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RISK PERCEPTION AND PROTECTIVE BEHAVIOR AGAINST ONLINE GENDER BASED VIOLENCE AMONG ADOLESCENT: A HEALTH BELIEF MODEL APPROACH

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ABSTRACT
Social media engagement in the Society 5.0 era grants unrestricted access to information and global connectivity. However, it concurrently exposes users to gender based cybercrimes, notably Online Gender Based Violence. Female students remain particularly vulnerable to digital violence, ranging from verbal sexual harassment in comment sections and non consensual dissemination of intimate content (revenge porn) to psychological manipulation for sexual exploitation. This study aims to analyze how risk perception influences protective behaviors against online gender based violence among adolescent girls through the framework of the Health Belief Model (HBM). A non probability sampling strategy utilizing a purposive sampling approach was employed. Sample selection was grounded in specific inclusion criteria, focusing on active 11th grade female students at vocational high schools. Primary data were collected using structured questionnaires and analyzed using univariate, bivariate, and multivariate statistical techniques. Findings revealed that 65% of respondents had previously experienced online gender based violence. Spearman Rank correlation analysis demonstrated that perceived susceptibility ($r_s = 0.382$, $p = 0.003$) and perceived severity ($r_s = 0.299$, $p = 0.020$) significantly shaped protective behaviors against online violence. Furthermore, the ANOVA test confirmed the overall fitness of the HBM regression model ($F(4, 55) = 4.467$, $p = 0.003$) in predicting protective actions against gender based cyberviolence. The Health Belief Model offers a valid predictive framework for explaining protective behaviors against Online GenderBased Violence among adolescent girls. Perceived susceptibility and perceived severity emerge as the primary positive predictors driving protective actions.

Keywords: adolescent girls; digital cyberviolence; health belief model; online gender based violence; protective behavior; risk perception

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INTRODUCTION

The rapid proliferation of technology in recent years has fundamentally altered adolescent social interaction patterns. In the Society 5.0 era, technologies such as artificial intelligence (AI), big data, and smart internet infrastructure serve not merely as functional tools, but as an expansive medium where adolescents interact, forge identities, and navigate interpersonal relationships. While social media offers seamless connectivity and information access, it simultaneously harbors gender based cyberthreats, most prominently Online Gender Based Violence (Arfiani et al., 2025; Julian & Julain, 2024; Ramadhanti & Mardiansyah, 2025).

Incidents of Online Gender Based Violence in Indonesia have escalated significantly over recent years. Reports from the National Commission on Violence Against Women (Komnas Perempuan) indicate an exponential rise in cases, surging from a mere 16 reported incidents in 2017 to 1,272 cases in 2023. This upward trajectory is corroborated by SAFEnet data, which recorded a fourfold increase in cases during the first quarter of 2024 (480 cases) compared to the same period in the preceding year (118 cases). Furthermore, demographic metrics from the Ministry of Women's Empowerment and Child Protection (KPPPA) underscore that youth populations bear the highest

vulnerability individuals aged 18–25 constituted 57% (272 cases) of victims, while minors under 18 years accounted for 26% (123 cases) of total recorded incidents (BANK, 2021; Elly et al., 2024; Sugandi et al., 2026).

Online Gender Based Violence refers to acts of violence executed through digital media or social platforms targeting individuals based on their gender. Among female students, digital violence frequently manifests as verbal sexual harassment in public comments, non-consensual sharing of intimate media (revenge porn), and psychological manipulation aimed at sexual exploitation (online grooming). Adolescent girls are disproportionately susceptible to digital victimization due to structural power imbalances, prevailing gender stereotypes and persistent patriarchal norms operating within online spaces (Hasibuan & Yulia, 2026; Rani et al., 2025; Rismayana & Nurhaedah, 2026).

Unrestricted access to social media represents a key environmental risk factor for gender based cyberviolence. The diversity of online platforms and prolonged exposure encourage adolescent girls to shift their primary social interactions into virtual environments. However, these online interactions often give rise to unsafe relational dynamics, presenting novel threats brought about by digital advancements (Elly et al., 2024; Sugandi et al., 2026).

Comprehensive knowledge regarding reproductive health serves as an essential protective measure against digital violence. Awareness of reproductive rights, bodily autonomy, and healthy interpersonal boundaries empowers adolescents to navigate online risks more effectively. An ingrained respect for personal integrity fosters a firm stance against exploitative behaviors and heightens early vigilance toward digital security threats (Kurniawan & Maryanti, 2020; Muharomah & Darmawati, 2025; Setyowati et al., 2020).

