Pakistan Journal of Life and Social Sciences
www.pjlss.edu.pk

https://doi.org/10.57239/PJLSS-2025-23.1.00330

RESEARCH ARTICLE

Assessing Cyber-Syndrome Manifestations in a Rural Higher Education Institution in the Philippines

Vincent M. Clores[1], Wilfred C. Pagorogon[2], Novy R. Clores[3]

[1,2,3]Dr. Emilio B. Espinosa, Sr. Memorial State College of Agriculture and Technology (DEBESMSCAT)

ARTICLE INFO

Received: Jan 16, 2025

Accepted: Mar 1, 2025

Keywords

Ict Gadgets Engagement

Cyber Syndrome

Protocols

***Corresponding Author:**

vince_clores@yahoo.com

ABSTRACT

The pandemic marked people's heavy engagement with gadgets and cyberspace, which could lead to a cyber-syndrome case. This study assessed 273 students and 56 Higher Education Institution (HEI) personnel in a public institution during the school year 2022 – 2023 in the Province of Masbate, Philippines, to determine if there are manifestations of cyber syndrome among them. The study used a cross-sectional survey, interview, and FGD.

Analysis of the group responses revealed that along the "Interaction with Cyberspace" component, cyberspace engagements occur at home, in school, and transit and are categorized under “Unsafe Use”.Along the “State of Lack” component, the severity and frequency of feelings of anger, frustration, and depression were high. Along the “Tolerance” component, both respondent groups manifested normal behavior. For the “External Consequences” component, irregular sleep and lack of interest in physically interacting with friends and relatives manifested.

Regarding the physical effects of cyberspace engagement, back pain, neck pain, carpal tunnel syndrome, and dry eyes registered a high level of seven. Of the reasons for social media posting, "Information that will Benefit or Inspire Others” is the most frequently shared. No significant difference was found between the personnel and student ICT engagement and their respective physical and behavioral conditions.

The HEI administration may proactively use preventive protocols to address early manifestations leading to cyber-syndrome. While the truthfulness and accuracy of the responses were observed through triangulation measures, it is recommended that a health expert's analysis and interpretation of the results be sought.

INTRODUCTION

Health professionals may have experienced some respite due to the dwindling active COVID cases; however, cases of psychological disorders caused by the virus (Salari et al., 2020) may be vastly underreported. Psychological disorders are classified as Non – Communicable Disease (NCD) and Mental Health (MH) Samonte, De Guzman, and Gonzales (2020). Possible causes of underreporting may range from complacency among the afflicted and the family due to lack of awareness (Gulliver, Griffiths & Christensen, 2017), resorting to home care or healers due to

cultural beliefs (Kohrtand Mendenhall, 2015) which is prevalent in rural areas, no easily accessible medical facility and lack of money for hospitalization, and the stigma (Clement et al., 2015)it will bring to the afflicted. For those who possess heightened awareness of physical and mental health preservation, this has become possibly the most looked ataspect of a person's life in this post-pandemic time.

During the onset of the pandemic, the main focus is on physical health, as severely ill patients come in large groups to seek immediate medical attention. When the spread of the virus was controlled, the focus shifted to patients recuperating from the disease and those manifesting varied forms of psychological disorders. However, the dearth of mental health professionals, particularly in rural areas,requires sufferers to shell out hefty amounts of money to seek medical intervention in major cities. Going to major cities is oftenbeyond the financial reach of those afflicted. Instituting preventive or proactive measures is always the best option in all situations.

Since mental health preservation requires a multi-sectoral approach, higher education institutions (HEIs) can contribute through educational information campaigns led by their respective health services unit or infirmary. One focus area could be assessing manifestations of cyber syndrome among students and personnel.

Ning, Dhelim, Bouras, Khelloufi, and Ullah(2018) describe cyber-syndrome as the physical, social, and mental status that affects a person due to excessive interaction and regular connectivity with cyberspace. DataReportalwebsite has shown that the Philippines has an internet penetration rate of 73.6%, and the largest user group is the youth (We Are Social & Meltwater, 2024), which includes students pursuing college education who need good internet access. While internet access brings in so many benefits to HEIs and the community, its potential to cause cyber-syndrome affliction is ever-present.

Among the common pastimes during the heat of the pandemic is using ICT gadgets to socialize with friends and distant family members. The internet, therefore, has become the main avenue to at least have virtual interactions since many missed in-person interactions during the lockdown (Shir-Wise, 2020) despite having more free time.

It was also observed that due to the lockdown, adults, including those not so adept in ICT and social media, and children alike were somewhat forced to use ICT gadgets and interact with various apps for leisure or under a work-from-home or study-from-home scheme. Those who were psychologically disturbed by news flashed on TV found that internet media interaction provided them the option to shun content that they find mentally disturbing.

Web-based activities range from playing online games with friends, watching videos, engaging in social media activities, chatting, engaging in online gambling, and even watching pornography. Experts remark that if these activities are done in moderation, then these could be an excellent avenue to destress and, thus, a positive contributor to mental health by their ability to bridge the physical and social activities that were not made possible during the pandemic. One study in Israel, however, noted that online activities as a substitute to in–person activities areinsufficient (Cohen-Mansfield, Muff, Meschianyand Lev-Ari, 2021). Engaging in web-based activities, however, is probably better than nothing at all, especially during those uncertain times when even the experts have mixed answers on whether the pandemic will end or not and whether the virus will be here to stay with humanity.

