & consent (IRC), education about online harassment (EOH) significantly influenced the dependent variable, sex education in the digital age (SE). Therefore, the proposed hypotheses were accepted and the regression equation was established as follows:

$$SE = 0.76 \text{ IRC} + 0.63 \text{ EOH} + u$$

4.5. Moderation Analysis

Based on Table 6, the results demonstrated that EOH had a significant impact on SE (p-value = 0.00 < 0.05) and DPA also affected SE (p-value = 0.00 < 0.05). Furthermore, the interaction between EOH and DPA significantly influenced SE, as indicated by the p-value of 0.00 < 0.05. This finding confirms that DPA plays a moderating role in the relationship between EOH and SE. Furthermore, the unstandardized coefficient for the interaction term (Int_1) is 0.68, which is greater than 0, indicating that DPA increases the effect of EOH on SE. Therefore, Hypothesis 5 was accepted, supporting the conclusion that digital privacy awareness positively moderates the impact of education about online harassment on sex education in the digital age.

5. DISCUSSION

5.1. Summary Results

Linear regression results indicate that individual rights and consent (IRC) as a stronger impact on sex education in digital age (SE) with the coefficient of 0.76, while education about online harassment (EOH) also plays a crucial role but has a slightly less influence, reflected by a coefficient of 0.63. Additionally, digital privacy awareness (DPA) as the moderating variable, illustrating a fair influence on the connection between Education about online harassment and sex education in digital age, with the moderation coefficient of 0.68.

5.2. Theoretical implication

The findings of this study strongly support the assertion that individual rights and consent play a crucial role in shaping Sex education in the digital age, as reflected by the coefficient of 0.76. This aligns with prior theoretical perspectives (Luci, 2023; Dougherty, 2015), emphasizing autonomy in fostering respectful behaviors. However, this raises contentious debates regarding the extent to which personal autonomy should be prioritized over societal norms. While Mill's Principle of Liberty advocates individual autonomy as a fundamental right (Powers *et al.*, 2012), critics argue that an overemphasis on individual rights without contextualizing broader societal structures may be insufficient in combating sexual harassment (Powell, 2010). The effectiveness of consent education is further questioned within cultural and systemic constraints, as Robinson *et al.* (2020) highlight that its impact is highly dependent on institutional and societal support. Furthermore, Maslow's hierarchy of needs (Hale *et al.*, 2019) suggests that adolescents must first attain safety and security before fully internalizing the principles of consent. These theoretical contradictions emphasize the complexity of integrating individual rights into digital sex education, requiring a balanced approach that incorporates both personal agency and structural interventions to effectively reduce adolescent sexual harassment.

The findings reveal education about online harassment significantly impacts sex education in the digital age with the coefficient of 0.63, yet its effectiveness is contested. While some scholars argue that such education fosters empathy and accountability, equipping adolescents to recognize and resist digital harassment (Oksanen *et al.*, 2022; Wright, 2016), others highlight its limitations. For instance, Cretu and Morandau (2024) contend that educational interventions alone are insufficient without broader systemic changes, such as policy reforms and community engagement, in which we concurred. This aligns with Ecological Systems Theory, which underscores the need for multi-level interventions to address the complex interplay of digital and societal factors influencing adolescent behavior (Mendelson & Letourneau, 2015). Moreover, critics argue that focusing solely on online harassment may overlook deeper structural issues, such as gender inequalities and cultural norms, which perpetuate harassment both online and offline (Dey, 2024; Sheikh & Rogers, 2024). Thus, while education about online harassment is crucial, its impact may remain limited unless integrated into a comprehensive framework addressing systemic inequalities and digital privacy awareness.

