



Demographic, gadget and internet profiles as determinants of disease and consequence related COVID-19 anxiety among Filipino college students

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Abstract

In the context of the nationwide shift to online learning due to the COVID-19 pandemic and its possible effect on mental health, this study investigated the relationship between demographic, gadget and Internet profiles, and disease and consequence related COVID-19 anxiety among Filipino college students. This is a quantitative cross-sectional study. A total of 952 students participated in the online survey. Descriptive and inferential statistics were used to draw insights from the data. Findings suggest that majority of the student respondents had high levels of disease and consequence related COVID-19 anxiety. Students from poorer households, who do not own laptops and desktop computers, and those with limited Internet connection exhibited higher levels of disease-related COVID-19 anxiety. Younger, poorer, female students who were enrolled in lower year levels, do not own laptops or tablets, and have limited or borrowed Internet connectivity demonstrated higher levels of consequence-related COVID-19 anxiety.

Keywords College students · COVID-19 anxiety · Demographic profile · Gadget ownership · Internet connectivity

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1 Introduction

Education is one of the sectors most badly hit by the coronavirus disease 2019 (COVID-19) pandemic. As of this writing, there are more than 119 million cases of COVID-19 all over the world (World Health Organization, 2021). Because of the need for social distancing to combat the spread of the virus, campuses in many countries have been closed. Many schools and universities have shifted to online learning mode. In the Philippines, this abrupt change in the educational landscape in the midst of the pandemic has been challenging. In October 2020, the country ranked 20th in the world in terms of the number of coronavirus cases and deaths (ABS-CBN News, 2020). This public emergency has placed a strain on students, teachers, administrators and other stakeholders (Tria, 2020).

An important student outcome monitored by COVID-19 studies is mental health. Many reports suggest the increase of psychological distress states among students such as anxiety, depression and suicidal ideation among many others during this outbreak (Cao et al., 2020; Islam et al., 2020; Lasheras et al., 2020; Olaimat et al., 2020; Rogowska et al., 2020; Tasnim et al., 2020). Consequently, the students experiencing stress have been found to have lower self-directed learning readiness during online classes (Heo & Han, 2017). Aside from dealing with the challenging nature of the new face of academics, Filipino college students have to cope with the coronavirus public health emergency and its consequences in their social lives, while being in a country placed in the longest quarantine in the world (ABS-CBN News, 2020). This study specifically focuses on COVID-19 anxiety, which can be related to the fear of contracting the disease (disease-related COVID-19 anxiety) and fear of the negative effects of the disease in social life (consequence-related COVID-19 anxiety) as suggested by McElroy et al. (2020).

Disparities in mental health outcomes in a society are influenced by social inequality. Multiple studies link social background and anxiety among students (Lederer et al., 2020; Myhr et al., 2020; Shadmi et al., 2020). More specifically, COVID-19 related anxiety has been associated with demographic variables such as age (Moghanibashi-Mansourieh, 2020; Shevlin et al., 2020; Solomou & Constantinidou, 2020; Tee et al., 2020), gender (Hou et al., 2020; McElroy et al., 2020; Tee et al., 2020), and economic status (Ettman et al., 2020; Poudel & Subedi, 2020; Wang & Tang, 2020).

Another form of social disadvantage that can increase anxiety is lack of access to digital resources such as computing gadgets and Internet connectivity (Poudel & Subedi, 2020). Especially among students, the availability of these digital resources is vital for an effective participation in online college education and coping with many other challenges in the new normal (Kapasias et al., 2020). Increased gadget use during the pandemic has been suggested to improve social and cognitive health among students (Beng et al., 2020), while the lack of devices and connectivity for e-learning has been linked to increased stress among learners (Baticulon et al., 2021). Educational policies that design programs and provide human and financial resources to improve the information communication technology (ICT) integration in post-primary education have been emphasized (Alghamdi & Holland, 2020), and are now indispensable necessities in this era of lockdown and remote learning.

Clearly, COVID-19 magnifies the already inherent social and digital inequalities in society. In a developing country with one of the worst Internet connections in the South East Asian (ASEAN) region (Barreiro, 2017), the educational and mental health gaps between privileged and disadvantaged Filipino students are only expected to widen during this period of quarantine.

In the context of the educational shift due to the ongoing pandemic, and cognizant of the influences of social background and digital resources to student mental health, this study sought to determine the relationship between demographic, gadget and Internet profiles to disease and consequence related COVID-19 anxiety among Filipino college students.

