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The rise of nomophobia and its effect on the learning behavior of senior high school students

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Abstract

The rise of nomophobia poses a multi-faceted challenge to the educational and psychological well-being of senior high school students. Thus, this study explores the prevalence of Nomophobia (No-Mobile-Phone Phobia), the anxiety and distress experienced when an individual is unable to use or access their smartphone, among 164 senior high school students in Divine Word College of San Jose and its subsequent impact on their learning behavior and academic performance. Using a descriptive-correlational design and an adapted questionnaire, this study found a high prevalence of severe nomophobia among senior high school students. Contrary to common belief, the same group displayed high scores across key indicators of effective learning behavior, including collaborative learning, task completion, and active classroom participation. Critically, the correlational analysis revealed no statistically significant relationship between the prevalence of nomophobia and any measured criterion of learning behavior. These results challenge the prevailing idea that high phone attachment automatically indicates a decline in academic focus. This study suggests that students may have adopted effective coping strategies to manage their mobile usage without compromising their academic performance. The study recommends further qualitative research into these coping strategies and other factors, such as school policy and parental monitoring, that may mediate the negative educational impact of high nomophobia.

Keywords: nomophobia, learning behavior, mobile phone addiction, senior high school students, academic performance

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1. Introduction

As the Philippine education system innovates and employs new and relevant techniques using smartphones, the internet, and AI, signs of nomophobia have emerged in high school students. Nomophobia, derived from the wordplay NO MO(bile) PHO(ne) (pho)BIA (Yilmaz et al., 2023), is a condition of uneasiness or irrational fear of being unable to use one's smartphone, being disconnected from the Internet, or having a low-battery-charged phone (Dixit et al., 2010). This situational condition arises when a smartphone is detached from its owner in a challenging scenario. As King et al. (2013) stated, "Smartphones play the role of a protective shield when used to avoid direct personal connections." Therefore, social interactions (Bragazzi & Del-Puente, 2014) are often compromised by this condition. This overreliance on smartphones increased one's screen time. It can later lead to nomophobia and can affect students' learning behavior. This can threaten a student's academic performance (Felisoni & Godoi, 2018). Although smartphones have become highly useful, senior high school students face challenges related to their learning behavior due to prolonged smartphone use.

The problematic use of mobile phones significantly influenced students' engagement in schoolwork (Ogbuabor, 2022). As Marsepa et al. (2025) noted, there are adverse effects of students' smartphone use, such as regularly neglecting schoolwork and losing awareness of time when using smartphones for prolonged periods. However, Buctot et al. (2021) suggested that Filipino high school students who used smartphones frequently perceived their academic performance as better. This study focused on the implications of nomophobia for the learning behavior of Divine Word College of San Jose senior high school students, thereby making it more specific and smaller in scale.

Research Objectives - The research objectives for this study were to: (1) determine the profile of Senior High School Students in terms of sex, age, grade level, academic strand, social network sites (SNS) use, and duration of smartphone use; (2) assess the prevalence of nomophobia among senior high school students of Divine Word College of San Jose; (3) determine the extent of learning behavior of Senior High School Students; and (4) determine the significant relationship between the rise of nomophobia and the learning behavior of senior high school students in Divine Word College of San Jose.

Significance of the Study - The results of this study will be greatly beneficial to the following. Divine Word College of San Jose senior high school students will be aware of the effects of nomophobia on their learning behavior. The Divine Word College of San Jose administration and teaching staff will have a clear understanding of the impact of nomophobia on senior high school students' learning behavior. It can implement an intervention program based on the assessed level of nomophobia. The community will have clear knowledge of nomophobia, can dispel myths about phone use, destigmatize the mental health struggles associated with nomophobia, and develop a deeper understanding of students' struggles with phone use. Lastly, future researchers will have a point of reference when undertaking such a study.

