SAFEGUARDING JUNIOR HIGH SCHOOL LEARNERS: UNVEILING THE THREATS OF CYBER-AGGRESSION AND INTERNET DISORDER FOR EFFECTIVE PREVENTION AND ENRICHMENT PROGRAMS

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Abstract

The rise in social media usage in the Philippines has resulted in an increase in online hazards, particularly among young people. This study focuses on online dangers, specifically Cyber-Aggression and Internet Disorder, among Junior High School students in order to create effective prevention and enrichment programs. Stratified sampling was used to obtain data from 644 respondents from 16 junior high schools in the Malabon City Division. For analysis, descriptive statistics, correlation, and ANOVA were used. The findings support the assumptions of the Protection Motivation Theory, indicating a low level of support for participation in Cyber-Aggression and Internet Disorder. The study emphasizes respondents' ability to engage in protective behavior in the online environment. Despite these encouraging findings, it is important to mention that the findings imply that Junior High School students are more likely to be exposed to online dangers associated with Internet Disorder rather than Cyber-Aggression. There were substantial disparities based on age, gender, housing situation, and internet usage hours, but no significant differences were discovered in terms of household income. The study finds that incorporating the Protection Motivation Theory into a Preventive and Enrichment Program for Junior High School students is critical to fostering protective behavior in the online environment. Future research should look into these concerns in a face-to-face environment to improve control over confounding variables.

Keywords: Online risks, Cyber-Aggression, Internet Disorder, Junior High School learners, Prevention programs.

Introduction

Basic education is among the sectors heavily affected by COVID 19 pandemic. Schools are closed for physical conduct of classes and to ensure the health safety and well-being of all learners, teachers and other school personnel, the Department of Education developed the DepEd Order No. 12 s.2020 otherwise known as the Basic Education Learning Continuity Plan (BELCP). In the LCP delivery system for distance learning in NCR includes learning modules, text-based synchronous classes through Facebook Messenger, digital off-line and online resources of reference materials like DepEd Commons, education TV and radio media sources, online video teaching apps, schedule of online platforms and other guidelines in utilizing modules (Luz, 2020). Students are actively using the internet for educational or social interaction purposes, at times even without parental supervision. They may accidentally come across content that makes them uncomfortable during internet surfing, such as, pornography and violence. Students come in contact with strangers and are even involved in cyberbullying. Students might engage in risky behavior that contributes to their own child digital record images of his or her nude body parts. To protect students from abuse, violence, exploitation, discrimination, bullying and other forms of abuse, the Policy and Guidelines on Protecting Children in School or "DepEd Child Protection Policy." was created in May 2012. But, according to the Alliance of the Concerned Teachers -ACT secretary general Raymond Basilio, the existing Child Protection Policy or DepEd Order No. 40 s.2012 is fundamentally outdated and not equipped for the current learning context. The boundaries and limitations on children's online activities are not yet incorporated to map out the responsibilities of stakeholders in the school system to protect the child. The government has not yet established proper guidelines, safeguards and tools to adequately shield children from predators in the online realm (Haynes, 2020). The results of a rapid survey of 468 children conducted by ECPAT Philippines from May to June 2020 showed that 37% connected with strangers via social media sites, 30% received sexual materials or messages during quarantine periods, and half of them did not report incidences and the majority of those who did confide only in their friends (Haynes, 2020). There needs to be some serious conversations on what prevention measures are actually in place to protect students from some risks while online platforms are studying and for them to become aware on how to respond to have protective behavior in cyberspace.

According to UNICEF 2017 report, in the Philippines, the risks to children are high with the country being the number one global source of child pornography and a hub for the live-stream sexual abuse. The Department of Justice Office of Cybercrime received 279, 166 cyber tips from March to May 2020 and that translates to an increase of 264.63% on cybercrimes during the quarantine period (Buan, 2020). Children are vulnerable for sexual exploitation where in most cases, it is perpetrated by trusted adults such as immediate family. members, a relative, or neighbor. The result of the National Baseline Study on Violence Against Children in 2015 revealed that 43.8 of children aged 13 to 18 years have experienced cyberviolence. It is particularly challenging to address since children have easy and increased access to the internet, making them easy targets of online risks. In addition, research has shown that cyberbullying has adverse physical and mental health effects for adolescents. In the study of Abreu and Kenny (2018), most studies have focused on heterosexual and cisgender individuals and LGBTQ shows that this group is at a higher risk for cyberbullying when compared to their heterosexual counterparts. However, to date no literature review has comprehensively explored the effects of cyberbullying on LGBTQ youth.