2 Methods

2.1 Research goal and design

The present study measures COVID-19 anxiety among Filipino college students in terms of fear of contracting the disease (disease-related COVID-19 anxiety) and fear of the negative impacts of the disease to social life (consequence-related COVID-19 anxiety), and test their relationships with demographic, gadget and Internet profiles. This study uses a quantitative, cross-sectional, correlational design.

2.2 Instrumentation

There are three independent variables in the study: demographic characteristics, gadget ownership, and Internet connectivity. Demographic variables that were considered are as follows: (1) age, which was measured in years; (2) gender, which was measured as male [1] or female [0]; (3) year level, which included first to fifth year; (4) monthly family income, which was measured based on the National Economic Development Association brackets; and (5) type of institution, which was measured as private [1] or public [0]. In the Philippines, there are certain undergraduate degrees that have a five-year curriculum, such as in the fields of physical therapy and speech language pathology (Commission on Higher Education, 2015).

For gadget ownership, the participants were asked whether they owned one or more of the following electronic gadgets for regular and academic use: (1) smartphone; (2) laptop; (3) tablet; and (4) desktop computer. Also, the number of types of gadgets owned were measured in the study.

For Internet connectivity, two sub variables were included. First is the type of Internet connection they had at home. The answers were categorized into three: broadband or digital subscriber line (DSL), cellular service or mobile data, and connectivity that was borrowed from another household, or rented through a computer shop. The second sub variable is the duration of their connectivity on a daily basis, which was categorized as limited access (1–2 h only), moderate access (3–4 h only) and unlimited access. Please refer to Appendix Fig. 1 for the sample survey for demographic, gadget and Internet profiles.

The dependent variable is COVID-19 anxiety. This was measured using the Pandemic Anxiety Scale (PAS) developed by McElroy et al. (2020). The PAS is a 5-point likert scale that measures two dimensions of COVID-19 anxiety. First is disease anxiety composed of four items (e.g. “I am worried that I will catch COVID-19”), with scores ranging from 4 to 20. and Second is consequence anxiety with three items (e.g. “I’m worried about missing school/work”), with scores ranging from 3 to 15. The scale has a satisfactory reliability score (Cronbach’s $\alpha=0.74$). We determined the individual levels of the summated scores as low, moderate and high through establishing cut-offs (Harpe, 2015) by dividing the range into three equal intervals and then rounding off. Information on the PAS can be accessed through McElroy et al. (2020).

2.3 Sample and data collection

The target population for this study are Filipino undergraduate students studying in higher education institutions in the Philippines, between the age 18 to 22, years old. This age range comprises the majority of undergraduate students in the country. We employed convenience sampling. The recruitment was done via our social media accounts through posting of the survey link. We asked our personal networks to also share it on their respective timelines and schools. Google forms was the platform used for to create the survey and collect the data. Postgraduate students were not included in the study. Ultimately, we were able to gather a total of 952 qualified student respondents for this study.

Our study complied with the ethical standards enshrined in the Helsinki Declaration. Full study details and informed consent were presented and secured respectively in the first page of the form. Privacy and confidentiality of the answers were maintained.

2.4 Analysis of data

To determine the profile of the respondents and the prevalence of the levels of COVID-19 anxiety, frequency, percentage, mean and standard deviation were used. To test the significant associations between the independent and dependent variables, Pearson R correlation and one-way ANOVA were used. Jamovi version 1.2 software for Mac was used for analysis.

3 Results

3.1 Demographic profile of the respondents

Table 1 shows that the majority of the participants are within the 18 to 19-year-old age bracket ($f=522$; 54.8%), female ($f=746$; 78.4%), first year students ($f=491$; 51.6%), have an estimated monthly income of less than PHP 10,000 (USD 208) ($f=339$; 35.6%), and are enrolled in a private university or college ($f=527$; 55.4%).

