

Internet Behavior and Safety Practices of Senior High School Students

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Abstract

This study examined the internet behavior of Senior High School (SHS) students and the internet safety practices implemented by SHS teachers in Mandaon District, Masbate. Anchored on Lev Vygotsky's Sociocultural Theory, B.F. Skinner's Behaviorism Learning Theory, and Jean Piaget's Cognitive Development Theory, the study investigated the relationship between teachers' internet safety practices and students' internet behavior and served as the basis for developing an action plan to strengthen internet safety practices. A descriptive-correlational research design was employed using a researcher-made questionnaire validated for content and reliability. The respondents consisted of 69 Senior High School teachers selected through convenience sampling from eight public secondary schools in Mandaon District. Data were analyzed using the Weighted Mean and Spearman Rank Order Correlation Coefficient (ρ). The findings revealed that students generally demonstrated moderate internet competence, although responsible online behaviors such as media literacy, fact-checking, and protection of personal information were practiced only occasionally. Teachers consistently implemented internet safety practices in terms of online safety, digital literacy, resources and guidance, safe digital environments, and safe educational platforms. A weak but statistically significant positive relationship was found between teachers' implementation of internet safety practices and students' internet behaviors, indicating that increased teacher involvement is associated with more responsible online behavior. Based on the findings, an action plan was developed to strengthen digital citizenship, teacher capacity, parental involvement, and school-based internet safety initiatives. The study concludes that consistent teacher implementation of internet safety practices contributes to responsible internet behavior among students and recommends strengthening digital citizenship education, standardized teacher training, and collaborative stakeholder participation. The study supports Sustainable Development Goal (SDG) 4: Quality Education by promoting digital literacy and safe learning environments, SDG 3: Good Health and Well-Being by encouraging responsible internet use that supports students' well-being, and SDG 9: Industry, Innovation and Infrastructure through the effective integration of secure digital technologies in education. Its sustainability impact lies in strengthening educational, institutional, technological, and community efforts toward creating safe, inclusive, and sustainable digital learning environments.

Keywords: Digital Literacy, Digital Citizenship, Internet Behavior, Internet Safety Practices, Senior High School Teachers, Students, Sustainable Digital Learning

1. Introduction

The integration of digital technologies has transformed education while increasing concerns about students' online behavior and internet safety. Senior High School (SHS) students face risks such as cyberbullying, privacy breaches, misinformation, inappropriate content, and excessive internet use (Choi et al., 2021; Livingstone et al., 2021; Tang & Hew, 2021; O'Keeffe & Clarke-Pearson, 2020; Barlett et al., 2021). The expansion of online learning during the COVID-19 pandemic further highlighted the need for schools to promote digital citizenship and responsible internet use through competent teachers (Ferri et al., 2020; Trust & Whalen, 2021; Redmond et al., 2020; Ng, 2020). This study examines the role of teachers in promoting internet safety practices and responsible internet behavior among Senior High School students in Mandaon District.

1.1 Background of the Study

Digital transformation has redefined educational practices, making teachers essential in promoting digital literacy, ethical technology use, and safe online behavior (Alqurashi, 2020). UNESCO (2021) emphasizes integrating internet safety into education, while effective implementation depends on teachers' competence in online safety, digital literacy, guidance, safe digital environments, and secure educational platforms (Dizon, 2020; Pabilona & Barrientos, 2021). In the Philippines, the expansion of digital education continues to face challenges such as limited teacher training, technological resources, and digital safety policies (Flores, 2021; Basilaia & Kvavadze, 2020). Effective implementation requires continuous professional development and institutional support (Barrett et al., 2020). Teacher confidence in cybersecurity and digital citizenship also influences successful technology integration (McAfee & Howard, 2020; Kimmons & Veletsianos, 2020;

Yazon and Manuel, 2020). Consequently, this study examines how teachers in Mandaon District promote internet safety and responsible online behavior among Senior High School students.