In today's digital age where information is accessible, policy decisions and implementation to improve law enforcement responses to online sexual exploitation on children remain a challenge. In 2012 the Philippines passed the Data Privacy Act of 2012, where the state recognizes the vital role of information and communications technology in nation-building and its inherent obligation to ensure that personal information in information and communications systems in the government and in the private sector are secured and protected (The LawPhil Project, 2012). However, this also contradicts the Internet Service Providers duties, blocking of unlawful content is a state duty of internet service providers (Rappler, 2020). In addition, the telecommunications companies say other laws, such as the Data Privacy Act, clash with the antichild pornography law, thus preventing them from monitoring sites (Rappler, 2021). Furthermore, victims of these crimes might encounter increased barriers for disclosure and access to school-based help channels such as teachers, guidance counselors and the Child Protection Committee due to home-based learning. Students find trusted adults such as teachers and guidance counselors to disclose a problem which probably they can't discuss at home. Violence against children including sexual and cyberbullying have harmful effects on the physical and emotional wellbeing of young people, and this can create lasting emotional and psychological effects, even physical harm.

Materials and Methods

This paper attempted to explore the online risks and to have a clearer picture on the occurrence of online risks among Public Junior High School students in the Division of Malabon City. The researcher sought a permission in the Division of Malabon to get a copy of data on online risks from school year 2018-2020 for the validation of the findings of self-report survey. The conceptual framework anchored with the Protection Motivation Theory's Coping Appraisal and Behavior Intention employed the demographic profile of the respondents including age, gender, current living status, socio-economic status and hours spent on internet that can be measured in terms of cyber-aggression and internet disorder and describe how respondents are motivated to react in a self-protective way towards a perceived online risk. To gather primary data collection, an online survey and unstructured interview through google forms were used to describe the profile of the participants, determine the online risks and if there is a significant relationship between the online risks and the demographic profile of the respondents. In this context, it also aims to obtain evidence on how the results of this study will be utilized in preparing a Prevention and Enrichment Program on Online Risks on the current learning context. The CYB-AGS consists of 18 items rated on a 5–point Likert– type scale ranging from 1 (never) to 5 (always) to measure cyberbullying perpetration. Internet Disorder Scale Short Form (IDS9-SF) is unidimensional and has a total of 9 items. The nine questions comprising the IDS9-SF are answered using a 5-point Likert scale: 1 ("Never"); 2 ("Rarely"); 3 ("Sometimes"); 4 ("Often"); and 5 ("Very often"). The standardized tools and a list of questionnaires for interview were administered and retrieved through online. From 24,803 total number of populations who are enrolled for SY 2020-2021 in 16 Public Junior High Schools in the Division of Malabon City, Raosoft Sampling Calculator employed to know how many samples needed (Raosoft, Inc. 2014). The recommended sample size is 379 respondents. To select the respondents, stratified random sampling was carried out. The final sample was composed of 644 adolescents (53.11% females; age range: 11-18; males 42.86%; age range: 11-18 and 4.04% member of LGBTQIA+; age range: 11-18 years). To ensure that the answer comes from participants, the student's DepEd Malabon City domain was used. Also, students' responses were kept with utmost discretion and confidentiality. The data gathered from the questionnaire were analyzed and interpreted using descriptive statistics such as percentage, weighted mean and Analysis of Variance or ANOVA.

Results and Discussions

Most students are in the age range of 15 to 16 years of age (42%) followed by those who are 13 to 14 years old (39%). The eldest group range (17 to 18 years old) comprised of 13.82% while the youngest who are 11 to 12 years of age had the least percentage that is 5%.

Table 1. Age of Respondents

Gender	Frequency	Percentage
11 – 12	32	4.9%
13 – 14	253	39.29%
15 – 16	270	41.93%
17 - 18	89	13.82%

In terms of gender, there are more females (53.11%) than males (42.86%) while only 4.04% identified themselves as a member of LGBTQIA

Table 2. Gender of Respondents

Gender	Frequency	Percentage
Female	342	53.11%
LGBTQIA+	26	4.04%
Male	276	42.86%

Majority and almost 50% of the participants are living with both of their parents. This is followed by those who are living with parents and relatives (19.72%), living with single parents (16.46%) while 12.42% live with their guardians only. Less than 10% are living alone (.78%) and living with non-relatives (.62%).