With ICT and the internet being the convenient go-to leisure option or the *metaverse*without leaving the household or a bedroom, the risk of amplifying the already existing physical and

psychological issues (Yasuda, 2024) associated with too much ICT and web exposure as a replacement for real and human contact (Hulsen, 2024) is evident. This situation, however, introduced them closer to potentially addictive apps and gadget use that may cause psychological disorders if moderation of use or engagement is not seriously considered, i.e., cyber-syndrome. Some individuals see the web as an avenue to fake things or lie about their true conditions. In their case report, Ayyer and De Sousa (2014) highlighted internet use by some people as an avenue for them to get love and attention along with empathy. Some people feign helplessness and illness to seek empathy and pledges of support, thus a manifestation of a variant of Munchausen syndrome, according to the authors, that manifests through the internet. These two scenarios indicate that internet use is a double-edged sword, as people can use or misuse it.

Since cyber-syndrome is a mental health concern, it is imperative to find ways to address early manifestations so that it will not worsen. For individuals already manifesting this health concern, interventions from the organization or sector where they belong, experts, and family members may be necessary.

The rural area residents, particularly those in island barangays and mountainous locations, usually have some breathing space due to the distant location of houses or difficulty in getting to the island by people in major cities with high infection rates. They even became envious among city dwellers, former rural residents who moved to the cities due to work demands, and family members who yearned for solitude with nature as a coping alternative (Dushkova et al., 2022) due to the mental stress that the pandemic brought. For the students, Trevino, Monsur, Lindquist, and Simpson (2022) found that going outdoors and interacting with nature lessened the severity of depression, anxiety, and stress during the pandemic; however, it was observed that during the onset of the pandemic, this was not possible for others who have nowhere to go due to cramped settlements and strict lockdown protocols, unlike the rural and remote area dwellers. The downside, however, in these remote locations is the absence of ICT and electrical power that can facilitate their communication with relatives stuck in major cities due to mobility restrictions, thus possibly resulting in another form of mental stress.

Due to the usual unavailability of provincial and rural data that could aid national-level authorities in decision-makingdue in part to the decentralization of government services through devolution to local governments, this work brings to the national setting the prevailing conditions of rural HEI personnel and students with respect to early detection and mitigation of cyber – syndrome. Liwanagand Wyss (2020) found that differences in health decision-making preferences exist, i.e., whether to shift away from local politicians or – re-centralize. They suggested instead that devolution should still be maintained but with a revitalized role for the central level to maintain oversight over localgovernments and regulate their decision-making for the functions. Hopefully,this work can contribute to formulating inclusive, holistic, and proactive measures to detect possible cases of cyber–syndrome among HEI personnel and students and mitigate them.

METHODOLOGY

Two hundred seventy-three students and the 56 HEI personnel (both teaching and non–teaching) were tapped as study respondents. The researcher–developed questionnaire, which contained sections derived from the four cyber-syndrome components and their corresponding interpretations presented in the work of Ning et al. (2018), was utilized after it was subjected toface and statistical validity and reliability test with a Cronbach Alpha of 0.81.

Descriptive statistics and interviews with selected respondents facilitated the analysis of the data. Implications drawn from the data analysis results were then compared to the different stages of cyber–syndrome formation, physical, mental, and `social effects alongside their corresponding interpretation (Ning et al., 2018). Finally, the general situation of the HEI for possible cyber – syndrome affliction was derived from the implications. This facilitated the formulation of the conclusion and recommendations.

Ethical considerations were observed in this study regarding the respondent's decision to participate or not, the non-disclosure of personally identifiable information, prior consent during the FGD session voice recording, and the use of anti-plagiarism software.

RESULTS AND DISCUSSION

Profile of the Respondents

The student-respondents were in the 18 – 25 age bracket; 54% are female, 32% are male, 13% belong to the SOGIE group, and 1% do not want to disclose their gender orientation. As to residence, 43% came from the 2nd district, 36% were from the 3rd district, 16% were from the first district of Masbate, and 5% came from neighboring provinces.

The personnel respondents are in the 30 to 63 years old age bracket; 44% were male, 51% were female, and 5% belonged to the SOGIE group. Regarding work tenure, 46% of the personnel – respondents are under contract of service, while 54% hold a permanent position. The permanent personnel respondents are either unit heads (13%), middle managers (13%) or do not hold any administrative designation (74%). As to residence, 46% came from the 2nd district, 42% from the 3rd district, and 10% from the 1st district of Masbate and 2% from the neighboring provinces. As to their work assignment in the institution, 72% of the personnel – respondents are from the teaching group, while 28% are from the non–teaching group.

Components for Identifying Cyber-syndrome Cases

Four components identified by Ning et al. (2018) were used to assess the manifestation of cyber-syndrome affliction, namely: (1) Excessive Interaction with Cyberspace, (2) State of Lack, (3) Tolerance, and (4) External Consequences and the corresponding interpretation of each were used as a basis in this study.