The Health Belief Model (HBM) provides a robust theoretical framework for analyzing how individuals interpret and mitigate environmental threats. Protective actions taken by adolescent girls in virtual spaces are directly driven by their cognitive risk perceptions. When young women perceive themselves as highly vulnerable to digital threats and comprehend the severe ramifications involved, they are more inclined to adopt proactive preventive measures. Nevertheless, cultivating an accurate risk perception in the digital realm is frequently hindered by low digital literacy and the normalization of sexual violence culture. An inability to recognize early warning signs online often leaves individuals passive there by diminishing protective behaviors (Fatimah & Effendi, 2026; Santoso & Sulistyowati, 2024)(Kam & Lee, 2024)

The HBM framework posits that health protective behavior is dictated by four core cognitive constructs are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. Applied to gender based cyberviolence among adolescent girls, the framework evaluates how vulnerable individuals feel toward profile manipulation or digital exploitation (perceived susceptibility), along with their assessment of the potential harm if their private content were compromised (perceived severity). These perceived threats subsequently motivate protective actions, including enforcing account privacy, maintaining selectivity in online relationships and rejecting requests for intimate media.

Integrating the HBM to examine risk perceptions surrounding online gender based violence addresses a critical gap in existing literature. Prior studies have predominantly focused on legal frameworks or technical digital literacy, leaving the psychological determinants underlying adolescent protective behaviors relatively unexplored. Accordingly, this study aims to evaluate how risk perception influences protective behaviors against online gender based violence among adolescent girls through a Health Belief Model approach.

METHOD

This study utilized an observational analytic design with a cross sectional approach. Aligning with the cross sectional paradigm, which seeks to analyze relationships between variables at a single point in time without experimental manipulation the conceptual framework was delimited to the four core constructs of the Health Belief Model (Rosenstock, 1974; Janz & Becker, 1984) are perceived susceptibility, perceived severity, perceived benefits, and perceived barriers (Saputra et al., 2021). These constructs focus specifically on assessing the established cognitive risk perceptions of respondents during data collection. Selecting these four primary components aligns with meta analytic findings by Harrison et al. (1992) and Carpenter (2010), which established them as the most consistent and independent predictors of specific preventive health behaviors (Coulson et al., 2016).

Sampling was conducted via non probability sampling utilizing a purposive sampling approach. Sample selection was guided by specific inclusion criteria, focusing on active 11th grade female students at vocational high schools in Purbalingga Regency. Focusing on 11th grade students was informed by developmental considerations; adolescents at this stage exhibit heightened awareness of interpersonal dynamics with the opposite sex and occupy a critical developmental window for setting personal boundaries in both social and digital environments. The final sample comprised 60 adolescent female respondents aged 16 until 17 years. Data collection was executed using a structured questionnaire, which demonstrated strong internal consistency with a Cronbach's Alpha of 0.670. Data were analyzed through univariate, bivariate, and multivariate statistical techniques to address the research objectives. Ethical approval was officially granted by the Health Research Ethics Committee of Muhammadiyah Purwokerto University (Approval No. KEPK/UMP/356/V/2026).

RESULT

Table 1.
Online Gender Based Violence Exposure Frequency

Exposure Status	Frequency (n)	Percentage (%)
Experienced	39	65
Not Experienced	21	35

Data in table 1 regarding digital violence exposure among respondents (N = 60) indicated that a significant majority had encountered online gender based violence. Specifically, 39 respondents (65%) reported prior victimization, where as 21 respondents (35%) had no prior exposure to digital harassment.

Table 2.
Daily Social Media Screen Time

Usage Intensity	Frequency (n)	Percentage (%)
Low (< 3 hours/day)	5	8.3
Moderate (3 – 6 hours/day)	39	65
High (> 6 hours/day)	16	26.7

Data in table 2 regarding screen time (N = 60), the majority of respondents fell into the moderate usage category (3–6 hours daily), totaling 39 individuals (65%). Meanwhile, heavy social media users (> 6 hours daily) comprised 16 respondents (26.7%), and light users (< 3 hours daily) represented the smallest subset at 5 individuals (8.3%). This demonstrates that most participants devote substantial daily time to digital platforms.