Table 3. Current Living Status of the Respondents

Gender	Frequency	Percentage
Living Alone	5	0.78%
Living with Both Parents	321	49.84%
Living with Guardian/relatives only	80	12.42%
Living with non-relatives	4	0.62%
Living with Parents and relatives	127	19.72%
Living with single Parent	106	16.46%

Apparently, most students (40%) reported that they are not aware of their household income followed by those who are only earning less than 10,000 a month (35.09%) and middle-income earners (22.05%). The least in those who are on the top earners (more than 30,000 a month comprising 2.80% only of the respondents.

Table 4. Household Income of the Respondents

Gender	Frequency	Percentage
Less than 10,000 a month	5	35.09%
10,000 – 20,000 a month	321	22.05%
More than 30,000 a month	80	2.80%
Don't Know/ Missing	4	40.06%

Majority of the respondents (34.63%) only spend 4 to 6 hours a day on the internet followed by (32.76% b) spend 1 to 3 hours a day. Less than 20% spend 7 to 9 hours a day (18.01%) and 10 to 12 hours per day (14.60%)

Table 5. Hours Spent on Internet

Gender	Frequency	Percentage
1 – 3 hours everyday	211	32.76%
4 – 6 hours everyday	223	22.05%
7 – 9 hours everyday	116	2.80%
10 – 12 hours everyday	94	40.06%

Common Online Risks as Experienced by the Respondents in Terms of Cyber Aggression

With an overall mean score of 1.22, it can be deduced that the cyber aggression level of the respondents is considered as very low which means most of them expressed never when asked if they have committed cyber-aggression. This is similar with the individual results in the item wherein no item reached 1.80 mean score. The low endorsement may signify that the respondents did not show aggression on the internet however it should be noted that the highest endorsed item is "I have ignored and did not answer someone's messages or things he/she shared in groups or social networks, just to make him/her feel bad" (M=1.46, SD=0.89) wherein 20 participants responded many times on doing this indirect aggression. Also, to support the findings of the self-report survey of the respondents, the researcher utilized the data of online risks submitted by all junior high schools in the Division of Malabon City. The data shows a significant increase on online risks for the last two (2) consecutive school years even before pandemic.

Table 6. Result of Cyber Aggression Scale

STATEMENTS	0	1	2	3	4	5	MEAN	SD	RANK
1. I have insulted or ridiculed someone in social networks or group like WhatsApp to really screw with annoy him/her.	2	519	91	21	5	6	1.27	0.65	4
2. I have called someone's cell phone an dhung up to bother or frighten him/her.	2	538	82	13	6	3	1.21	0.57	8
3. I have threatened someone to make him/her do things on the Internet or smartphone that he/she did not want to do (like recording him/herself on video, giving me money, doing bad things).	2	586	31	14	5	6	1.15	0.58	13
4. I have told someone's secrets or revealed personal things about him/her in social networks or groups (WhatsApp, snapchat)	2	530	81	22	5	4	1.24	0.61	7
5. To make fun of someone, I have made or manipulated videos or photos of him/her and uploaded or distributed them on social networks or by smartphone	2	534	68	22	7	11	1.28	0.73	3
6. I've logged into someone's profile or accounts, and he/she could not do anything about it.	2	560	55	14	7	6	1.20	0.62	10
7. I have pretended to be someone else so I could say or do bad things on the Internet.	2	578	46	8	5	5	1.15	0.54	14
8. I have purposely created a webpage, a forum, or a group just to make fun of someone and	2	584	36	13	4	5	1.15	0.54	15