Scope and Delimitation of the Study - This study evaluated whether a relationship exists between nomophobia and learning behaviors among Senior High School Students at Divine Word College of San Jose. This study was limited to the currently enrolled 412 Grade 11 and 12 Senior High School Students of Divine Word College of San Jose, A.Y. 2025-2026, at General Lukban St., Barangay 8, San Jose, Occidental Mindoro. This study was conducted during the second quarter period of the first semester of the Senior High School Department. The researcher opted to exclude students with disabilities such as legal deafness, manifesting autism, and diagnosed personality disorders. The researcher also excludes the junior high school population of Divine Word College of San Jose, as this would only lengthen the study duration. Extraneous variables not included in the study are gender,

socioeconomic status, parental involvement, smartphone experience, and academic achievement. The study assessed only the level of nomophobia and did not propose an intervention program. The data gathered from this study informed the development of an intervention program, if applicable.

2. Methodology

Research Design - This research used a quantitative method (descriptive-correlational design) to collect and evaluate numerical data to identify the patterns and correlations within the collected data. Descriptive design was used to determine the profile of senior high school students in terms of age, sex, grade level, academic strand, duration of smartphone use, and social network sites (SNS) use; to assess the prevalence of nomophobia; and to determine the extent of learning behavior of senior high school students. Moreover, a correlational design was used to assess the significant relationship between the rise in nomophobia and the learning behavior of senior high school students.

Respondents of the Study - There were 412 senior high school students currently enrolled in Divine Word College of San Jose. A sample size of 164 was calculated using the Raosoft Sample Size Calculator, with a 5% margin of error and a 95% confidence level. Using the stratified random sampling method based on their grade level, the distribution is as follows: St. Agatha: 13, St. Francis: 13, St. Isidore: 13, St. Angela: 12, St. Louise: 12, St. Matthew: 16, St. Catherine: 17, St. Roch: 15, St. Barbara: 13, St. Teresa: 12, St. Vincent de Paul: 10, and St. Hubert: 18. It allowed the researcher to statistically assess a subset of individuals selected from a large group/population to create a response from the entire group.

Research Instrument - The main instrument for this study was an adapted questionnaire. The first part established the respondents' profiles by identifying their age, sex, grade level, duration of smartphone use, and use of social networking sites (SNS). In the second part, respondents selected the level of perceived prevalence of nomophobia in school. The adapted "Nomophobia Questionnaire (NMP-Q) tool," developed by Yildirim and Correia (2015), was used. The last part assessed the extent of learning behaviors among senior high school students, and an adapted questionnaire, "Learning Behavior Questionnaire in the Classroom" by Wati et al. (2025), was used to collect data. In addition, the adapted questionnaires were validated by three experts from the graduate school department of Divine Word College of San Jose. The experts' comments and suggestions were incorporated into the final versions of the questionnaires.

Data Gathering Procedure - The study was initiated by securing the necessary approvals from the Basic Education Principal and the Senior High School Academic Coordinator to ensure compliance with the school's institutional and ethical protocols. Once approval was granted, informed consent forms containing the Data Privacy statement were distributed to respondents. The researcher handled the distribution and administration of surveys for four nonconsecutive days. All data from completed surveys were carefully collected, coded, and tabulated for statistical analysis to assess the correlation between nomophobia and learning behavior.

Statistical Treatment of the Data - Data was evaluated using both descriptive and inferential statistics. Descriptive Statistics (mean, frequency, and percentage) were utilized to describe the prevalence of nomophobia among senior high school students and students' learning behavior. Inferential Statistics (Pearson's Product-Moment Correlation Coefficient (r)) was used to test the relationship between the prevalence of nomophobia among senior high school students and students' learning behavior. Significance was assessed at the 0.05 level.

Ethical Considerations - This study was conducted to protect the privacy and rights of the respondents as prescribed by the principles outlined in the Belmont Report (National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1979) and the Declaration of Helsinki (World Medical Association, 2013). Informed consent was given to students. The respondent's identities were protected from disclosure by using codes rather than personal names to ensure privacy. Data collected was kept in a secure place, and information shall be used only for academic purposes. Additionally, the Data Privacy Act of 2012 ensured the proper handling of data, including its deletion and modification.