1.2 Themes and Insights from Related Literature

The literature identifies teachers as key facilitators of digital literacy, cybersecurity awareness, and responsible technology use (Ventista & Brown, 2023; Schneider & Dong, 2024; Núñez-Díaz, 2020; Jalongo, 2021; Sánchez-Cruzado, Campion, & Sánchez-Compa, 2021; Li & Yu, 2022). Although technology enhances learning, it also exposes students to online risks, emphasizing the importance of teacher guidance and balanced instructional practices (Phelps, Kim, & Jimerson, 2024; Jones and Brown, 2020; Scoular, 2020; Fazil et al., 2023). Studies further show that internet behavior influences students' academic performance, mental well-being, and digital responsibility, while teacher competence and professional development contribute to safer online learning environments (Nyarko, 2022; Dewi et al., 2021; Asante, 2020; Rahman et al., 2021; Kotsios et al., 2020; Cvitanić et al., 2021; Zekaj, 2023; Rodriguez-Segura et al., 2020; Mendoza, Yan, & King, 2022). In the Philippine context, research highlights persistent concerns regarding cyberbullying, excessive internet use, limited digital literacy, and inadequate ICT competencies, emphasizing the need to strengthen teacher-led internet safety initiatives (Mascarenas, Dizon, Tamayo, Cruz and Gallarin, 2022; Philippine Institute for Development Studies, 2021; Reblinca, 2024; Gallarin et al., 2022; Llanera and Dela Cruz, 2021; De Guzman, 2022; Lapore and Tomas, 2020; Mangarin and Climaco, 2024; Mendoza & Rivera, 2023; Lanuza and Escalona, 2020; Cadiz-Gabejan, 2021; Javier, 2020; Timbang and Velasco, 2024; Balbagueio et al., 2020). Related studies likewise emphasize that teacher preparedness, digital citizenship education, classroom management, and cybersecurity integration improve students' responsible online behavior and academic outcomes (Maisuroh, Jamil, & Manshur, 2024; Santos Albardía, Peña-Fernández, & Agirreazkuenaga, 2025; Chairez, 2022; Brady, 2024; Barnett, 2023; McDonough, 2024; Liverpool-Morrisa, 2023; Sjöqvist and Sandberg, 2022; Hanaysha, Shriedeh, and In'airat, 2023; Carstens, Mallon, Bataineh, and Al-Bataineh, 2021; Toston, 2021; Ansari and Khan, 2020; Dayagbil et al., 2021; Delima et al., 2022; Tortola, 2024; Barbetta and Morales, 2021; Alvarado, 2024; Tusciano, 2024).

1.3 Local, National, and Global Context

Globally, digital transformation has increased the need for digital literacy, cybersecurity education, and responsible technology use to address online risks among adolescents (UNESCO, 2021; Redmond et al., 2020; Ng, 2020; Jones and Brown, 2020; Fazil et al., 2023; Dewi et al., 2021; Rahman et al., 2021; Kotsios et al., 2020; Cvitanić et al., 2021). Nationally, the Philippines continues to strengthen digital education despite challenges related to ICT infrastructure, teacher preparedness, and students' digital literacy (Philippine Institute for Development Studies, 2021; Reblinca, 2024; Mangarin and Climaco, 2024; Mendoza & Rivera, 2023; Lanuza and Escalona, 2020). Studies also report persistent concerns regarding cyberbullying, excessive internet use, and inadequate online safety awareness among Senior High School students (Gallarin et al., 2022; Llanera and Dela Cruz, 2021; De Guzman, 2022). Locally, this study focuses on Senior High School teachers in Mandaon District, Masbate, examining how their implementation of internet safety practices influences students' internet behavior and supports the development of safer digital learning environments.

1.4 Theoretical or Conceptual Basis

This study is anchored on Lev Vygotsky's Sociocultural Theory (1934), B.F. Skinner's Behaviorism Learning Theory (1938), and Jean Piaget's Cognitive Development Theory (1923). Vygotsky emphasizes that learning occurs through social interaction, highlighting teachers' role in guiding students toward responsible internet behavior (Gowrie NSW., n.d.).⁵³ Skinner explains that positive online behaviors are developed through reinforcement and consistent guidance (National University, n.d.).⁵⁴ Piaget underscores the importance of providing age-appropriate internet safety instruction that matches students' cognitive development (Cherry, 2024).⁵⁵ Collectively, these theories provide the foundation for examining how teachers' internet safety practices influence Senior High School students' responsible online behavior.