Table 1 Demographic profile of the respondents ($n = 952$)

Variable	Categories	<i>f</i>	%
Age	18 to 19 years old	522	54.8
	20 to 22 years old	430	45.2
Gender	Male	206	21.6
	Female	746	78.4
Year Level	1st year	491	51.6
	2nd year	333	35.0
	3rd year	44	4.6
	4th year	42	4.4
	5th year	42	4.4
Estimated Monthly Family Income*	More than PHP 200,000	27	2.8
	PHP 125,001 to 200,000	22	2.3
	PHP 75,001 to 125,000	54	5.7
	PHP 40,001 to 75,000	93	9.8
	PHP 20,001 to 40,000	188	19.7
	PHP 10,001 to 20,000	229	24.1
Type of Institution	Less than PHP 10,000	339	35.6
	Public University/College	425	44.6
	Private University/College	527	55.4

USD 1 = PHP 48

3.2 Gadget and internet profiles of the respondents

Table 2 presents the gadget and Internet profiles of the respondents. In terms of gadgets, the majority of the respondents own a smartphone ($f = 894$; 93.9%) and own only one type of gadget ($f = 476$; 50.0%). In terms of Internet connectivity, the majority of the participants have their own subscription to a cellular or mobile service ($f = 498$; 52.3%) and have unlimited access ($f = 447$; 47.0%).

3.3 COVID-19 anxiety levels

Table 3 presents the distribution of the respondents based on COVID-19 anxiety levels. Findings suggest that the majority of the respondents have high levels of disease-related ($f = 814$; 85.5%) and consequence-related ($f = 737$; 77.4%) COVID-19 anxiety. The overall means and standard deviations for disease and consequence related anxiety are 17.28 ± 3.25 and 13.57 ± 2.04 respectively, both interpreted as high level.

3.4 Relationship between demographic profile and COVID-19 anxiety

Findings shown in Table 4 suggest that disease-related COVID-19 anxiety is significantly negatively correlated with monthly family income ($p < 0.05$). Students from

Table 2 Gadget and internet profiles of the respondents (n = 952)

Variable	Categories	<i>f</i>	%
Gadget Profile			
Type of Gadget Owned	Smartphone	894	93.9
	Laptop	469	49.3
	Tablet	38	4.0
	Desktop Computer	46	4.8
Number of Different Types of Gadgets Owned	4 different types of gadgets	2	0.2
Types of Gadgets Owned	3 different types of gadgets	37	3.9
	2 different types of gadgets	426	44.7
	1 type of gadget only	476	50.0
	No gadgets owned (borrowed only)	11	1.2
Internet Profile			
Type Internet Connection	Owned: Broadband or DSL	431	45.3
	Owned: Cellular or Mobile Service	498	52.3
	Not Owned: Rented/Borrowed	23	2.4
Daily Duration of Access	Limited access (1–2 h only)	209	22.0
	Moderate access (3–4 h only)	296	31.0
	Unlimited access	447	47.0

families in lower income brackets are more anxious about the disease compared to their richer counterparts.

Furthermore, consequence-related COVID-19 anxiety was found to be significantly negatively correlated with age, gender, year level and family income ($p < 0.05$). Younger, female students from lower year levels and poorer families are more anxious about the consequences of the pandemic. Type of institution is not significantly related to the two domains.

Table 3 COVID-19 anxiety levels

Variable	Levels (Score Range)	<i>f</i>	%
Disease-Related COVID-19 Anxiety	High (14–20)	814	85.5
	Moderate (9–13)	118	12.4
	Low (4–8)	20	2.1
Consequence-Related COVID-19 Anxiety	High (11–15)	737	77.4
	Moderate (7–10)	198	20.8
	Low (3–6)	17	1.8

Table 4 Relationship between demographic profile (IV) and COVID-19 Anxiety (DV)

IV	DV	r-value	p value
Age	Disease-related	-0.010	0.759
Gender	COVID-19 Anxiety	-0.039	0.224
Year Level		-0.042	0.195
Monthly Family Income		-0.091*	0.005
Type of Institution		0.023	0.469
Age	Consequence-related	-0.608*	0.036
Gender	COVID-19 Anxiety	-0.075*	0.021
Year Level		-0.109*	0.001
Monthly Family Income		-0.182*	<.001
Type of Institution		0.010	0.751

*significant at $p = 0.05$ level

3.5 Relationship between gadget profile and COVID-19 anxiety

Results shown in Table 5 suggest that disease-related COVID-19 anxiety is significantly negatively correlated with laptop and desktop ownership and the number of types of gadgets owned ($p < 0.05$). Higher disease anxiety scores are observed among those who do not own laptops or desktop computers, and have lesser types of gadgets owned.

On the other hand, consequence related COVID-19 anxiety was found to be significantly, negatively correlated with laptop and tablet ownership, and the number of gadget types owned ($p < 0.05$). Those who do not own laptops and tablets, and have a lesser variety of gadgets exhibit higher levels of anxiety related to COVID-19 consequences. Smartphone ownership was not significantly related to the two domains of COVID-19 anxiety.