3. Results and Discussions

Table 1
Demographic Profile of the Respondents (n=164)

Demographic Profile		Frequency (f)	Percentage (%)
Sex	Male	67	40.85
	Female	97	59.15
	Total	164	100.00
Age	15-17	152	92.68
	18-20	12	7.32
	BSMA	61	25.96
	Total	164	100.00
Grade level	11	79	48.17
	12	85	51.83
	Total	164	100.00
Strand	STEM	84	51.22
	ABM/BAE	34	20.73
	HUMSS/ASSH	46	28.95
	Total	164	100.00
Social Media Sites	Facebook	11	6.71
	X	0	0.00
	Instagram	16	9.76
	TikTok	38	23.17
	Telegram	9	5.49
	Multiple	90	54.88
	Total	164	100.00

Table 1 presents the demographic profile of the respondents with respect to sex, age, grade level, and social media sites among Senior High School students at Divine Word College of San Jose. The demographic profile of the respondents, by sex, comprised 40.85 percent male and 59.15 percent female. The population of Senior High School Students is predominantly female. By age, the majority (92.68 percent) were aged 15-17, while the remaining 7.32 percent were aged 18-20. As for the grade level, 48.17 percent were grade 11 students and 51.83 percent were grade 12 students, making the sample an almost perfect halfway split. Additionally, within the academic strand or cluster, STEM, comprising 51.22 percent, has the largest share of responses because it has the largest population in the department; HUMSS/ASSH, which has 28.95 percent, and ABM/BAE, which has the smallest population in the department, comprise 20.73 percent. ABM/BAE has the fewest respondents, with only two sections, whereas the other two strands have four to six sections. As Malaguial et al. (2023) stated, most students prefer the STEM strand because of greater personal interest and because it can lead to more job opportunities and positions with higher socioeconomic value. In terms of social media sites used, most of the respondents, 54.88 percent, used multiple social media sites, followed by TikTok having 23.17 percent of users, then by Instagram having 9.76 percent of users, Facebook having 6.71 percent of users, Telegram having 9.76 percent of users, and finally, the study did not yield any response from users who solely use X, formerly Twitter. TikTok, the most recently developed application in the selection, yielded the highest number of solo users, as Xu et al. (2019) argue that TikTok became popular due to its diverse marketing strategies, advanced artificial intelligence, and its ability to meet user needs.

Table 2
Profile of the Respondents in terms of Duration of Phone Usage per Hour

Time of Use		Frequency (f)	Percentage (%)
During Class	<=3hrs	151	92.07
	>3hrs	13	7.93
Before Class	<=3hrs	131	79.88
	>3hrs	33	20.12
After Class	<=3hrs	68	41.46
	>3hrs	96	58.54
Upon Waking Up	<=3hrs	155	94.51
	>3hrs	9	5.49

Before Going to Sleep	<=3hrs	73	44.51
	>3hrs	91	55.49
During Study Hours	<=3hrs	139	84.76
	>3hrs	25	15.24
During Free Time	<=3hrs	49	29.88
	>3hrs	115	70.12
	Total	**164**	**100.00**

Table 2 presents the demographic profile of the respondents in terms of duration of phone usage per hour of the Senior High School Students in Divine Word College of San Jose. A large majority of respondents (92.07%) used their phones for 3 hours or less during class time. Only 7.93% of participants used their phones for more than 3 hours. Students are more focused on learning than on their phones during class. Most respondents (79.88 percent) used their phones for 3 hours or less, while 20.12 percent used their phones for more than 3 hours before class. Although most limit their pre-class phone use, a fifth of respondents use their phones. A majority (58.54%) use phones after class for more than 3 hours, whereas 41.46% limit their phone use to 3 hours or less. Respondents have more time on the phone immediately after class. Predictably, the vast majority (94.51 percent) use their phones upon waking, while 5.49 percent use them for more than 3 hours. Phone use upon waking is typically a glance, not a sustained period. A majority (55.49 percent) use phones before going to sleep for more than 3 hours, whereas 44.51 percent limit their phone use to 3 hours or less. Similar to the results from phone use after class, extended phone use before going to sleep increases, as students use phones for entertainment or communication to lull themselves to sleep. However, disconnecting from social media and phone use affected people's physical health, with sleep and physical rest being critical (Nguyen, 2021). As expected, 84.76 percent use phones for less than 3 hours during study hours, while 15.24 percent use their phone for more than 3 hours. Students successfully limit their phone use and remain focused during study sessions. As Nguyen (2021) stated, reducing social media use helped students be more productive during activities and at work and more mindful of the task at hand. Lastly, a minority (29.88 percent) use their phones during free time, while 70.12 percent use them for more than 3 hours. Notably, free time is the primary opportunity for prolonged heavy phone use.