Interaction with Cyberspace. Figures 1 and 2 show that students' and personnel's purposes when using ICT gadgets and interacting with cyberspace are mainly school-related and work-related, respectively. Students spend 3 – 6 hours per day on their gadgets and cyberspace, while the teaching and non–teaching personnel register an average of six hours and eight hours, respectively.

Most students' engagement hours happen during class breaks and in their respective boarding houses or homes. Actual observation done by the researchers on students revealed that they are often hooked to their gadgets while in groups with friends or relaxing alone during class breaks. Intense use of gadgets was also noted in boarding houses and near Wi-Fi sites familiar as *Piso Net* installations. These observations correspond to 90% of the respondents saying they engage intensely while at home/boarding houses. Eighty percent of them also engage intensely while at school. Additionally, 18% said they engage with their gadgets in a transport system, such as in

buses and vans. The only limiting factor, however, is their financial capability and the chronic electrical power shortages prevailing in the locale.

For the personnel, cyberspace engagement happens during work hours from 7:30 AM to 5:00 PM from Monday to Friday. Seventy-six percent of them own a laptop and 100% own at least one smartphone. Succeeding interviews with the personnel-respondents revealed that their cyberspace interaction at home became the replacement pastime when the government shut down one of the country's major TV stations; thus, they logged an average of three additional hours of cyberspace interaction to access daily news, engage in social media and conduct online research activities usually after dinner. The connection is intermittent due to the still poor internet services in the province.

For the personnel, an average of 3 – 5 hours was noted in the faculty group, while an average of 4 – 6 hours was noted in the non–teaching group during the working period of 7:30 AM—5:00 PM from Monday to Friday.

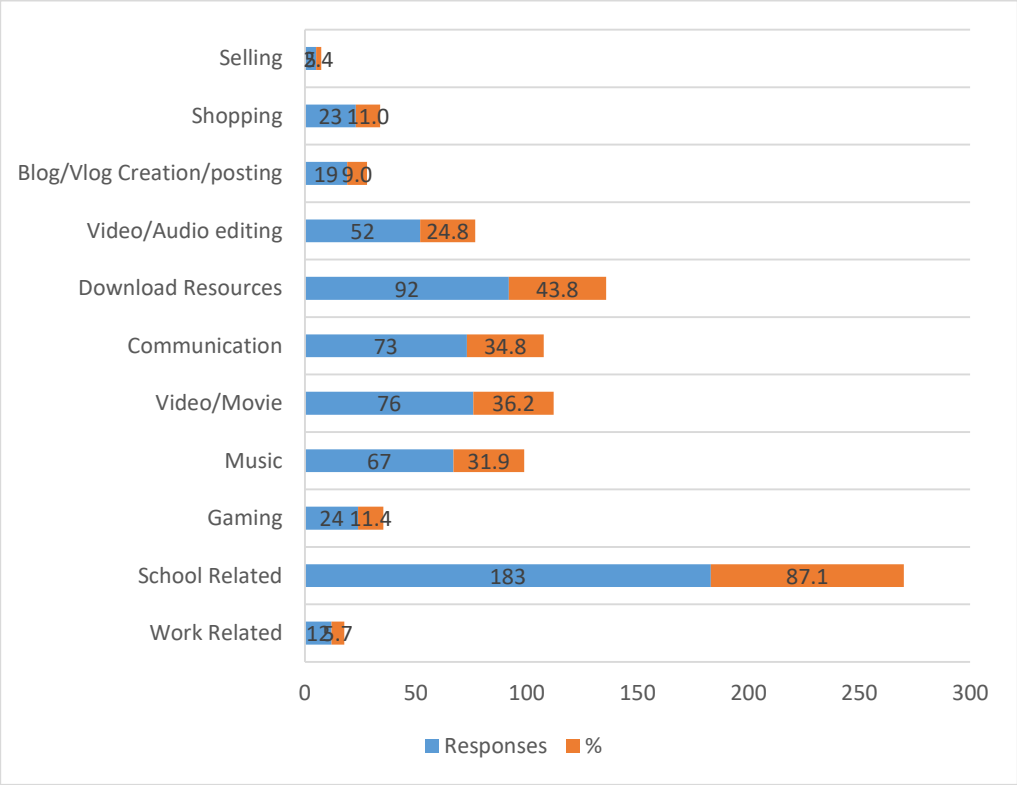

Figure 1

Purpose of use of Students of their ICT gadgets and Web Resources

Analyzing the cyberspace access time of both groups using the formation stages of cyber – syndrome, namely Moderate Use, Unsafe Use, Cyber Addiction, and Cyber-syndrome (Ning et al., 2018), the respondents' access the cyberspace at least 3 – 6 hours per day. It was also revealed that even without data access load in their smart devices, they are still hooked to cyberspace in anticipation of chat messages that could still reach them since Telcos now grants free chat messaging to its subscribers. This affordance keeps them awake late at night, chatting with friends and loved ones. While intense chatting sessions were not specifically identified under any of the formation stages of cyber–syndrome, the habit can potentially place the respondents in the "Unsafe Use" level.

In terms of connectivity to the Internet, the presence of several Piso Net installations has provided the respondents convenient access to cyberspace compared to the pre-pandemic period. For the personnel, the internet connectivity provided by the HEI in their office or in the classroom and while they are in their homes provides ample time to access cyberspace; thus, the personnel has far freer (while in the office), easier and more convenient access to the internet than the students.