Item							Mean	SD	Rank
criticize him/her in front of everyone.									
9. I have put someone's cell phone number on the Internet and said bad or false things about him/her so that people would call him/her and get him/her into troubl	2	598	20	14	4	6	1.13	0.55	17
10. I have taken someone's smartphone and used it to send photos, videos, or mean messages to others to get him/her into trouble with them.	2	593	34	5	6	4	1.12	0.50	18
11. I have criticized someone or made fun of comments, photos, or videos he/she uploaded to social networks or groups like WhatsApp.	2	518	81	25	10	8	1.30	0.73	2
12. I have created a false profile on the Internet with someone's personal data in order to impersonate him/her saying or doing bad things.	2	589	34	8	4	7	1.14	0.56	16
13. I have ignored and did not answer someone's messages or things he/she shared in groups or social networks, just to make him/her feel bad.	2	451	139	21	11	20	1.46	0.89	1
14. I have provoked someone in social networks or groups by insulting or taunting him/her to make him/her angry and cause a big argument.	2	570	47	14	9	2	1.17	0.55	11
15. 15. I have eliminated or blocked someone from groups to leave him/her without any friends.	2	527	83	17	6	9	1.27	0.69	5
16. I've stolen photos, videos, or private conversations and uploaded them or sent them to others.	2	529	86	10	6	11	1.26	0.70	6
17. I have changed someone's password to social networks so that he/she could not access them.	2	580	37	10	10	5	1.17	0.60	12
18. I sent someone taunting messages to bother and annoy him/her	2	553	63	10	10	6	1.21	0.64	9
Overall							1.22	0.63	

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

Common Online Risks as Experienced by the Respondents in Terms of Internet Disorder

Like Cyber-Aggression, the scale on Internet Disorder has low endorsement as well which means them seldom to never experience the signs of internet disorder. It should be noted though that the highest endorsed item is about going online to escape or feel better e.g., helplessness, guilt, anxiety (M=2.78, SD=1.43) wherein 115 students reported that they always experience this. This is followed by the item saying that they have lost their interest in previous hobbies and other leisure activities as a result of being online (M=2.47, SD=1.13) and feeling more irritable, anxious and/or sad when you try to either reduce or stop using the internet (M=2.47, SD=1.20). On the third rank is feeling

preoccupied with your online behavior (M=2.45, SD=1.01). The least endorsed items are deceiving any of their family members, therapists, or other people because of the amount of time spent online (M=1.71, SD=1.01), jeopardizing/losing an important relationship, career, or an educational opportunity because of your online usage (M=1.78, SD=1.10).

Table 7. Result Internet Disorder Scale

STATEMENTS	0	1	2	3	4	5	MEAN	SD	RANK
1. I have insulted or ridiculed someone in social networks or group like WhatsApp to really screw with annoy him/her.		1.55	124	301	49	15	2.45	1.01	3
2. Do you feel more irritability, anxiety and/or sadness when you try to either reduce or stop using the internet?.		1.72	121	261	57	33	2.47	1.13	2
3. Do you feel the need to spend increasing amount of time engaged online to achieve satisfaction or pleasure?		235	142	190	57	20	2.20	1.12	6
4. Do you have difficulties in trying to control, cut down, and/or cease your online usage?		223	115	207	66	33	2.33	1.20	5
5. Have you lost interest in previous hobbies and other leisure activities as a result of being online?		188	117	226	73	40	2.47	1.20	2
6. Have you continued to go online despite knowing it was causing problems between you and other people?		286	129	166	44	19	2.04	1.11	7
7. Have you deceived any of your family members, therapists, or other people because the amount of time you spend online?.		394	86	132	21	11	1.71	1.01	9
8. Do you go online to escape or feel better (e.g. helplessness, guilt, anxiety)?		183	82	187	77	115	2.78	1.43	1
9. Have you jeopardized or lost an important relationship, career, or an educational opportunity because of your online usage?		384	86	124	29	21	1.78	1.10	8
Overall							2.25	0.75	

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Significant Difference on Online Risk Experienced in terms of Cyber-Aggression based on Profile

Analysis of Variance was used to investigate the significant difference in Cyber-Aggression Score of the respondents based on profile.

Age Range
All the accumulated mean score per age range is described as very low most of them reported never or rarely on statements related to Cyber-Aggression. It appears that the eldest age group has greater tendency to commit cyber aggression followed by those who are 11-12 years old and 15 to 16 years old. Ages 13 to 14 had the least score.

According to the study of Machimbarrena, et.al (2019), they state that international surveys reveal that up to 24% of adolescents between 13 and 17 years of age are constantly connected to the internet and among more than 25,000 adolescents between 11 and 18 years, almost 96% own a smartphone, and of them, 87% claim to use it daily. This can correlate that 80% of Filipino teenagers aged 13 to 16 still experience cyberbullying (Ruiz, 2019).