Table 5 Relationship between gadget profile (IV) and COVID-19 Anxiety (DV)

IV	DV	r-value	p value
Smartphone	Disease-related	0.022	0.492
Laptop	COVID-19 Anxiety	-0.069*	0.034
Tablet		-0.051	0.114
Desktop		-0.059*	0.030
No. of Gadget Types		-0.079*	0.015
Smartphone	Consequence-related	0.022	0.499
Laptop	COVID-19 Anxiety	-0.125*	<.001
Tablet		-0.070*	0.032
Desktop		-0.059	0.068
No. of Gadget Types		-0.138*	<.001

*significant at $p = 0.05$ level

3.6 Relationship between internet profile and COVID-19 anxiety

As seen in Table 6, ANOVA test results suggest significant differences in COVID-19 anxiety based on Internet profile ($p < 0.05$). Tukey's post hoc test was used to identify the specific groups with marked differences.

Broadband/DSL subscribers were seen to have significantly lower disease-related COVID-19 anxiety compared to those who only had cellular data subscriptions, and lower consequence-related COVID-19 anxiety compared to those subscribed to cellular service and those who rented/borrowed their Internet connectivity.

Respondents who had limited daily access to the Internet were seen to have significantly higher disease-related COVID-19 anxiety compared to those with unlimited access; and higher consequence-related COVID-19 anxiety compared to those with medium and unlimited access.

4 Discussion

The aim of this present study is to test the relationship between demographic, gadget and Internet profiles, and disease and consequence related COVID-19 anxiety among Filipino college students. As of this writing, this is the first large scale study done in the young adult, undergraduate student population in the country that looked into these determinants of COVID-19 anxiety. Our research suggests that high levels COVID-19 anxiety are prevalent among Filipino college students. Similarly, high rates of generalized and COVID-19-specific anxiety had been noted by previous studies in student populations in the Philippines (Baloran, 2020) and elsewhere (Cao et al., 2020; Islam et al., 2020; Lasheras et al., 2020; Olaimat et al., 2020; Rogowska et al., 2020) during the period of pandemic. The disruptive effects of the pandemic on the education, social life and future plans of these college students have truly negatively impacted their psycho-emotional status as emerging adults (Cleofas, 2020).

4.1 Demographic, gadget and internet profiles, and disease-related COVID-19 anxiety

Our present research demonstrates that students from poorer households have significantly higher disease-related COVID-19 anxiety. This correlation reflects the worry of those from the lower income bracket about having higher risks of getting infected. As the essential workers during quarantine are usually the poor, they are more exposed to the virus and may transmit it to other members of the household. Students with parents who are working outside the home during the pandemic, compared to those who are in a work-from-home scheme, have perceived increased susceptibility to the disease (Cleofas, 2020). Furthermore, the poor are less likely to afford testing and hospitalization related to COVID-19 (Shadmi et al., 2020).

Table 6 Relationship between internet profile (IV) and COVID-19 Anxiety (DV)

One-Way ANOVA Results		Tukey Post-Hoc Test Results	
		Categories	p value
Type of Internet connection* Disease-Related COVID-19 Anxiety ($p < 0.001$)		Broadband/DSL vs Cellular Service	-0.430*
		Broadband/DSL vs Rented/Borrowed	-1.212
		Cellular Service vs Rented/Borrowed	-0.785
Type of Internet connection* Consequence-Related COVID-19 Anxiety ($p < 0.001$)		Broadband/DSL vs Cellular Service	-0.949*
		Broadband/DSL vs Rented/Borrowed	-2.42*
		Cellular Service vs Rented/Borrowed	-1.47
Daily Duration of Access* Disease-Related COVID-19 Anxiety ($p < 0.002$)		Limited Access vs Medium Access	0.315
		Limited Access vs Unlimited Access	0.723*
		Medium Access vs Unlimited Access	0.409
Daily Duration of Access* Consequence-Related COVID-19 Anxiety ($p < 0.001$)		Limited Access vs Medium Access	0.401
		Limited Access vs Unlimited Access	1.321*
		Medium Access vs Unlimited Access	0.920*

*significant at $p = 0.05$ level

In terms of gadget profile, findings suggest that students who do not own laptops and desktop computers, and have a lesser variety of gadgets owned experience significantly higher disease-related COVID-19 anxiety. This association is expected since in the time of quarantine, the main source of information about the disease can be accessed via electronic gadgets (Ansari & Anjali, 2020). Moreover, a study has suggested that compared to mobile devices, laptop and desktop searches provide better information regarding health (Boyd & Wilson, 2018).