Table 3 presents the mean prevalence of nomophobia among Senior High School Students at Divine Word College of San Jose. The overall mean score is 2.83, indicating a high level. There is a high level of nomophobia in senior high school students. Senior high school students might experience anxiety or discomfort when unable to access their phones. The majority of indicators displayed a High level, the highest with a weighted mean of 3.24 being Indicator 7: "If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network," or connectivity fear. Maintaining stable online access is a key concern for students. As Anastasya et al. (2022) stated, internet use becomes more consistent in adulthood. The individuals would explore and experiment online by trying new things or having new experiences. Only two indicators fell into the Low category, the lowest being Indicator 11: "I would be nervous because I would be disconnected from my online identity," with a weighted mean of 2.31. The student's online identity was the least concerning factor. This contrasts with the study by Huang et al. (2021), in which people tend to use the ideal self and the ought self as self-guides to regulate their behavior. This self-discrepancy can be addressed through a reconstruction of one's online persona.

Table 3
Mean Level of Prevalence of Nomophobia

Indicators	Weighted Mean	Interpretation
1. I would feel uncomfortable without constant access to information through my smartphone.	3.02	High
2. I would be annoyed if I could not look up information on my smartphone when I wanted to do so.	2.91	High
3. Being unable to get the news (e.g., happenings, weather, etc.) on my smartphone would make me nervous.	2.83	High

4. I would be anxious if I could not use my smartphone whenever I wanted to do so.	2.98	High
5. Running out of battery in my smartphone would scare me.	2.85	High
6. If I were to run out of credits or hit my monthly data limit, I would panic.	2.45	Low
7. If I did not have a data signal or could not connect to Wi-Fi, then I would constantly check to see if I had a signal or could find a Wi-Fi network.	3.24	High
8. If I could not use my smartphone, I would be afraid of getting stranded somewhere.	3.09	High
9. If I could not check my smartphone for a while, I would feel a desire to check it.	2.95	High
10. I would feel nervous because I would not be able to receive text messages and calls.	2.76	High
11. I would be nervous because I would be disconnected from my online identity.	2.31	Low
12. I would be anxious because I could not keep in touch with my family and/or friends.	3.02	High
13. I would be uncomfortable because I could not stay up-to-date with social media and online networks.	2.55	High
14. I would feel uncomfortable because I could not check my notifications for updates from my connections and online networks.	2.66	High
15. I would feel anxious because I could not check my private messages or group chats.	2.80	High
OVERALL MEAN	2.83	High

Legend: 3.26 – 4.00 Very High, 2.51 – 3.25 High, 1.76 – 2.50 Low, 1.00 – 1.75 Very Low

Table 4 presents the mean level of learning behavior among Senior High School students at Divine Word College of San Jose. The overall mean score is 2.77, indicating a high level. Senior high school students have a high inclination toward traditional, in-person, and teacher-led learning behaviors. Students were also aware that smartphones have disruptive roles in education. Indicator 5, "I enjoy group work with classmates inside the classroom rather than virtually," was the only indicator rated Very High, with a weighted mean of 3.43. Students exhibited a strong preference for in-person or face-to-face classes. Students valued face-to-face instruction, in-person class discussions, and organic bonding (Singh et al., 2021). The majority of the indicators fell into High, suggesting a strong preference for structured and in-person learning. Students highly valued learning in a physical classroom and teacher guidance (Indicators 1, 4, and 5). They were likely to regulate their phone use and to cultivate mindfulness and awareness in the classroom (Indicators 3, 6, 13, 15). Face-to-face interaction and participation had a better motivating effect on students than online teaching (Marco-Fondevila et al., 2022). Two indicators scored Low, Indicators 7 and 8. Students are least likely to study independently without the use of internet-connected devices. As supported by Vu et al. (2023), in the digital environment, knowledge is readily accessible, and those with stronger self-learning competence can acquire it more quickly.