Table 8. Significant Difference in the Cyber-Aggression Score based on Age Range

Age Range	Mean	SD	F value	P value	Decision Ho	Interpretation
11 – 12	1.23	0.72				
13 – 14	1.15	0.37				
15 – 16	1.23	0.43	4.32	0.005	Reject Ho	Significant
17 – 18	1.34	0.45				
Total	1.22	0.43				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

Significant difference was found in the score based on age group wherein the score of 17- to 18-year-old (M=1.34, SD=0.45) respondents is significantly higher than those who are 13 to 14 years of age (M=1.15, SD=0.37, F (3, 638) =4.321, p=.005). The resulting eta squared value is .02, considered a small effect size. This means age group impacts Cyber-Aggression score by 2% only.

Gender

Respondents who identified themselves as LGBTQIA+ (M=1.52, SD=0.90) which means compared to males (M=1.24, SD=0.47) and females (M=1.18, SD=0.33), they have greater tendency to be involved in cyber-aggression acts making them more exposed to online risks. The difference is scores are found to be significant with a p value less than .05; F (2,639) = 8.344, p=.000. Most studies have focused on heterosexual and cisgender individuals and LGBTQ shows that this group is at a higher risk for cyberbullying when compared to their heterosexual counterparts. Research has demonstrated that cyberbullying has adverse physical and mental health consequences for youths (Abreu and Kenny 2018). Furthermore, in some research, males have been said to be more likely to experience problematic internet use than females (Laconi, et al, 2015), although large-scale studies have found that males appear to experience more problems with online gaming whereas females appear to experience more problems with social media use (Andreassen et al, 2016). Post Hoc comparison via Tukey showed that the score of LGBTQIA+ is significantly higher than males and females however, the calculated effect size which is .02 is still considered low signaling the small effect of gender on cyber-aggression.

Table 9. Significant Difference in the Cyber-Aggression Score based on Gender

Gender	Mean	SD	F value	P value	Decision Ho	Interpretation
Female	1.18	0.33				
Male	1.24	0.47	8.34	0.000	Reject Ho	Significant
LGBTQIA+	1.52	0.90				
Total	1.22	0.43				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

Living Condition

Yielded scores based on living conditions showed low endorsement as well which means majority never or rarely involve in cyber-aggression activities except for those who are living alone who got a mean score described as doing cyber-aggression activities few times. Data analysis revealed that those who are living alone (M=2.64, SD=1.48) scored above overall mean score of 1.22 followed by those who are living with single parents (M=1.30, SD=0.54). Those who are living non-relatives (M=1.13, SD=0.11) scored the lowest followed by those who are living with guardians/relatives (M=1.18, SD=0.35) and those who are living with both parents (M=1.20, SD=0.41). The difference in scores based on living condition is found to be significant based on ANOVA; F (2, 639) = 13.441, p=.000. Post-hoc analysis via Tukey showed that the score of those who are living alone is significantly higher than other groups. The effect size is also considered large at .11.

Table 10. Significant Difference in the Cyber-Aggression Score based on Living Condition

Living Condition	Mean	SD	F value	P value	Decision Ho	Interpretation
Living with Both Parents	1.18	0.35				
Living with Single Parent	1.30	0.54				
Living with Parents and Relatives	1.20	0.41				
Living with Guardian/relatives Only	1.18	0.35	13.44	0.00	Reject Ho	Significant
Living with non-relatives Only	1.13	0.11				
Living Alone	2.64	1.48				
Total	1.22	0.43				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

Household Income

All mean scores based on household income produced a mean score described as never or rarely committing cyber-aggression. Although, it is good to report that those participants coming from families whose household income is more than 30,000 also scored the highest in terms of frequency being involved in cyber-aggression activities (M=1.38, SD=0.62) followed by those who do not know their family income (M=1.26, SD=0.51). Those who belong to families earning 20,000 below had below average cyber-aggression tendencies. Despite this interesting finding, ANOVA revealed that there is no significant difference on the scores based on Household Income; $F_{(2,639)}$ = 3.10, p=.026. The impact of Household Income on Cyber-Aggression is considered as very low.