The findings indicate that digital privacy awareness significantly moderates the relationship between Education about online harassment and Sex education in the digital age, with a coefficient of 0.68. This highlights its critical role in shaping adolescents' understanding of digital consent and safe online behaviors. However, the efficacy of digital privacy awareness remains a contentious issue. While some scholars argue that it is essential for fostering responsible online practices (Livingstone *et al.*, 2019), others caution that awareness alone is insufficient without systemic support and comprehensive educational frameworks (Bhagavatula *et al.*, 2021). This debate aligns with Ecological Systems Theory, which underscores the interconnected roles of family, schools, and communities in reinforcing privacy education (Bronfenbrenner, 1979). The authors argue while digital privacy awareness fair moderating component, its stimulation is constrained without institutional backing and integrated strategies. For instance, inadequate privacy education can leave adolescents vulnerable to online risks, undermining broader sex education efforts (Finkelhor *et al.*, 2021). Therefore, the findings suggest that while awareness is a necessary foundation, it must be coupled with actionable, multi-level interventions to effectively combat online harassment and promote safer digital interactions.

5.3. Practical implication

Individual rights and consent play a crucial role in sex education in the digital age, with a strong influencing coefficient of 0.76 on promoting safer online environments and informed adolescent decision-making in Asia. Many adolescents lack awareness of these concepts (Girio-Herrera *et al.*, 2019), underscoring the need for digital literacy in school curricula (Livingstone & Third, 2017). The "Digital Literacy and Citizenship" initiative (Yue *et al.*, 2019) equips youth with skills to recognize and respond to inappropriate behaviors, fostering respect for individual rights. Similarly, UNESCO's "Digital Citizenship Education in Asia-Pacific" (Cleofas & Labayo, 2024) ensures educators and students develop responsible digital practices. Studies emphasize embedding consent education to strengthen informed online and offline interactions. These initiatives collectively highlight that prioritizing individual rights and consent in sex education cultivates a generation capable of recognizing and challenging inappropriate behavior, fostering safer digital and real-world environments.

While education about online harassment revealed to be not as quite strong, but its influence on sex education in the digital age (0.63) is still indispensable, highlighting the need for targeted interventions. Given the vulnerabilities adolescents face online (Wright, 2016), practical measures should integrate digital literacy and cyber safety programs, such as ASEAN's Regional Approach to Combating Cyberbullying (Sari, 2024; Rahamathulla, 2021) underscores the need for regional cooperation to harmonize policies that protect adolescents from online abuse. Similarly, UNESCO's "From Insult to Inclusion" report (UNESCO Office Bangkok, 2015) emphasizes inclusive educational programs aimed at safeguarding marginalized groups from online

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

harassment. In the context of Asia, these efforts align with the increasing recognition of digital safety as an essential component of adolescent education. Wright's (2016) study further supports the role of parental and school support in helping adolescents cope with online victimization. By integrating education on online harassment into school curricula, these initiatives equip young individuals with critical awareness and response strategies, strengthening the overall impact of sex education in the digital age.

Given that digital privacy awareness (0.68) moderates the relationship between Education about online harassment and Sex education in the digital age, integrating privacy education into digital literacy programs becomes a pressing necessity. UNESCO's "Comprehensive Sexuality Education" (CSE) program in digital spaces (Kolah *et al.*, 2021) integrates digital privacy awareness into sex education, ensuring that young individuals understand the risks of sharing personal information online. Similarly, the United Nations Children's Fund (2019) highlights the necessity of digital privacy education, emphasizing that without adequate protection, adolescents seeking sensitive information online are vulnerable to exploitation. These efforts align with findings that stress the importance of privacy education in developing safer digital behaviors (Livingstone *et al.*, 2019). By embedding digital privacy awareness into sex education, these initiatives ensure that adolescents not only recognize online threats but also engage responsibly in digital environments.

5.4. Limitations

Though this study provides deep analysis and promising suggestion, its limitations should not be overlooked. First, it relies on existing literature and theoretical frameworks, which may not fully grasp the rapidly evolving digital landscape. Second, cultural and legal differences across Asia may impact the effectiveness of sex education programs, requiring for more localized studies. Lastly, this study focuses on education-based interventions with lack of external influences such as parental guidance and peer dynamics. A more comprehensive approach, incorporating policy analysis and community engagement, would inform a deeper understanding of how to address adolescent sexual harassment in digital spaces.