Table 4

Mean Extent of Learning Behavior of Senior High School Students

Indicators	Weighted Mean	Interpretation
1. I learn more from teachers than from the Internet.	2.96	High
I find that using smartphones during face-to-face sessions in class is not useful for my learning.	2.56	High
I believe that using smartphones during class distracts my learning.	2.96	High
I can learn more by sharing ideas with other friends in class rather than in online chats.	3.23	High
I enjoy group work with classmates inside the classroom rather than virtually.	3.43	Very High
I prefer school subject matters to be announced during school hours rather than in chat messages during outside school hours.	3.12	High
I study most of the subject matter myself without the use of my smartphone or gadgets.	2.39	Low
I study most of the subject matter myself without the Internet.	2.18	Low
I am interested in developing ideas about the subject matter taught by the teacher in class rather than looking up the ideas online.	2.84	High

I fully participate in all of my daily subjects without the help of my smartphone.	2.60	High
After school, I immediately finish the school assignments given by the teacher without any form of distraction from my smartphone.	2.47	High
I do not feel the need to use my smartphone to compete with other students for good grades.	2.77	High
I take notes on the lecture the teacher displays on the TV. rather than taking a picture of it.	2.68	High
I prefer to be closely supervised by the teacher when doing schoolwork so I am not distracted by my smartphone.	2.82	High
I often sit where the teacher can see if I am using my smartphone.	2.59	High
OVERALL MEAN	2.77	High

Legend: 3.26 – 4.00 Very High, 2.51 – 3.25 High , 1.76 – 2.50 Low, 1.00 – 1.75 Very Low

Table 5 presents the results of the correlation analysis between the two variables: the prevalence of nomophobia and learning behavior. As shown in the table, the correlation coefficient (*r*) is 0.034, which is extremely close to zero. This indicates a very weak, positive linear relationship between the prevalence of nomophobia and the learning behavior of the senior high school students. A positive correlation means that as the level of Nomophobia increases slightly, the level of the measured Learning Behavior also increases slightly; however, the effect is nonexistent. The *P*-value is 0.666. In hypothesis testing, if the *P*-value is greater than the significance level, the null hypothesis cannot be rejected. Since 0.666 > 0.05, the relationship between the two variables is Not Significant. This is further supported by the t-value of 0.433, which is much smaller than the Critical Value of 1.975. Although there is no significant correlation between the two variables, it is necessary to inform students that learning suffers when a smartphone is used in class and to raise awareness of how one's phone use may adversely affect other students' learning. Educators must know when attention during lectures decreases so that they can prepare their lessons accordingly (Mendoza et al., 2018).

Table 5
Correlation Coefficients and p-values for H_0

Variables	Correlation Coefficient	Effect Size (r^2)	Critical value	t-value	*P-value*	Interpretation
Prevalence of Nomophobia → Learning Behavior	0.034	0.001	1.975	0.433	0.666	Not Significant

Legend: p-value < 0.05 Significant

4. Conclusions and Recommendations

Based on the research findings, the following conclusions were drawn. The majority of the respondents from the Senior High School Students were females of ages ranging from 15-17 who came mainly from the Grade 12 STEM strand/cluster who use multiple social media sites upon waking up for less than 3 hours a day. Senior high school students have high levels of nomophobia, and they also displayed a greater preference for in-person classroom learning and teacher-led instruction with little to no phone usage. Therefore, there is no significant relationship between the prevalence of nomophobia and learning behavior.

Regarding the findings and conclusions, the following recommendations are provided. A larger sample, including junior high school students, can be studied to yield more reliable results. Educators can promote adequate digital literacy, awareness of the adverse effects of smartphone addiction, and appropriate phone use. Even though there is no significant relationship between the two variables, it is important to note that nomophobia, in fact, is associated with mental health problems, such as higher stress, anxiety, irritability, sleeplessness, and depression, so schools and parents can integrate planned "no phone breaks" for students' mental health and productivity. Schools may prioritize in-person collaborative activities and promote a low-stakes accountability culture among students. Future researchers can further explore the coping mechanisms of students with high nomophobia and their learning behavior.

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