Table 11. Significant Difference in the Cyber-Aggression Score based on Household Income

Income Range	Mean	SD	F value	P value	Decision Ho	Interpretation
Less than 10,000 a month	1.18	0.37				
10,000 – 20,000 a month	1.16	0.32				
More than30,000 a month	1.38	0.62	3.10	0.026	Reject Ho	Significant
Don't Know	1.26	0.51				
Total	1.22	0.43				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

Hours spent on the Internet

Like other profiles, groups based on hours spent on the internet have accumulated mean scores described as never or rarely doing cyber-aggressive behaviors. It is interesting to note that those who are spending 10 to 12 hours a day on the internet had the highest score (M=1.35, SD=.60) on cyber-aggressive behaviors followed by those who only spend 1 to 3 hours only (M=1.26, SD=.49). Internet addiction share the common aspect of negativity toward the individual and excessively use of internet can be resulting in negative outcomes. Moreover, clinical judgment is required to determine whether an individual is addicted (Min et al, 2020). Respondents spending 4 to 9 hours daily on the internet yielded below average score connoting lower engagement on cyber-aggressive behaviors. ANOVA revealed that there is a significant difference in the Cyber-Aggression based on hours spent on the internet wherein those who spend most time in the internet scored significantly higher than those who only spend 4 to 6 hours and 7 to 8 hours; $F_{(2, 639)}$ = 6.408, p=.000. Despite reaching statistical significance, the resulting eta squared value is .03 is considered medium only.

Table 12. Significant Difference in the Cyber-Aggression Score based on Hours Spent on the Internet

House Spent on the Internet	Mean	SD	F value	P value	Decision Ho	Interpretation
1 - 3	1.26	0.49				
4 - 6	1.17	0.36				
7 – 9	1.12	0.20	6.41	.000	Reject Ho	Significant
10 - 12	1.35	0.60				
Total	1.22	0.43				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Once/Twice), 2.61-3.40 (Few Times), 3.41-4.20 (Several Times) and 4.21-5.00 (Many Times); SD=Standard Deviation, Std. Error (Standard Error)

To synthesize, significant difference was found on the Cyber Aggression scores in terms of age range, gender, living condition, and hours spent on the internet. No significant difference was found based on household income. Living condition is the only variable that has the largest effect on cyberaggression scores followed by hours spend on the internet which has moderate impact. Age range and gender have small effect on cyber-aggression scores.

Significant Difference on Online Risk Experiences in terms of Internet Disorder based on Profile

Age Range

Online risk was also gauged through Internet Disorder. It can be noticed that the respondents who belong to the higher age range had higher online risks related to Internet Disorder whereas 15 to 16 years old had the highest score (M= 2.37, SD=.70) followed by those who are 17 to 18 years old (M=2.26, SD=.73)
ANOVA revealed that there is a significant difference in the internet disorder scores of the respondents; $F_{(2,639)}$ = 3.10, p=.026. Post hoc analysis revealed that the score of 15 to 16 years old significantly outscored the younger groups namely 13 to 14 years old and 11 and 12 years old.

Table 13. Significant Difference in the Internet Disorder Score based on Age Range

Age Range	Mean	SD	F value	P value	Decision Ho	Interpretation
11 – 12	1.99	0.76				
13 – 14	2.15	0.79				
15 – 16	2.37	0.70	3.10	.002	Reject Ho	Significant
17 – 18	2.26	0.73				
Total	2.25	0.75				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Gender
Data analysis showed that there is a significant difference in the internet addiction scores of the participants based on gender; $F_{(2,639)}$ = 8.05, p=.000. Post hoc analysis found that the score of LGBTQIA+ is significantly higher than males and females. The calculated effect size which is .02 is still considered small.

Table 14. Significant Difference in the Internet Disorder Score based on Gender

Gender	Mean	SD	F value	P value	Decision Ho	Interpretation
Female	2.27	0.74				
Male	2.17	0.73	8.05	.000	Reject Ho	Significant
LGBTQIA+	2.77	0.93				
Total	2.25	0.75				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Living Condition

With a p value less than .05, it is apparent that there is a significant difference in the internet disorder score of the respondents; $F_{(2,639)}$ = 5.23, p=.000. Post hoc analysis showed that those who are living alone significantly outscored those who are living with both parents, living with single parent, and living with guardian/relatives only. Unlike in the cyber aggression, the impact of living condition on internet disorder is considered as moderate since the calculated effect size is .04

Table 15. Significant Difference in the Internet Disorder Score based on Living Condition