Table 3.
Distribution of Active Social Media Platforms

Platforms	Frequency (n)	Percentage (%)
Instragram	49	29
Tik Tok	52	30.8
Whatsapp	57	33.7
Facebook	6	3.6
Telegram	5	3.0

Multiple response analysis at table 3 revealed that WhatsApp was the most ubiquitous platform, utilized by 95.0% of respondents (n = 57). The top three dominant platforms were WhatsApp (95.0%), TikTok (86.7%), and Instagram (81.7%), whereas engagement on Facebook (10.0%) and Telegram (8.3%) remained minimal. On average, each adolescent girl actively operated across 2.8 distinct social media platforms concurrently.

Table 4.
Normality Test result

Independent Variables	Shapiro-Wilk	
	df	Sig
Perceived Susceptibility	60	0.001
Perceived Severity	60	0.001
Perceived Benefits	60	0.001
Perceived Barriers	60	0.001
Digital Protective Behavior	60	0.001

As depicted in table 4, all study variables yielded significance values of $p < 0.05$, confirming that the data departed from a normal distribution. Consequently, non parametric analytical techniques were implemented are Spearman Rank correlation for bivariate associations, Mann Whitney U testing for group comparisons and linear regression.

Table 5.
Bivariate Analysis of Health Belief Model Constructs and Protective Behaviors Agains Online Gender Based Violence

Risk Perception	Correlation Coefficient	Sig. (2-tailed)
Perceived Susceptibility ↔ Digital Ptotective Behavior	0.382	0.003
Perceived Severity ↔ Digital Ptotective Behavior	0.299	0.020
Perceived Benefits ↔ Digital Ptotective Behavior	0.237	0.068
Perceived Barriers ↔ Digital Ptotective Behavior	-0.002	0.987

As detailed in table 5, Spearman Rank correlation analysis revealed that perceived susceptibility exhibited a statistically significant positive relationship with protective behaviors against online gender based violence ($rs = 0.382$, $p = 0.003$). Similarly, perceived severity demonstrated a significant positive correlation with digital protective actions ($rs = 0.299$, $p = 0.020$). Conversely, neither perceived benefits ($rs = 0.237$, $p = 0.068$) nor perceived barriers ($rs = -0.002$, $p = 0.987$) displayed statistically significant associations with protective behaviors in this population.

Table 6.
Mann Whitney U Test: Differences in Digital Protective Based on Prior Experiences of Online Gender Based Violence

Variabel Terikat	Mann Whitney	Wilcoxon	Z	Sig (2-tailed)
Perilaku Proteksi	247.5	1027.5	-2.533	0.011

As depicted in table 6, Mann Whitney U analysis demonstrated a statistically significant difference in protective behavior scores between adolescent girls with prior exposure to online gender-based violence and those without ($U = 247.500$, $Z = -2.533$, $p = 0.011$). Specifically, respondents with a history of digital victimization exhibited a higher tendency to implement more stringent account privacy management controls.

Table 7.
ANOVA Test Results for the Health Belief Model Regression on Digital Protective Behavior

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	199.533	4	49.883	4.467	0.003
Residual	614.200	55	11.167		

As presented in table 7, the multiple linear regression model yielded an F statistic of $F(4, 55) = 4.467$ with a significance value of $p = 0.003$ ($p < 0.05$). These results confirm the statistical fitness of the Health Belief Model framework, demonstrating that its core constructs collectively exert a significant simultaneous effect on promoting protective behaviors against online gender based violence among adolescent girls.

DISCUSSION

Empirical data presented in tables 2 and 3 demonstrate that adolescent girls maintain a high intensity of daily engagement within online or digital environments. A clear majority of respondents (65.0%) spend 3 to 6 hours daily accessing social media platforms, while an additional 26.7% report high volume access exceeding 6 hours per day. Media consumption is predominantly concentrated on visual and interactively communicative platforms, led by WhatsApp (95.0%), followed by TikTok (86.7%) and Instagram (81.7%). This multi platform engagement averaging 2.8 platforms per individual indirectly expands their digital footprints and heightens individual exposure to unsafe online interactions (Sugandi et al., 2026).

This high digital exposure directly aligns with the high rate of online gender based violence observed in the sample at table 1, where 65% of respondents reported experiencing online harassment, ranging from unsolicited explicit messages to intimidation. Visually driven platforms such as Instagram and TikTok can expose structural vulnerabilities, as public profile details and personal media uploads can easily be harvested, manipulated or exploited by malicious actors (Arfiani et al., 2025; Julian & Julain, 2024).