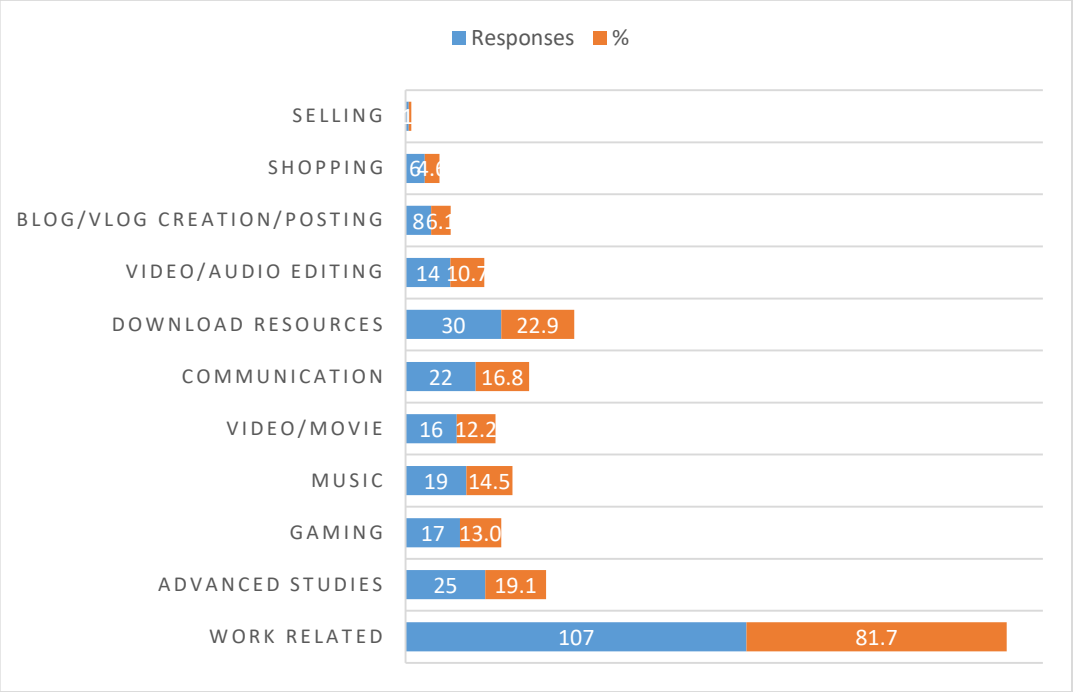

Figure 2

Purpose of use of Personnel of their ICT gadgets and with Web Resources

State of Lack. Ning et al. (2018) describe the state of lack as an unpleasant sensation felt when access to technology and cyberspace is not possible.Table 1 shows that Anxiety, Anger, Frustration, Depression, and Sadness(Severity level = 7; Frequency experience with an average of level 6) affected the student-respondents. Analysis of the situation of the locale and interviews with some respondents revealed that the rural setting hampered them from availing conveniently other forms of entertainment or recreation available in urban areas; thus, interacting with cyberspace is the best alternative. Cyberspace interaction means they can see entertainment trends, world events, new products, new places, and other interesting information at least virtually while at school and in their boarding houses or dorms. The new social interaction dynamics brought by the pandemic made people resort to cyberspace; thus, the urge to go online became more ingrained in the present lifestyle of most people. The situation brought them closer to potential mental issues such as cyber-syndrome. These results imply that the state of lack is above the average level of five, thus the need for outdoor physical activities with family or friends to limit cyberspace engagement as a preventive measure.

Table1

Feelings Experienced by Student–Respondents during Absence of Access to Web Resources

Feelings	**Percent of Responses**		

	Did Not Experience at all	**Experienced to some Level**	**Severity of the Experience (Mean)***	**Occurrence of Experiences (Mean)***
Sadness	26%	74%	6	6
Anxiety	18%	82%	7	6
Irritability	12%	88%	5	5
Boredom	12%	88%	5	7
Anger	29%	71%	7	6
Frustration	25%	75%	7	7
Depression	35%	65%	7	6
Others	2%	98%	5	4

*** Scale of 1 – 10 with 10 as the highest and one as the lowest level; Means are rounded off**

The personnel – respondents manifested Anxiety and Angerwith a severity level of seven and a frequency of six, as shown in Table 2.Interviews with selected respondents revealed that anger and anxiety set in if there are urgent calls for report submission while the internet services are down. Some respondents also revealed that failing to watch essential world events and news right away affects their mood. This situation implies a non–worrisome level that requires preventive intervention measures such as providing an alternative internet connection to complete online submissions on time. The present connectivity status, however, is also gravely affected by the intermittent electrical power supply in the province.