As for Internet profile, our present study shows that type of Internet connection and daily duration of Internet access are significant determinants of disease-related COVID-19 anxiety. Students whose main Internet connection is cellular service have higher levels of disease-related anxiety compared to those subscribed to broadband/DSL. Also, those with limited duration of Internet access have significantly higher levels of anxiety related to COVID-19 disease compared to those with unlimited access. Because of some limitations of cellular data plans to allow users access to certain social networking sites, the students may have more exposure to misinformation and non-contextualized news headlines that are found about COVID-19 in free sites, and may not have the means to verify. This exposure to false information may be the cause for increased anxiety towards COVID-19 as suggested by previous studies (Lee et al., 2020; Shabahang et al., 2020).

4.2 Demographic, gadget and internet profiles, and consequence-related COVID-19 anxiety

Our present study suggests that younger students and those enrolled in lower year levels exhibit higher levels of consequence-related COVID-19 anxiety compared to older counterparts. This finding is congruent with the study of Wang et al. (2020) that suggested that freshmen and sophomores scored higher in terms of anxiety, which reflects the uncertainties younger students have in terms of coping with the online pedagogy, while also transitioning into college life, both of which are affected because of the pandemic (Tria, 2020).

As regards to gender, females were found to have higher scores of consequence-related COVID-19 anxiety compared to their male counterparts. This finding is reflective of how quarantine and online schooling due to the pandemic can increase the home making and caretaking responsibilities of women in the household (Wenham et al., 2020), which causes the strain and anxiety among females as seen in other COVID-19 studies as well (McElroy et al., 2020; Wang et al., 2020; Tee et al., 2020).

Moreover, our research suggests that students from poorer households demonstrate higher levels of consequence-related COVID-19 anxiety, which confirms that people of lower socioeconomic status experience the social and economic impacts of the pandemic disproportionately (Shadmi et al., 2020). Anxieties

among poor students have been related to the economic consequences of the pandemic such as financial distress because of parents losing employment, lack of basic needs and the need of the student to work to gain more income (Baticulon et al., 2021).

In terms of gadget profile, our findings show that those who do not own laptops and tablets, and those with a lesser variety of gadgets owned are significantly more anxious about the consequences of COVID-19. Owning computing devices with required specifications are important to successfully engage in distance learning as a consequence of the pandemic, and not owning gadgets that can properly run learning management systems is considered a barrier for online education (Baticulon et al., 2021; Cedeño et al., 2021), which can be a factor contributing to students' anxiety (Baloran, 2020; Pastor, 2020).

As for Internet profile, results suggest that students whose main Internet connection is cellular service, and those who borrow Internet from other households, have higher levels of consequence-related COVID-19 anxiety compared to those subscribed to broadband/DSL. Moreover, students who have less than five hours of daily Internet access are more anxious in terms of the consequences of COVID-19. Since online learning is highly dependent on Internet connection, which the Philippines still lacks in terms of national coverage (Barreiro, 2017), students with limited or unreliable connectivity will not be able to fully engage in class, which can be the source of anxiety for them (Baticulon et al., 2021; Pastor, 2020).

The findings on the negative relationships of family income, gadget ownership and quality of Internet connectivity with COVID-19 anxiety run parallel with each other. In order to effectively engage in online classes, obtain information on COVID-19 and access essential digital services, students must own computing devices connected to reliable Internet connection (Baloran, 2020; Pastor, 2020). These are digital resources needed in order to participate in education and other facets of life in the new normal that require finances, which students from poorer households may lack (Baticulon et al., 2021). These explain the high level of anxiety observed in both economically and digitally challenged sectors of the undergraduate student population.

5 Conclusions and recommendations

Based on the findings, we conclude that demographic characteristics, gadget ownership and Internet access of college students are significant determinants of COVID-19 anxiety. This study provides empirical evidence to support that socioeconomic gaps and the digital divide run parallel to each other and may lead to poor educational and mental health outcomes among students, especially in a time of pandemic.