The comparative analysis presented in table 6 reveals that adolescent girls with a history of online gender based violence implement significantly stricter account privacy management controls than those without prior exposure. This finding aligns with previous studies by (Damayanti et al., 2026; Sugandi et al., 2026), which emphasized that non-responsiveness to perpetrators serves as a self-protective coping mechanism aimed at limiting interactions and restricting further contact. Furthermore, enhancing digital privacy literacy during social media engagement plays a crucial role in mitigating subsequent cyberviolence risks.

Bivariate correlation in table 5 confirmed that perceived susceptibility ($r_s = 0.392$, $p = 0.011$) and perceived severity ($r_s = 0.299$, $p = 0.020$) were positively and significantly associated with protective behaviors against digital violence. These results support the core tenets of the Health Belief Model, which posits that preventative action is fundamentally driven by cognitive appraisals of personal threat (Saputra et al., 2021). These findings align with previous research by (Gunawan, 2023), which identified dark personality traits and toxic online disinhibition as key predictors of cyberviolence perpetration. When adolescent girls become aware that their personal data and profile pictures are easily accessible and vulnerable to exploitation by malicious actors online, a heightened state of cognitive vigilance is triggered, prompting them to take corrective protective measures. A similar dynamic underpins perceived severity, where respondents recognize the severe psychosocial ramifications of online gender based violence ranging from deep humiliation, depression, and peer group defamation to potential long-term damage to their future prospects. Acknowledging these severe consequences directly informs their decision to enforce digital safety protocols, such as setting accounts to private, restricting location tagging, and blocking suspicious profiles (BANK, 2021; Julian & Julain, 2024).

The empirical findings regarding perceived benefits ($r_s = 0.237$, $p = 0.068$) and perceived barriers ($r_s = -0.002$, $p = 0.987$) did not exhibit statistically significant independent relationships with protective behaviors. This suggests that merely understanding the utility of a protective measure (e.g., recognizing that setting accounts to private enhances safety) is insufficient to yield consistent action in the absence of a heightened threat perception (Coulson et al., 2016). The non significant effect of perceived barriers highlights the psychosocial ambivalence inherent to adolescent development. Obstacles such as the desire for online social validation or the difficulty of refusing requests for intimate media (PAP) from close contacts reflect complex relational dynamics. Among 16–17 year olds, peer pressure and the drive for social acceptance frequently conflict with self protection. Consequently, perceived barriers do not directly diminish protective behaviors, rather

they lead to behavioral trade offs where privacy controls are selectively applied depending on context (Hasibuan & Yulia, 2026; Rani et al., 2025).

The simultaneous regression analysis on table 7 demonstrated that the overall HBM model was statistically sound ($F(4, 55) = 4.467$, $p = 0.003$). While individual constructs displayed varying bivariate associations, the combined framework of perceived susceptibility, severity, benefits, and barriers constitutes a robust model for explaining digital protection among female adolescents (Wisudawati et al., 2017). These findings offer practical insights for school based health promotion and reproductive health curricula. Asserting digital privacy and refusing unconsented media requests represent active expressions of bodily autonomy and digital reproductive rights. School reproductive health programs should extend beyond biological topics to integrate digital privacy literacy and corporal integrity in virtual spaces. School interventions must move beyond technical instruction (such as configuring account settings) to target cognitive empowerment fostering realistic threat appraisals and building assertiveness skills that enable young women to confidently establish boundaries in their online social networks (Dungga & Ihsan, 2023; Rismayana & Nurhaedah, 2026; Setyowati et al., 2020).

CONCLUSION

The Health Belief Model provides a valid predictive framework for explaining protective behaviors against Online Gender Based Violence among adolescent girls. Combined, HBM constructs significantly predict protective digital actions. Independently, perceived susceptibility and perceived severity serve as key positive drivers of self protection. Additionally, prior victimization experiences shape defensive behaviors, as affected adolescents adopt stricter privacy safeguards to mitigate ongoing digital risks. This study carries important practical implications for school based health promotion such as reproductive health education should be broadened to encompass digital reproductive rights and virtual bodily autonomy. Educational institutions and health practitioners should implement cognitive behavioral interventions that nurture realistic risk perceptions while strengthening assertiveness to support effective boundary setting.

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