Table 2

Feelings Experienced by personnel – respondents during Absence of Access to Web Resources

Feelings	**Percent of Responses**		**Severity of the Experience (Mean)***	**Occurrence of Experiences (Mean)***
	Did Not Experience at all	**Experienced to some Level**		
Sadness	26%	74%	4	4
Anxiety	18%	82%	7	6
Irritability	12%	88%	4	4
Boredom	12%	88%	5	4
Anger	29%	71%	7	6
Frustration	25%	75%	4	4
Depression	35%	65%	4	3
Others	2%	98%	3	3

*** Scale of 1 – 10 with 10 as the highest and one as the lowest level; Means are rounded off**

Phubbing is described as the strong tendency to glance at the gadget frequently to check if there are new online activities/notifications while doing other activities, thus a manifestation of the state of lack. Analysis of the data presented in Table 3 revealed that student - respondents registered a severity within the range of 5 - 7 and a frequency of the experience within the range

of 7 – 9. Interviews with the respondents regarding this compulsive behavior revealed that the intense need to keep in touch with their friends virtually and being a member of several group chats were the primary culprits. This implies that they are distracted by virtual connections while engaged in meaningful tasks.

Table 3

Phubbing Experience by Student - respondents

Phubbing Instances	**Percent of Responses**		**Severity of the Experience (Mean)***	**Occurrence of Experiences (Mean)***
	Did Not Experience at all	**Experienced to some Level**		
Conversation with Anyone	19%	81%	5	8
While Driving or while in Transit	21%	79%	6	7
While in Meetings	34%	66%	7	9
During Class Activities	20%	80%	5	9
Others	0%	0%	-	-

*** Scale of 1 – 10 with 10 as the highest and one as the lowest level; Means are rounded off**

In the case of the personnel, Table 4 shows a range within or slightly above the average level in terms of severity and frequency. Interviews with them revealed that the younger age bracket has experienced higher levels of phubbing compared to their older counterparts. The cause is heavy engagement with social media and online shopping/business. At work, they tend to frequently glance at their gadgets when expecting replies from connections, while holding classes, and during meetings when their phones are set to silent mode and placed on the table or their bags. This implies a non–worrisome level requiring minor personal adjustments.

Table 4

Phubbing Experience by Personnel - respondents

Phubbing Instances	**Percent of Responses**		**Severity of the Experience (Mean)***	**Occurrence of Experiences (Mean)***
	Did Not Experience at all	**Experienced to some Level**		
Conversation with Anyone	19%	81%	5	4
While Driving or while in Transit	21%	79%	5	5
While in Meetings	34%	66%	6	6
During Class Activities	20%	80%	6	6

Others	0%	0%	-	-

*** Scale of 1 – 10 with 10 as the highest and 1 as the lowest level; Means are rounded off**

Tolerance.Ning, et al. (2018) describes tolerance as the need to increase quantities or durations to achieve the same effects in short time which will lead to complete or partial ignorance of surrounding environment. Analysis of the gadgets used by the respondents revealed that 100% of the students own at least one smartphone, while only 12% own a laptop aside from a smartphone. In the case of the personnel, 92% of the teaching – personnel own a laptop, 3 % own a tablet and at least one smartphone, while all non–teaching personnel own at least one smartphone. Additionally, they also use the school–owned computers issued to them at work and at home. Interviews with the respondents revealed that they only decide to buy a new unit if the present unit becomes defective. It was also revealed that both groups replace old smartphones within 3 – 5 years of use, which is well within the useful lifespan of electronic devices. The same is true for laptop users. Asked about their desire to acquire multiple gadgets at the same time, both groups cited budgetary constraints and practical use as the reasons for purchase decisions; thus, they said that they prefer to have one laptop and two smartphones. Asked about the reason for having two smartphones, both groups cited the convenience of using features not present in the other unit as the main reason. Along with App purchases, students and personnel resort to using pre-installed and free apps on their devices. Faculty – researchers purchase apps for research purposes, such as statistical and grammar-checking apps. Overall, the analysis of tolerance did not show any practice that could be considered off with practical use.

External Consequences

Ning et al. (2018) describe external consequences as a manifestation of loss of interest in previous hobbies and or meaningful relationships, work or marriage problems, and spending more time plugged into cyberspace rather than actual interaction with friends and family members.

Effect of Web to Oneself

Table 5 lists the effects of Web to Oneself involving sleep experience and loss of interest in social activities that cyberspace engagement could bring about.Data shows that 61- 91% of the student–respondents experienced them with a degree of severity within levels 5 – 9. Sleep disturbance and loss of interest in study, friends, and family were prevalent, with frequency levels from 6 - 9. Using Ning et al.(2018) stages of cyber-syndrome formation, this situation is classified under the "Unsafe Usage" stage, considering that the severity and frequency of experience is higher than the average level of five, which is the moderate level. Asked about their lack of time with family and friends, they often use cyberspace as a convenient replacement for most gatherings needing actual presence.

Interviews with the student respondents revealed that this is because most of them have intensified use of gadgets at night while lying in bed. This is also the time when they find it relaxing and engaging to use their gadgets with friends and some family members. They further added that, most often, their engagement is so heavy that they tend to lose track of time. These experiences agree with some literature stating that the bright cellular phone screen tends to inhibit sleep for intense users. Additionally, while most said that their sleep is irregular or somewhat disturbed, the severity level of those who said that they lack sleep falls to level 5 and has the same level of frequency as well, which could be interpreted as moderate.

In the case of personnel respondents, the security level in all of the listed effects only reached level 4 in terms of severity. Along with irregular sleep, hobbies, meaningful relationships, and

time with sports, a frequency level of 8 was noted. As expected, there was a notable decrease in the frequency of sports engagement as the age brackets grew older.