Educational and psychological support for students during this online-mode period of education must focus on those who may experience higher levels of anxiety during the pandemic: the young, the females, the freshmen and the poor. School administrators must design less stressful digitized curricula and school experiences, conduct COVID-19 awareness campaigns, and implement

counseling and mental health programs to care for students at risk for anxiety because of the pandemic.

Since gadget ownership is a protective factor for COVID-19 anxiety, government and civil society organizations may create programs to pool resources to provide computing devices to students from lower income brackets in order for them to successfully engage in online schooling and access to other digital services. Likewise, connection to a reliable Internet service is also a protective factor for COVID-19 anxiety. Local government units may provide financial support to students from poor households to be able to subscribe to stronger Internet connections. Internet service providers are enjoined to expand their coverage and introduce cheaper plans for students to help decrease the students' worries about being able to participate meaningfully in school.

The Philippines can learn from the strategies employed by the education sector of its ASEAN neighbors. For instance, students and teachers were provided financial support to obtain computing devices and dongles for internet connectivity in Singapore (Yip et al., 2021), and use of broadcast media and low-bandwidth communication apps were promoted in Thailand and Vietnam (Chang & Yano, 2020). Through their Ministries of Education, the governments of Brunei Darussalam and Indonesia have forged partnerships with telecommunication companies to provide consistent Internet connectivity, free access to online learning management systems and platforms, and subsidized rates for students and teachers (Gupta & Khairina, 2020; Shahrill et al., 2021). In Malaysia, the government provided RM270 (65 USD) to students studying in higher education institutions, and certain universities have placed support systems in order to provide technical assistance to students who have difficulty accessing reliable Internet services (Sia & Adamu, 2020). In Lao PDR, the Ministry of Education and Sports have worked with civil society organizations in order to create applications for learning, equip schools with low-cost ICT equipment and provide trainings to teachers (Redmond, 2021).

6 Limitations

Despite a large sample size, it must be noted that the respondents were selected via convenience sampling and were limited to our social networks. Moreover, the current sample is predominantly female. Also, since the survey was administered online, the sample may not fairly represent students who completely do not have access to the Internet at all. These factors may affect the generalizability of the results. Also, due to the provisions of the Data Privacy Act of the Philippines (Official Gazette of the Philippines, 2012), we were not able to collect data on the institutions and locations of the students that voluntarily participated in the study, as these are considered personal and private information. Thus, we were not able to provide insight on the number of schools and regions that were included in this study. Future researchers may consider doing a similar study that will recruit a sample that aptly represents students in terms of gender, and also include those with entirely no Internet connectivity.

Appendix

SURVEY FORM	
<p>1. Sociodemographic Profile</p> <ul style="list-style-type: none"> • Age (in years): _____ • Gender: <ul style="list-style-type: none"> ○ Male ○ Female • Year Level: <ul style="list-style-type: none"> ○ First Year ○ Second Year ○ Third Year ○ Fourth Year ○ Fifth Year • Type of Higher Education Institution: <ul style="list-style-type: none"> ○ Public University/ College ○ Private University/ College • Living Arrangement: <ul style="list-style-type: none"> ○ Living with Family ○ Living with Friends/ Dormmates ○ Living Alone • Estimated Monthly Family Income: <ul style="list-style-type: none"> ○ Less than PHP 10,000 ○ PHP 10,001 to 20,000 ○ PHP 20,201 to 40,000 ○ PHP 40,001 to 75,000 ○ PHP 75,001 to 125,000 ○ PHP 125,001 to 200,000 ○ More than PHP 200,000 	<p>2. Gadget Profile</p> <ul style="list-style-type: none"> • Gadgets used by Students during Online Class: <ul style="list-style-type: none"> ○ Smartphone ○ Laptop ○ Tablet ○ Desktop ○ No gadget <p>3. Internet Profile</p> <ul style="list-style-type: none"> • Internet Access: <ul style="list-style-type: none"> ○ Cellular service (mobile data) ○ DSL through a phone company ○ Broadband through a cable company ○ Dial-up (must connect via phone dial) ○ Rented ○ Borrowed • Time of Internet Access <ul style="list-style-type: none"> ○ Limited access (1-2 hours) ○ Medium access (3-4 hours) ○ Unlimited access <p>4. COVID-19 Anxiety</p> <ul style="list-style-type: none"> • measured using the Pandemic Anxiety Scale [PAS] by McElroy et al., (2020)

Fig. 1 Sample survey of the study

Declarations

Conflict of interest There are no conflicts of interest to disclose.

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