5.5. Direction for future research

Given the constant grow of technological context, future research should explore the evolving nature of digital interactions and their impacts on adolescent sex education. Longitudinal studies tracking online behaviors over time could offer deeper insights into how exposure to digital harassment, consent education, and privacy awareness shape adolescent decision-making. Additionally, cross-cultural comparisons can be beneficial to better understand how societal norms, legal frameworks, and digital policies influence sex education outcomes across diverse regions. The role of emerging technologies – such as AI, virtual reality, and algorithm-driven content – in shaping perceptions of consent and digital safety should also be examined. Lastly, interdisciplinary research integrating psychology, education, and digital ethics is crucial for developing holistic strategies that address adolescent sexual harassment while fostering safer and more informed digital environments.

5.6. Conclusion

In the digital age, comprehensive sex education has become critical for young people to equip with the knowledge and skills to navigate both online and offline interactions safely. In this study, we have provided the analysis of Individual rights and consent, Education about online harassment in shaping Sex education in digital age. The study highlights both structural and behavioral factors influencing adolescent interactions in digital spaces. Consent education and digital literacy emerged as critical components in building informed-decision making and respectful online behavior. In addition, digital privacy awareness plays a moderating role in strengthening the effectiveness of online harassment education. While integrating technology-driven learning measures enhances engagement, the persistent influence of cultural norms and evolving social media dynamics requires further investigation. This paper acknowledges the limitations such as regional disproportion and the challenge of isolating educational interventions from broader societal influences. Addressing these complexities in the future research will filter strategies for safeguarding adolescents in digital environments. Ultimately, this work reinforces the importance of inclusive, adaptive sex education in promoting safer online interactions and preserving a culture of respect, empowerment, and digital responsibility.

REFERENCES

- 1) Alaggia, R. (2010). An ecological analysis of child sexual abuse disclosure: Considerations for child and adolescent mental health. *Journal of the Canadian Academy of Child and Adolescent Psychiatry*, 19(1), 32.
- 2) Alrawhani, E. M., Romli, A., & Al-Sharafi, M. A. (2024). Evaluating the role of protection motivation theory in information security policy compliance: Insights from the banking sector using PLS-SEM approach. *Journal of Open Innovation: Technology, Market, and Complexity*, 100463.
- 3) Bhagavatula, S., Bauer, L., & Kapadia, A. (2021, October). What breach? Measuring online awareness of security incidents by studying real-world browsing behavior. In *Proceedings of the 2021 European Symposium on Usable Security* (pp. 180-199).