Living Condition	Mean	SD	F value	P value	Decision Ho	Interpretation
Living with Both Parents	2.16	0.76				
Living with Single Parent	2.27	0.70				
Living with Parents and Relatives	2.43	0.72				
Living with Guardian/relatives Only	2.19	0.72	5.23	0.000	Reject Ho	Significant
Living with non-relatives Only	2.83	0.46				
Living Alone	3.31	0.99				
Total	2.25	0.75				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Household Income

The respondents from families with the highest household income (M=2.38, 0.61) showed to have higher tendency of internet disorder while those who have lesser household income such as those who are earning 10,000-20,000 a month (M=2.18, SD=.73) and those with less than 10,000 a month (M=2.22, SD=.77). However, ANOVA reveals that the differences between mean scores are not significant. $F_{(2,639)} = 1.193$, p=.311 thus, household income does not have significant effect on internet disorder.

Table 16. Significant Difference in the Internet Disorder Score based on Household Income

Income Range	Mean	SD	F value	P value	Decision Ho	Interpretation
Less than 10,000 a month	2.22	0.77				
10,000 – 20,000 a month	2.18	0.73				
More than 30,000 a month	2.38	0.61	1.93	0.311	Reject Ho	Significant
Don't Know	2.30	0.76				
Total	2.25	0.75				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Hours spent on the Internet

All mean scores of the groups are described as very low. Notably, those who spend the most time in the internet appeared to have the highest score in Internet Disorder (M=2.55, SD=.75), followed by those who spend 7 to 9 hours (M=2.43, SD=.67). Participants who spend lesser time on the internet had below average internet disorder scores wherein those who spend 4 to 5 hours scored 2.20 mean score with and SD of .71 while those with 1 to 3 hours scored the lowest (M=2.07, SD=.74). The difference in Internet Disorder scores were found significant based on ANOVA; $F_{(2,639)} = 12.54$, p=.000. The groups showing significant difference was located using Post Hoc Analysis and it revealed that the score of those who spend 10 to 12 hours significantly scored higher than those who only spend 1 to 6 hours. The strength of relationship between hours spent on internet and internet Disorder scores is considered moderate with .06 calculated effect size. Cyber-aggression studies have highlighted that the mere fact of spending more time online and making excessive and frequent use of Internet is considered a risk factor that could lead to negative effects (Baldry et al, 2019).

Table 17. Significant Difference in the Internet Disorder Score based on Hours Spent on the Internet

House Spent on the Internet	Mean	SD	F value	P value	Decision Ho	Interpretation
1 - 3	2.07	0.74				
4 - 6	2.20	0.71				
7 – 9	2.43	0.67	12.43	.000	Reject Ho	Significant
10 - 12	2.55	0.81				
Total	2.25	0.75				

Legend: 1.00-1.80 (Never), 1.81-2.60 (Rarely), 2.61-3.40 (Sometimes), 3.41-4.20 (Often) and 4.21-5.00 (Very Often); SD=Standard Deviation, Std. Error (Standard Error)

Relationship of Cyber-Aggression and Internet Disorder

Spearman's Rank Order Correlation was used to measure this since the data is non-linear which violated the preliminary assumptions of linearity to perform parametric test. This is shown on the scatterplot below:
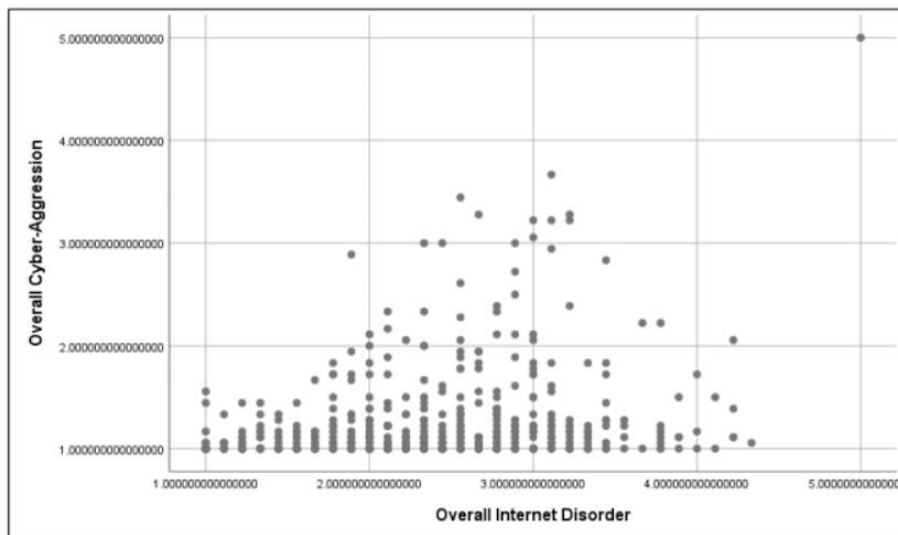