1.5 Research Gaps and Rationale

Previous studies have examined students' internet behavior, digital literacy, cyberbullying, and online safety while emphasizing teacher competence and digital citizenship (Ventista & Brown, 2023; Schneider & Dong, 2024; Maisuroh, Jamil, & Manshur, 2024; Santos Albardía, Peña-Fernández, & Agirreazkuenaga, 2025; Tusciano, 2024). However, limited research has comprehensively explored how Senior High School teachers implement internet safety practices across online safety, digital literacy, resources and guidance, safe digital environments, and secure educational platforms, and how these practices influence students' internet behavior. This study addresses this gap by examining teachers' internet safety practices, students' internet behaviors, their significant relationship, and an evidence-based plan of action to strengthen internet safety initiatives in schools.

1.6 Alignment with Relevant Sustainable Development Goals (SDGs)

This study supports SDG 4 – Quality Education by promoting digital literacy, responsible internet use, and safe learning environments through effective teacher practices. It also aligns with SDG 3 – Good Health and Well-Being by encouraging

safe internet practices that protect students' mental well-being and SDG 9 – Industry, Innovation and Infrastructure by supporting the responsible integration of digital technologies and secure educational platforms in education.

1.7 Importance of the Study to Multidisciplinary Sustainability

The study contributes to educational, public health, technological, and institutional sustainability by strengthening teacher competence in internet safety, promoting responsible digital citizenship among students, and supporting the development of effective internet safety programs and policies. These contributions foster safe, inclusive, and sustainable digital learning environments for Senior High School students.

2. Material and methods

2.1 Research Design

This study employed a descriptive-correlational research design to describe the internet behavior of Senior High School students and the internet safety practices implemented by teachers, as well as to determine the relationship between these variables. The descriptive approach was used to present the characteristics of the variables, while the correlational approach examined the degree and direction of their relationship. A researcher-made questionnaire served as the primary data-gathering instrument, and the collected data were analyzed, tabulated, and interpreted using appropriate statistical techniques.

2.2 Locale of the Study

The study was conducted in Mandaon District, Division of Masbate, involving eight public secondary schools offering Senior High School education: Isaac B. Caballero High School, Cabitan National High School, Tagpu National High School, Tumalaytay National High School, Federico A. Estipona Memorial High School, Lantangan National High School, San Pablo National High School, and Cleofe A. Arce Memorial High School. These schools represent different academic and technical-vocational strands, providing an appropriate setting for examining teachers' implementation of internet safety practices. Figure 1 presents the geographical location of Mandaon District, illustrating the study area and the participating schools.

2.3 Respondents of the Study

The respondents consisted of 69 Senior High School teachers from the selected public secondary schools in Mandaon District, Division of Masbate. Teachers were selected because they are directly involved in implementing Senior High School education and are responsible for integrating internet safety practices into classroom instruction. Participation was limited to teachers currently teaching in the Senior High School level and those who voluntarily agreed to participate in the study.

2.4 Sample and Sampling Procedure

The study employed convenience sampling, a non-probability sampling technique in which participants were selected based on their accessibility, availability, and willingness to participate. This method was considered appropriate because of time limitations and geographical considerations. A total of 69 questionnaires were retrieved, yielding an 80% retrieval rate. According to Rahi (2017), convenience sampling involves selecting respondents who are readily accessible to the researcher, while MacNealy (1999) described it as obtaining participants from conveniently available populations. The selected teachers provided information regarding students' internet behaviors and the implementation of internet safety practices within their respective schools.

2.5 Research Instrument

The study utilized a researcher-made questionnaire, which underwent content validation by teachers who were not included among the actual respondents. Table 1 presents the content validity results, showing that the instrument obtained an overall mean rating of 4.88, interpreted as "Very Much Appropriate." The instrument received mean ratings of 4.80 for content appropriateness, 4.90 for terminology comprehensiveness, 4.90 for adequacy of the items, and 4.90 for the appropriateness of the rating scale, indicating that the questionnaire was highly suitable for measuring the study variables. To establish reliability, the questionnaire underwent a two-stage pilot test involving ten respondents. The same instrument was administered twice at a one-month interval, and the responses were analyzed using Cronbach's Alpha. As shown in Table 2, the computed reliability coefficients ranged from 0.85 to 0.89, with an overall Cronbach's Alpha of 0.86, indicating good reliability. These findings confirmed that the instrument consistently measured the intended constructs. The questionnaire consisted of two parts. Part I assessed the observed internet behaviors of Senior High School students using ten indicators. Part II measured teachers' implementation of internet safety practices in terms of online safety, digital literacy, resources and guidance, safe digital environment, and safe educational platforms, and served as the basis for formulating a proposed plan of action to improve internet safety practices among Senior High School students.