In terms of loss of interest in common activities, it was found that time with sports activities got the highest severity level of 8 while study time family with got the second highest frequency of 7. Interviews with some of the student - respondents revealed that engaging actively in sports has been substituted with online engagement, which is more convenient and less physically draining. They also stated that engaging in online activity such as gaming has a noticeable effect in decreasing their desire for serious study. Time engaging physically with family members, such as long conversations, meal time, and outdoor activities, was also replaced by ICT gadget engagement.

Table 5

Effect of Web on Oneself as Experienced by Student-Respondents

Effect	Percent of Responses		Severity of the Experience (Mean) ***	Occurrence of Experiences (Mean)****
	Did Not Experience at all	Experienced to some Level		
Irregular Sleep/ sleep disturbance	14%	86%	9	8
Lack of Sleep	14%	86%	5	5
Loss of Interest in the following:				
Hobbies	25%	75%	5	8
Meaningful Relationship	30%	70%	5	8
Work*	9%	91%	6	6
Study	19%	81%	7	7
Married Life**	22%	78%	6	5
Time with friends				
Time with family	18%	82%	7	6
Time with sports activities	21%	79%	7	7
Others (do not like to disclose details)	29%	61%	7	8
	98%	2%	9	9

***Working Student Only **Married Students Only**

***** Scale of 1 – 10 with 10 as the highest and 1 as the lowest level; Means are rounded off**

This implies that intense engagement with gadgets and accessing web resources has somewhat reduced the level of physical activity and engagement with family members and other people. The reduced engagement level between friends and family members along sports may introduce health issues later if many lead a sedentary lifestyle. The institution's need to address gadgets's negative impact on human relationships and health must not be placed as the lowest priority.

Table 6

Effect of Web on Oneself as Experienced by Personnel - respondents

Effect	Percent of Responses		Severity of the Experience (Mean)	Occurrence of Experiences (Mean)***
	Did Not Experience at all	Experienced to some Level		
Irregular Sleep/ sleep disturbance	47%	53%	5	4
Lack of Sleep	72%	28%	4	4
Loss of Interest in the following:				
Hobbies	35%	65%	4	3
Meaningful Relationship	77%	23%	5	3
Work				
Study*	72%	28%	4	4
Married Life**	58%	42%	4	4
Time with friends	79%	21%	4	4
Time with family				
Time with sports activities	23%	77%	4	4
Others (do not like to disclose details)	81%	19%	4	4
	32%	68%	4	3
	93%	7%	3	3

***Personnel Pursuing Advanced Studies/Additional Degree/Competency** ****Married Personnel**

Only ***Means are rounded off

Behavioral Manifestations

Table 7 presents the common reasons for people posting materials on social media. The majority of the respondents (76% above) post on social media with a frequency level of 5 or moderate. Student workers revealed that most of their posts involve sharing information for the benefit of the organization while soliciting advice on pressing issues and concerns that received the lowest response.

The interview revealed that while they want to seek attention from their social circle and seek approval from them that they think boosts their confidence level upon seeing more positive reactions, they still prefer not to divulge so much about their personal lives on social media for security reasons. Per observation, this is in contrast to the habit of people during the early years of social media, when people have a more carefree attitude. Security issues are among the reasons cited by the respondents; thus, they are now more cautious about what to post. It could be noted, however, that when it comes to sharing information that will interest or motivate peers, the respondents are more open to the idea. The issue, however, is the authenticity and truthfulness of the information being shared.

Table 7

Reasons/ Purpose of Posting in Social Media as Expressed by Student - respondents

Reasons for Posting	Do Not Post at All	Post for Some Reasons

		Responses in Percent	**Number of Posts (Mean)***
Sharing your happiness on what you have *(food, house, car, accomplishments, travel, etc.)*	13%	87%	5
Sharing information you think will interest peers	11%	89%	5
Sharing information you think will inspire/motivate peers	11%	89%	5
Sharing information that will benefit the organization*	5%	95%	5
Soliciting advice on pressing issues and concerns	24%	76%	5
Notify friends when feeling unwell	20%	80%	5
Notify relatives when feeling unwell	20%	80%	5
Showing recently taken selfies to friends	20%	80%	5
Express feelings of pain, disappointment, anger, etc.	20%	80%	5
Other reasons	90%	10%	2

*** Scale of 1 – 10 with ten as the highest and one the lowest level; Means are rounded off**

Table 8

Reasons/ Purpose of Posting in Social Media as Expressed by Personnel - respondents

Reasons for Posting	**Do Not Post at All**	**Post for Some Reasons**	
		Responses in Percent	**Number of Posts (Mean)***

Sharing your happiness on what you have *(food, house, car, accomplishments, travel, etc.)*	62%	38%	4
Sharing information you think will interest peers	15%	85%	5
Sharing information you think will inspire/motivate peers.	36%	64%	5
Sharing information that will benefit the organization*	17%	83%	6
Soliciting advice on pressing issues and concerns	87%	13%	6
Notify friends when feeling unwell.	76%	24%	5
Notify relatives when feeling unwell	73%	27%	4
Showing recently taken selfies to friends	84%	16%	4
Express feelings of pain, disappointment, anger, etc.	74%	26%	3
Other reasons	94%	6%	3

***Means are rounded off**

Physical Effects

Physical effects of their interaction with gadgets and web resources, namely Dry Eyes, Red Eyes, Cervical Pain, Decreased Vision, Noticeable Weight Gain, Noticeable Weight Loss, Neck Pain, Back Pain, Carpal Tunnel Syndrome, and Texting Thumb were expressed by the respondents using a severity scale of 1 to 10 with one as the lowest and ten the highest. Table 9 presents the results.