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

- 4) Burns, J. C., Chakraborty, S., & Saint Arnault, D. (2021). Social media preference and condom use behaviors: An analysis of digital spaces with young African American males. *Health Education & Behavior*, 48(2), 190-198.
- 5) Cantone, E., Piras, A. P., Vellante, M., Preti, A., Daniélsdóttir, S., D'Aloja, E., ... & Bhugra, D. (2015). Interventions on bullying and cyberbullying in schools: A systematic review. *Clinical Practice and Epidemiology in Mental Health*, 11(Suppl 1 M4), 58.
- 6) Carastathis, A. (2014). The concept of intersectionality in feminist theory. *Philosophy Compass*, 9(5), 304-314.
- 7) Carter, M. J., & Fuller, C. (2016). Symbols, meaning, and action: The past, present, and future of symbolic interactionism. *Current Sociology*, 64(6), 931-961.
- 8) Chang, H. C. (2010). A new perspective on Twitter hashtag use: Diffusion of innovation theory. *Proceedings of the American Society for Information Science and Technology*, 47(1), 1-4.
- 9) Chen, H., Liu, F., Wen, Y., Ling, L., & Gu, X. (2021). Compilation and application of the scale of sustainable knowledge sharing willingness in virtual academic community during the times of the coronavirus pandemic (COVID-19). *Frontiers in Psychology*, 12, 627833.
- 10) Cleofas, J. V., & Labayo, C. C. (2024). Youth netizens as global citizens: Digital citizenship and global competence among undergraduate students. *Frontiers in Communication*, 9, 1398001.
- 11) Cretu, D. M., & Morandau, F. (2024). Bullying and cyberbullying: A bibliometric analysis of three decades of research in education. *Educational Review*, 76(2), 371-404.
- 12) Dey, A. (2024). "It's a joke, not a dick. So don't take it too hard": Online sexual harassment in Indian universities. *Feminist Media Studies*, 24(8), 1830-1846.
- 13) Dougherty, T. (2015). Yes means yes: Consent as communication. *Philosophy & Public Affairs*, 43(3), 224-253.
- 14) Esteban-Guitart, M., & Moll, L. C. (2014). Funds of identity: A new concept based on the funds of knowledge approach. *Culture & Psychology*, 20(1), 31-48.
- 15) Finkelhor, D., Jones, L., & Mitchell, K. (2021). Teaching privacy: A flawed strategy for children's online safety. *Child Abuse & Neglect*, 117, 105064.
- 16) Girio-Herrera, E., Ehrlich, C. J., Danzi, B. A., & La Greca, A. M. (2019). Lessons learned about barriers to implementing school-based interventions for adolescents: Ideas for enhancing future research and clinical projects. *Cognitive and Behavioral Practice*, 26(3), 466-477.
- 17) Hale, A. J., Ricotta, D. N., Freed, J., Smith, C. C., & Huang, G. C. (2019). Adapting Maslow's hierarchy of needs as a framework for resident wellness. *Teaching and Learning in Medicine*, 31(1), 109-118.
- 18) Hanna, R. C., Crittenden, V. L., & Crittenden, W. F. (2013). Social learning theory: A multicultural study of influences on ethical behavior. *Journal of Marketing Education*, 35(1), 18-25.
- 19) Jang, Y., & Ko, B. (2023). Online safety for children and youth under the 4Cs framework—A focus on digital policies in Australia, Canada, and the UK. *Children*, 10(8), 1415.
- 20) Izadi, A., Mohammadi, M., Memar, S., & Nasekhian, S. (2024). Cultural sustainability in the historic environment: An application of structural functionalism theory. *The Historic Environment: Policy & Practice*, 1-23.
- 21) Jones, B. M., & Omar, M. (2023, July). Studying the effects of social media content on kids' safety and well-being. In *2023 Congress in Computer Science, Computer Engineering, & Applied Computing (CSCE)* (pp. 1876-1879). IEEE.
- 22) Khurana, A., Bleakley, A., Jordan, A. B., & Romer, D. (2015). The protective effects of parental monitoring and internet restriction on adolescents' risk of online harassment. *Journal of Youth and Adolescence*, 44, 1039-1047.
- 23) Kirylo, J. D., Thirumurthy, V., Smith, M., & McLaren, P. (2010). Issues in education: Critical pedagogy: An overview. *Childhood Education*, 86(5), 332-334.
- 24) Kolah Ghoutschi, S., Aldape, A. D. L., & Bonacker, T. (2021). Translating sexuality education in Ethiopia and Kenya: A multi-sited approach. *Australian Feminist Law Journal*, 47(2), 251-282.
- 25) Kuzma, E. K., Ammerman, B. A., Lee, V., & Baird, J. (2024). Re-envisioning youth sexual health care: Supporting sex positivity in a digital world. *Journal of Pediatric Health Care*, 38(3), 310-322.
- 26) Livingstone, S., Stoilova, M., & Nandagiri, R. (2019). *Children's data and privacy online: Growing up in a digital age. An evidence review*. London: London School of Economics and Political Science.
- 27) Livingstone, S., Mascheroni, G., & Staksrud, E. (2018). European research on children's internet use: Assessing the past and anticipating the future. *New Media & Society*, 20(3), 1103-1122.
- 28) Livingstone, S., & Third, A. (2017). Children and young people's rights in the digital age: An emerging agenda. *New Media & Society*, 19(5), 657-670.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