2.6 Data Gathering Procedure

Following the approval of the thesis proposal, the researcher secured permission from the thesis adviser and obtained approval from the Schools Division Superintendent before coordinating with the school heads for data collection. The questionnaire was validated, revised, finalized, and reproduced before being distributed to the respondents. The accomplished questionnaires were retrieved after the data collection period, although retrieval extended beyond the intended one-month schedule because of school activities and other institutional concerns. The collected responses were organized, tabulated, and submitted to an expert statistician for statistical analysis. The results were interpreted and used as the basis for the discussion of findings, conclusions, recommendations, and the proposed plan of action.

2.7 Data Analysis Techniques

The collected data were analyzed using appropriate descriptive and inferential statistics. The Weighted Mean was used to determine the level of observed internet behaviors and teachers' implementation of internet safety practices by summarizing respondents' ratings based on the Likert scale. To determine the relationship between teachers' implementation of internet safety practices and students' internet behavior, the Spearman Rank Order Correlation Coefficient (ρ) was employed. This non-parametric statistical technique measured the strength and direction of the relationship between the variables and determined whether a statistically significant association existed between them.

3. Results and Discussion

3.1 Internet Behavior and Safety Practices of Senior High School Students

3.1.1 Observed Internet Behaviors of Senior High School Students

The findings revealed that the overall observed internet behavior of Senior High School students was rated "Sometimes" (composite mean = 3.35). Students consistently demonstrated appropriate screen-time management and respectful online interactions, while behaviors related to media literacy, fact-checking, responsible online participation, and protection of personal information were practiced only occasionally. These results indicate that although students generally exhibit positive internet behaviors, consistent application of safe and responsible online practices remains limited. The findings suggest that students require continuous guidance in digital citizenship, particularly in media literacy, online safety, and ethical internet use. This supports the observation of Liverpool-Morrisa, S. (2023)⁴¹, who emphasized that increased exposure to digital environments also increases adolescents' vulnerability to risky online behaviors, highlighting the need for educational interventions that promote safe and responsible internet use.

3.2 Internet Safety Practices Implemented by Senior High School Teachers

3.2.1 Online Safety

Teachers consistently integrated online safety practices, with an overall rating of "Always" (composite mean = 3.89). They frequently encouraged critical thinking before posting online, emphasized digital footprints, discouraged oversharing of personal information, and taught responsible internet use and awareness of online risks. These findings demonstrate that online safety is regularly incorporated into classroom instruction. The consistent implementation of online safety practices indicates teachers' active role in cultivating responsible digital citizens. These findings agree with Timbang, C. W., & Velasco, M. C. B. (2024)²⁸ and SEAMEO INNOTECH (2019)²⁹, which emphasize promoting digital literacy, responsible online behavior, and mental health support to create safe digital learning environments.

3.2.2 Digital Literacy

Teachers also consistently integrated digital literacy instruction, obtaining an overall rating of "Always" (composite mean = 3.89). The strongest emphasis was placed on protecting students' digital identity and preventing plagiarism, followed by promoting critical thinking, navigating educational platforms, balancing digital and real-world activities, and evaluating online information. These findings indicate that digital literacy is regularly embedded in classroom instruction. The results demonstrate that teachers are equipping students with the competencies needed for responsible and ethical technology use. This supports Martin (2011)⁵⁹, who emphasized the increasing role of technology in education, and Alvarado (2024)⁶⁰, who highlighted teachers' responsibility in promoting digital literacy and ethical technology use.

3.2.3 Resources and Guidance

Teachers consistently provided resources and guidance on internet safety, achieving an overall rating of "Always" (composite mean = 3.90). They regularly reminded students to avoid suspicious links, recognize online manipulation, identify secure websites, and report suspicious online activities. These findings indicate that practical internet safety guidance is consistently reinforced in classrooms. The findings suggest that teachers actively prepare students to recognize and respond to common cybersecurity threats. This supports Ribble & Miller (2013)³¹ and Snyder, S. (2016)³², who emphasized that digital citizenship education should equip learners with the knowledge and skills necessary for safe and responsible participation in online environments.