Data analysis shows that more students experienced physical effects than those who did not. Experiencing Back Pain showed the highest number of affected respondents and the highest level of severity—Level 7, followed by Neck Pain. Neck pain could be due to a cyberspace-bought physical disorder called Text Neck Syndrome that results from looking down at their devices. That posture versus the expert-determined average of 700 to 1400 hours of mobile phone engagement per year accordingly results in 27 kg of force on the neck (Thiyagarajan&Telegbal, 2015).

Table 9

Physical Effects Experienced by Student – respondents along ICT Gadget Use and Access to Web Resources

Physical Effects	Percent of Responses		Severity of the Experience (Mean)*
	Did Not Experience at all	Experienced to some Level	
Dry Eyes	29%	71%	5
Red Eyes	45%	55%	3
Cervical Pain	55%	65%	2
Decreased Vision	30%	70%	4
Noticeable Weight Gain	43%	57%	4
Noticeable Weight Loss	50%	50%	3
Neck Pain	18%	82%	6
Back Pain	15%	85%	7
Carpal Tunnel Syndrome	35%	65%	6
Texting Thumb	32%	68%	4
Others	99%	1%	2

*** Scale of 1 – 10 with ten as the highest and one the lowest level; Means are rounded off**

Further analysis of the dataset using the ANOVA and Duncan Multiple Range Test (DMRT) revealed no significant difference between the personnel group and the personnel pursuing advanced studies regarding all the identified physical effects of ICT Gadget Use and Access to Web Resources. Experiencing Carpal Tunnel and Neck Pain came in next to back pain regarding severity and its effect on a large number of the respondents. This could be associated to long and continued use of gadgets and access to web resources. There was however a significant difference between the student group and the personnel group in all the identified physical effects except in terms of experiencing Neck Pain which did not show significant difference. These finding imply that using the gadget and accessing web resources while in seating position results to high levels of back pain. The respondents therefore may do regular breaks to stretch their back muscles and spinal bone so as to reduce back pain. Additionally, these regular breaks can relax their neck muscles as well as break the repeated or intense use of thumb as it was noticed that all respondents use cellular phones heavily compared to other ICT gadgets.

Table 10

Physical Effects Experienced by Personnel – respondents along ICT Gadget Use and Access to Web Resources

Physical Effects	Percent of Responses		Severity of the Experience (Mean)*
	Did Not Experience at all	Experienced to some Level	
Dry Eyes	16%	84%	5

Red Eyes	33%	67%	3
Cervical Pain	34%	66%	3
Decreased Vision	15%	85%	4
Noticeable Weight Gain	37%	63%	4
Noticeable Weight Loss	70%	30%	2
Neck Pain	10%	90%	4
Back Pain	8%	92%	6
Carpal Tunnel Syndrome	48%	52%	4
Texting Thumb	45%	55%	3
Others	95%	5%	4

*** Scale of 1 – 10 with ten as the highest and 1 the lowest level; Means are rounded off**

CONCLUSION AND RECOMMENDATIONS

Generally, the prevailing cyber-related mental health conditionat the focus HEI in this study is still within the prevention stage thus there is less to worry as of this writing.But, it should be noted that despite the HEIs rural setting, the intermittent internet connection and the unstable electrical power supply, there are already physical and mental indicators rated at the average level (level 5) that could be triggered later by aggravating situations. More vigilance therefore on HEIs and locales with better internet services and electricity is needed as they have obviously higher level of cyberspace exposure compared to rural settings.

Proactive school leadershipandhighly responsive health activities and protocols need to be in place in all HEIs.Conductingregular awareness campaigns in the community through posters, social media, and radio broadcasts to raise awareness on mental health and to allay fears and possible stigmatization during diagnosis; setting up mobile clinics and teleconsultation facilities; updates on the proper accommodation, handling, and reporting of potential psychological cases among local health workers is highly recommended.

Authors' Contributions

Vincent M. Clores, Lead Author: Responsible in the conceptualization of research, proposal writeup, data interpretation and research report editing

Wilfred C. Pagorogon, Co-author:Responsible for Related Literature Review, Data Gathering and cleansing, interview transcription and panel presentation

Novy R. Clores, Co-author: Responsible for Statistical Analysis, interview analysis, drafting of the research report

ACKNOWLEDGEMENT

Acknowledgement is accorded to the administration of the DEBESMSCAT – the home institution of the researchers, the respondents and their family

REFERENCES

Ayyer, S. & De Sousa, A. 2014. 'Cyber-Munchausen syndrome: a case report', *Indian Journal of Mental Health*, 1(1), pp. 81-83.