- 29) Luci, M. (2023). In search for soul: The contribution of analytical psychology to heal human rights violations. *British Journal of Psychotherapy*, 39(3), 611-628.
- 30) Lundgren, S., & Wieslander, M. (2024). Holding the harasser responsible: Implications of identifying sexual harassment that includes abuse of power and quid pro quo elements as sexual corruption. *Gender, Work & Organization*.
- 31) Mathes, E. W. (2021). An evolutionary perspective on Kohlberg's theory of moral development. *Current Psychology*, 40(8), 3908-3921.
- 32) Mendelson, T., & Letourneau, E. J. (2015). Parent-focused prevention of child sexual abuse. *Prevention Science*, 16, 844-852.
- 33) Moore, C. (2015). Moral disengagement. *Current Opinion in Psychology*, 6, 199-204.
- 34) Nascimbeni, F., & Vosloo, S. (2019). Digital literacy for children: Exploring definitions and frameworks. *Scoping Paper*, 1.
- 35) O'Keeffe, G. S., & Clarke-Pearson, K. (2011). The impact of social media on children, adolescents, and families. *Pediatrics*, 127(4), 800-804.
- 36) Oksanen, A., Celuch, M., Latikka, R., Oksa, R., & Savela, N. (2022). Hate and harassment in academia: The rising concern of the online environment. *Higher Education*, 84(3), 541-567.
- 37) Ognyanova, K., & Ball-Rokeach, S. J. (2015). Political efficacy on the internet: A media system dependency approach. In *Communication and Information Technologies Annual* (pp. 3-27). Emerald Group Publishing Limited.
- 38) Pérez-Torres, V. (2024). Social media: A digital social mirror for identity development during adolescence. *Current Psychology*, 1-11.
- 39) Pinsky, D. (2023). Digitally mediated communication and school-based sex education in the USA. *Sex Education*, 23(5), 556-569.
- 40) Powers, M., Faden, R., & Saghai, Y. (2012). Liberty, Mill, and the framework of public health ethics. *Public Health Ethics*, 5(1), 6-15.
- 41) Putkonen, H., Kallio, H., Kylmä, J., Rissanen, T., & Sormunen, M. (2024). Sexual health interventions with social marketing approach targeting young people: A scoping review. *Health Promotion International*, 39(4), daae106.
- 42) Rahamathulla, M. (2021). Cyber safety of children in the Association of Southeast Asian Nations (ASEAN) region: A critical review of legal frameworks and policy implications. *International Journal on Child Maltreatment: Research, Policy and Practice*, 4, 375-400.
- 43) Reed, E., Salazar, M., Behar, A. I., Agah, N., Silverman, J. G., Minnis, A. M., Rusch, M. L., & Raj, A. (2019). Cyber sexual harassment: Prevalence and association with substance use, poor mental health, and STI history among sexually active adolescent girls. *Journal of Adolescence*, 75, 53-62.
- 44) Robinson, C., Phillips, L., & Quennerstedt, A. (2020). Human rights education: Developing a theoretical understanding of teachers' responsibilities. *Educational Review*, 72(2), 220-241.
- 45) Sari, M. N. (2024). Cybercrime in Association of Southeast Asian Nations: Regional effort and its effectiveness. *Journal of Information Policy*, 14.
- 46) Saritepeci, M., Yildiz Durak, H., Özüdoğru, G., & Atman Uslu, N. (2024). The role of digital literacy and digital data security awareness in online privacy concerns: A multi-group analysis with gender. *Online Information Review*, 48(5), 983-1001.
- 47) Scott, R. H., Smith, C., Formby, E., Hadley, A., Hallgarten, L., Hoyle, A., Marston, C., McKee, A., & Tourountsis, D. (2020). What and how: Doing good research with young people, digital intimacies, and relationships and sex education. *Sex Education*, 20(6), 675-691.
- 48) Sheikh, M. M. R., & Rogers, M. M. (2024). Technology-facilitated sexual violence and abuse in low and middle-income countries: A scoping review. *Trauma, Violence, & Abuse*, 25(2), 1614-1629.
- 49) Snaychuk, L. A., & O'Neill, M. L. (2020). Technology-facilitated sexual violence: Prevalence, risk, and resiliency in undergraduate students. *Journal of Aggression, Maltreatment & Trauma*, 29(8), 984-999.
- 50) Stanley, N., Barter, C., Wood, M., Aghtaie, N., Larkins, C., Lanau, A., & Överlien, C. (2018). Pornography, sexual coercion and abuse and sexting in young people's intimate relationships: A European study. *Journal of Interpersonal Violence*, 33(19), 2919-2944.
- 51) Thomas, A., Menon, A., Boruff, J., Rodriguez, A. M., & Ahmed, S. (2014). Applications of social constructivist learning theories in knowledge translation for healthcare professionals: A scoping review. *Implementation Science*, 9, 1-20.
- 52) UNESCO Office Bangkok and Regional Bureau for Education in Asia and the Pacific. (2015). *From insult to inclusion: Asia-Pacific report on school bullying, violence and discrimination on the basis of sexual orientation and gender identity*. Paris: UNESCO.