3.2.4 Safe Digital Environment

The implementation of practices that promote a safe digital environment was consistently rated "Always" (composite mean = 3.75). Teachers regularly promoted respectful online communication, established behavioral expectations, guided students in the responsible use of digital tools, encouraged discussions about online experiences, and fostered supportive online learning communities. These results indicate that teachers effectively create learning environments that encourage responsible digital participation. The findings support Sabado, K. X. (2018)³⁷ and Brady (2024)³⁸, who emphasized that continuous professional development enhances teachers' ability to integrate technology effectively while maintaining safe digital learning environments.

3.2.5 Safe Educational Platforms

Teachers consistently implemented safe educational platforms, with an overall rating of "Always" (composite mean = 3.88). They regularly selected secure learning platforms, modeled responsible platform use, monitored students' digital engagement, promoted balanced online and offline learning, and involved parents in supporting safe internet practices. These findings demonstrate teachers' strong commitment to maintaining secure digital learning environments. The findings highlight that selecting safe educational platforms extends beyond technology management and contributes to student engagement and well-being. This supports Sjöqvist, J., & Sandberg, O. (2022)⁴³, who recognized online learning platforms as essential instructional tools, and Hanaysha, J. R., Shriedeh, F. B., & In'airat, M. (2023)⁴⁴, who found that safe digital platforms positively influence student engagement and academic performance.

3.3 Proposed Action Plan

Based on the findings, a comprehensive action plan was developed to strengthen internet safety practices among Senior High School students. The proposed interventions focus on enhancing critical thinking and digital collaboration, standardizing internet safety resources, strengthening teacher capacity through continuous professional development, integrating digital citizenship into the curriculum, increasing parental involvement, promoting peer-led digital safety advocacy, and implementing regular monitoring and evaluation. These initiatives aim to sustain responsible internet behavior and improve internet safety practices in schools. The proposed interventions emphasize collaboration among teachers, school administrators, parents, students, and other stakeholders to strengthen digital citizenship education and create safer online learning environments. Continuous monitoring and capacity-building are expected to ensure that internet safety practices remain responsive to emerging digital challenges.

3.4 Relationship Between Teachers' Internet Safety Practices and Students' Internet Behaviors

The analysis revealed a weak but statistically significant positive relationship between teachers' implementation of internet safety practices and students' internet behaviors ($\rho = 0.253$, $p = 0.036$). Since the p-value was lower than the 0.05 level of significance, the null hypothesis was rejected, indicating that stronger implementation of internet safety practices is associated with more responsible internet behaviors among Senior High School students. These findings demonstrate that although the relationship is modest, teacher-led internet safety initiatives positively influence students' online behavior. The results underscore the importance of consistently integrating internet safety instruction into classroom practice, reinforcing teachers' role in fostering responsible digital citizenship and promoting safer online engagement among learners.

4. Conclusion & Recommendations

The study found that Senior High School students generally demonstrate moderate to high levels of digital competence, although consistent improvement in critical thinking and responsible online behavior remains necessary. Teachers consistently integrate internet safety practices through online safety instruction, digital literacy, resources and guidance, safe digital environments, and secure educational platforms, contributing to responsible internet use among students. An action plan was developed to further strengthen internet safety practices, and the results revealed a weak but statistically significant positive relationship between teachers' implementation of internet safety practices and students' internet behaviors, indicating that increased teacher involvement is associated with more responsible online behavior.

Schools should strengthen internet safety education by enhancing critical thinking, digital collaboration, and responsible online behavior through consistent teacher implementation of internet safety practices. School administrators should provide standardized training, resources, and guidelines to ensure uniform delivery of internet safety instruction, while digital citizenship education should be integrated across grade levels. Greater collaboration among teachers, parents, guidance personnel, and peer advocates is also recommended to reinforce safe internet practices, and future studies may be conducted in other areas of the province using a larger sample.

The study was limited to 69 respondents from Senior High School in Mandaon District, which may restrict the generalizability of the findings to other schools or locations. It focused only on selected aspects of internet behavior and teachers' internet safety practices using survey responses and did not include other factors that may influence students' online behavior. The sample size and geographic coverage also limit the broader applicability of the results.

Compliance with ethical standards

The author declares no conflict of interest, and this study received no external funding. The study was conducted with the permission and cooperation of the participating Senior High School teachers and the Schools Division of Masbate, with participation being voluntary and informed consent obtained prior to data collection. Data were collected using a non-invasive survey questionnaire, and all responses were treated confidentially, with no identifying personal information disclosed to protect participants' privacy and anonymity.

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