CDC 2024. *Long Covid Update 2024*. Available at: https://www.hhs.gov/sites/default/files/long-covid-update-2024.pdf (Accessed: 28 February 2025).

Clement, S. et al. 2015. 'What is the impact of mental health-related stigma on help-seeking? A systematic review of quantitative and qualitative studies', *Psychological Medicine*, 45(1), pp. 11-27. doi:10.1017/S0033291714000129.

Cohen-Mansfield, J. et al. 2021. 'Adequacy of web-based activities as a substitute for in-person activities for older persons during the COVID-19 pandemic: Survey study', *Journal of Medical Internet Research*, 23(1), p. e25848.

DataReportal 2022. 'Digital 2022 Global Digital Overview'. Available at: https://datareportal.com/reports/digital-2022-global-overview-report (Accessed: 28 February 2025).

Department of Health 2024. *Covid 19 Case Tracker*. Available at: https://doh.gov.ph/diseases/covid-19/covid-19-case-tracker/ (Accessed: 28 February 2025).

Dushkova, D. et al. 2022. 'Human-nature interactions during and after the COVID-19 pandemic in Moscow, Russia: exploring the role of contact with nature and main lessons from the city responses', *Land*, 11(6), p. 822.

Gulliver, A., Griffiths, K. M. & Christensen, H. 2017. 'Perceived barriers and facilitators to mental health help-seeking in young people: A systematic review', *BMC Psychiatry*, 10(1), p. 113. doi:10.1186/1471-244X-10-113.

Hoareau, N., Bagès, C. &Guerrien, A. 2021. 'Cyberbullying, self-control, information, and electronic communication technologies: Do adolescents know how to exercise self-control on the Internet?',*International Journal of Bullying Prevention*, pp. 1-11.

Hulsen, T. 2024. 'Applications of the metaverse in medicine and healthcare', *Advances in Laboratory Medicine/AvancesenMedicina de Laboratorio*, 5(2), pp. 159-165.

Kohrt, B. A. & Mendenhall, E. 2015. *Global mental health: Anthropological perspectives*. Routledge.

Liwanag, H. J. & Wyss, K. 2020. 'Who should decide for local health services? A mixed methods study of preferences for decision-making in the decentralized Philippine health system', *BMC Health Services Research*, 20, pp. 1-13.

Ning, H. et al. 2018. 'Cyber-syndrome and its formation, classification, recovery and prevention', *IEEE Access*, 6, pp. 35501-35511.

Ning, H. 2019, December. 'Cyberspace data and intelligence, and cyber-living, syndrome, and health', in *International 2019 Cyberspace Congress, CyberDI and CyberLife*. Vol. 1138.

Olweus, D. & Limber, S. P. 2018. 'Some problems with cyberbullying research', *Current Opinion in Psychology*, 19, pp. 139-143.

Patel, V. et al. 2018. 'The Lancet Commission on global mental health and sustainable development', *The Lancet*, 392(10157), pp. 1553-1598. doi:10.1016/S0140-6736(18)31612-X.

Salari, N. et al. 2020. 'Prevalence of stress, anxiety, and depression among the general population during the COVID-19 pandemic: A systematic review and meta-analysis', *Global Health*, 16(1), p. 57. doi:10.1186/s12992-020-00589-w.

Samonte, F. G. R., De Guzman, M. T. & Gonzales, R. 2020. 'A population level analysis of mental health and non-communicable disease (NCD) in the Philippines using predictive modelling analysis', *International Journal of Psychosocial Rehabilitation*, 24(06).

Shi, F., Ning, H. &Dhelim, S. 2021. 'A tutorial of Cyber-Syndrome viewed from Cyber-Physical-Social-Thinking Space and Maslow's Hierarchy of Needs', *arXiv preprint*, arXiv:2111.02775.

Shir-Wise, M. 2022. 'Melting time and confined leisure under COVID-19 lockdown', *World Leisure Journal*, 64(3), pp. 221-233.

Slonje, R., Smith, P. K. &Frisén, A. 2013. 'The nature of cyberbullying, and strategies for prevention', *Computers in Human Behavior*, 29(1), pp. 26-32.

Thiyagarajan, S. &Telegbal, S. V. 2015. 'Text Neck: Is it a new term for physiotherapist?',*Indian Journal of Medical & Health Sciences*, 2(2), p. 119.

Trevino, J. E. et al. 2022. 'Student and nature interactions and their impact on mental health during the COVID-19 pandemic', *International Journal of Environmental Research and Public Health*, 19(9), p. 5030.

We Are Social & Meltwater 2024. 'Digital 2024 Philippines'. Available at: https://datareportal.com/reports/digital-2024-philippines (Accessed: 10 October 2024).

Yasuda, A. 2023, July. 'Human-computer interaction in the emerging metaverse: social implications and design principles for the sustainable metaverse', in *International Conference on Human-Computer Interaction*, pp. 492-504. Cham: Springer Nature Switzerland.

Zhu, Z. & Li, J. 2019. 'Research on the effect of video games on college students' concentration of attention', in *Cyberspace Data and Intelligence, and Cyber-Living, Syndrome, and Health: International 2019 Cyberspace Congress, CyberDI and CyberLife, Beijing, China, December 16–18, 2019, Proceedings, Part II 3*, pp. 542-549. Springer Singapore.