Sex Education in Digital Age: Solutions to Adolescents Sexual Harassment

- 53) United Nations Children's Fund. (2019). *The opportunity for digital sexuality education in East Asia and the Pacific*. Bangkok: UNICEF East Asia and Pacific.
- 54) Wright, M. F. (2016). Cybervictimization and substance use among adolescents: The moderation of perceived social support. *Journal of Social Work Practice in the Addictions*, 16(1-2), 93-112.
- 55) Yu, A. Y., Tian, S. W., Vogel, D., & Kwok, R. C. W. (2010). Can learning be virtually boosted? An investigation of online social networking impacts. *Computers & Education*, 55(4), 1494-1503.
- 56) Yue, A., & Beta, A. R. (2022). Digital citizenship in Asia: A critical introduction. *International Communication Gazette*, 84(4), 279-286.
- 57) Yue, A., Nekmat, E., & Beta, A. R. (2019). Digital literacy through digital citizenship: Online civic participation and public opinion evaluation of youth minorities in Southeast Asia. *Media and Communication*, 7(2), 100-114.

APPENDIX A

Table 1. Descriptive statistic of “Sex education in the Digital Age”

		Statistics			
		SE1	SE2	SE3	SE4
N	Valid	260	260	260	260
	Missing	0	0	0	0
Mean		4.62	4.21	4.30	4.67
Mode		5	4	4	5
Std. Deviation		.735	.456	.646	.522

Table 2: Cronbach's Alpha of "Sex education in the Digital Age"

Reliability Statistics		Item-Total Statistics				
		Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item- Total Correlation	Cronbach's Alpha if Item Deleted	
Cronbach's Alpha	N of Items	SE1	10.92	11.815	.716	.743
		SE2	9.72	11.654	.672	.689
		SE3	10.52	11.387	.685	.708
.776	4	SE4	10.37	12.474	.711	.753

Table 3. *The results of the final test of each group of variables*

	Variable	Number of sub-variables before test	Number of sub-variables after test	Cronbach's Alpha	Name of eliminated sub-variables
1	SE	4	4	0.776	None
2	IRC	4	4	0.747	None
3	EOH	4	4	0.884	None
4	DPA	4	4	0.809	None

Table 4. Rotated Component Matrix

Rotated Component Matrix^a							
Component with loading factors							
1	2	3	4				
SE1 .735	IRC1 .763	EOH1 .721	DPA1 .714				
SE2 .775	IRC2 .698	EOH2 .708	DPA2 .623				
SE3 .868	IRC3 .755	EOH3 .813	DPA3 .635				
SE4 .819	IRC4 .864	EOH4 .820	DPA4 .741				
Extraction Method: Principal Component Analysis.							
Rotation Method: Varimax with Kaiser Normalization.							
a. Rotation converged in 7 iterations.							

Table 5 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	5.61	.55		5.21	.000
1 IRC	.72	.37	.76	5.13	.000
1 EOH	.54	.68	.63	5.07	.000

a. Dependent Variable: SE

Where: SE: mean of SE1, SE2, SE3, SE4
 IRC: mean of IRC1, IRC2, IRC3, IRC4
 EOH: mean of EOH1, EOH2, EOH3, EOH4

Table 6 Moderator results analysis

Model : 1

Y : SE

X : EOH

W : DPA

Sample

Size: 260

OUTCOME VARIABLE:

SE

Model Summary

R	R-sq	MSE	F	dl1	dl2	p
.72	.70	.41	6.53	3.00	256.00	.00

Model

	coeff	se	t	p	LLCI	ULCI
constant	3.76	.125	72.69	.000	4.47	4.21
EOH	.53	.17	2.39	.000	.28	.22
DPA	.52	.15	5.97	.000	.26	.25
Int_1	.68	.19	5.03	.000	.36	.29

Where: DPA: mean of DPA1, DPA2, DPA3, DPA4