Figure1: Scatterplot Cyber-Aggression and Internet Disorder

Participants endorsed statements related to Internet Disorder (M=2.25) higher than Cyber-Aggression (M=1.22) implying that in terms of online risks, students tend to more frequently involve in activities signifying Internet Disorder rather than committing Cyber-Aggression. In relation to this, it is noteworthy to check how correlated these two (2) variables are and the amount of shared variance.

Table 18. Correlation of Cyber-Aggression and Internet Disorder

				Overall Cyber-Agreession	Overall Internet Disorder
Spearman's Rho	Overall Agression	Cyber	Correlation Coefficient	1.000	.338**
			Sig. (2-tailed)		.000
			N	642	642
	Overall Disorder	Internet	Correlation Coefficient	.338**	1.000
			Sig. (2-tailed)	.000	
			N	642	644

**Correlation is significant at the).01 level (2-tailed)

Data analysis shows that there is a positive and moderate relationship (r=.338, n=642, p=.000) which means that as Cyber-Aggression increases, Internet Disorder escalates too but to a moderate extent only. Coefficient of Determination was used to determine how much variance your two variables share. With a coefficient of determination value of .114, it can be deduced that Cyber-Aggression helps to explain 11 percent of the variance in respondents' scores on the Internet Disorder and vice-versa which means 89% could be attributed on other factors.

Conclusion

Based on the findings of this research, the following conclusions were drawn:

1. With low endorsement, it can be deduced that participants never to rarely commit actions showing Cyber-Aggression and Internet Disorder. Upon attaining higher mean score on Internet Disorder, Junior High School students are more likely to be exposed on online risks pertinent to Internet Disorder than cyber aggression. However, the low endorsement could be induced by timidity or the desire to be socially desirable thus, the responses could just be the tip of the iceberg which was confirmed in the open-ended response wherein other online risks and issues emerged. Also, to support the self-report findings of the respondents, the researcher utilized the data on online risks that were submitted to the Division of Malabon.
2. Ho1, Ho2, Ho3, Ho4 and Ho5 are rejected which means there is a significant difference in cyber-aggression score in terms of age range, gender, current living status, and hours spent on internet.
3. Ho6, Ho7, Ho8 and Ho10 are rejected which means there is a significant difference in the internet disorder scores in terms of age range, gender, current living status, and hours spent on internet. Ho9 is accepted which signals no significant difference in internet disorder scores based on socio-economic status.
4. The groups who are at more risk of committing Cyber-Aggression are the eldest group of participants (17 to 18 years old), LGBTQIA+, those who are living alone and those who spent most time on the internet (more than 10-12 hours).
5. Consistent with the result on Cyber-Aggression, the groups that scored the highest on statements related to Internet Disorder are LGBTQIA+, those who are living alone and those who spent most time on the internet (more than 10-12 hours). In terms of age range, those who are 15 to 16 years old who scored the highest.
6. Cyber-Aggression is positively and moderately correlated with Internet Disorder which means that as Cyber-Aggression increases, Internet Disorder escalates too, but to a moderate extent only. The shared variance is .114 which means only 14% of the variance in Internet Disorder scores can be explained by Cyber-Aggression and vice versa so these two (2) variables can be independent from each other and there is no much overlap.
7. The findings were anchored in the Protective Motivation Theory's Knowledge and Experience and the online risks Cyber-Aggression and Internet Disorder and associated and measured with demographic profile variables of the respondents including age range, gender, current living status, household income and hours spent on internet. With low endorsement on engagement in Cyber-aggression and internet disorder acts, the assumption of Protection Motivation Theory, wherein individuals are motivated to react in a protective way towards a perceived threat has been confirmed. Despite the exposure and propensities towards online risks, data analysis revealed that students are still inclined to protect themselves even those who are perceived as vulnerable based on their profiles such as age range, gender, current living status, household income and hours spent on internet.
8. vulnerable based on their profiles such as age range, gender, current living status, household income and hours spent on internet.

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