Self-care practices and online student engagement during Covid-19 in the Philippines: A mixed methods study

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The Covid-19 pandemic and the transition of educational landscapes from traditional to online classes, have exposed students to an increased risk of mental health problems that can impact their educational engagement and learning outcomes. Self-care practices can help protect students from psychological challenges, and also improve student outcomes; however, the drastic societal changes brought about by quarantine and digital learning may cause disruptions in students' practice of self-care. The aim of this convergent mixed methods study is to determine the relationship between self-care practices and online student engagement, and describe the barriers in practising self-care among undergraduate students during the pandemic. An online survey was administered to a convenience sample of 202 students from De La Salle University, Philippines. Quantitative results suggest that specific domains of self-care practices are statistically linked with background characteristics and online student engagement. On the other hand, two themes describing the barriers to practising self-care emerged from the qualitative data: (1) quarantine-related barriers; and (2) online-class-related barriers.

Introduction

The novel coronavirus 2019 (Covid-19) pandemic and the abrupt transition of the educational landscape from traditional to online classes have exposed students to increased risk for mental health problems that can impact their educational engagement and learning outcomes. Wu et al. (2021) suggested that in many parts of the world, higher than normal prevalence of depression, anxiety, psychological distress and insomnia had been noted among students during the pandemic. Specifically in the Philippines, studies have reported high levels of Covid-19-related anxiety in the student population (Baloran, 2020; Cleofas & Rocha, 2021). These mental health issues brought about by the pandemic, coupled with unfamiliarity with online learning environments, can present challenges to student engagement (Chiu, 2021).

An important protective factor against mental health challenges among students identified by research is self-care. Studies have suggested that self-care can decrease stress (Moore & Wilhelm, 2019), diminish substance-abuse-related problems (Colomer-Pérez et al., 2019), enhance sleep (Di Benedetto et al., 2020) and improve over-all quality of life (Ayala et al., 2018) among students from various backgrounds. This association between self-care and decreased psychological distress among students has also been demonstrated during the time of Covid-19 pandemic (Brouwer et al., 2021).

Self-care practices can also improve educational outcomes and over-all school productivity (Cook-Cottone & Guyker, 2018). Zahniser et al. (2017) suggested the association of self-care with better training progress among students. Mindfulness self-care practices and training has been linked to enhanced learning experiences and

professional skills (Gockel & Deng, 2016), and improved self-fulfilment and motivation among students (Ghanizadeh & Navokhi, 2019). Self-care has also been suggested to improve self-awareness and social skills of students during practice (van Vliet et al., 2018). Cousins and DeLuca (2016) demonstrated the importance of instilling self-care practices among students to improve their academic performance and build social inclusion, especially for those with health needs. The importance of providing students with capacities to care for their own physical and mental wellbeing has been more emphasised during the Covid-19 pandemic to ensure that they are engaged in and learning from their online classes while being in the midst of a public health emergency (Chiu, 2021).

However, due to the drastic societal changes brought about the COVID-19 pandemic, the usual life patterns of students have been disrupted. Aside from their classes that moved from classroom to home setting, the physical, social and recreational aspects of their lives had been limited by quarantine as well (Power et al., 2020). Students have been observed to be more sedentary during this period (Stockwell et al., 2021). These can decrease students' ability to practise self-care and gain its health and educational benefits (Chiu, 2021; Rotas & Cahapay, 2020). Thus, an empirical investigation is needed to explore the barriers in practising self-care among students during this unprecedented time of the pandemic and digital learning.

While wealthier countries are coming close to achieving pre-pandemic normalcy and are gradually returning to in-person classes, most of the developing world is still struggling to achieve herd immunity and experiencing delays in resuming on-campus learning (Human Rights Watch, 2021). Since March 2020, the Philippines has retained its quarantine protocols in varying degrees across the country due to multisectoral challenges in handling the pandemic (Hapal, 2021). In line with this, the Commission on Higher Education had pronounced that online learning will continue to be an integral part of the educational landscape of the Philippines (Magsambol, 2021). Thus, examining how students manage their own well-being through self-care and how it influences their educational outcomes during the era of Covid-19 and online learning remains very relevant, especially for the Filipino student population that is under-represented in self-care research.

Study framework and objectives

Figure 1 shows a visualisation of the study framework and flow. This study makes use of a convergent mixed methods design. For the quantitative strand of the study, the main variable is self-care practices with six domains, based on the mindful self-care framework of Cook-Cottone and Guyker (2018). These domains are *physical care* (exercising, eating healthy foods and hydration), *mindful awareness* (calm awareness of thoughts, feelings and body), *supportive relationships* (interacting with significant others), *self-compassion and purpose* (experiencing meaning in life and accepting challenges), *mindful relaxation* (active engagement in relaxation activities), and *supportive structure* (management of one's time and space).
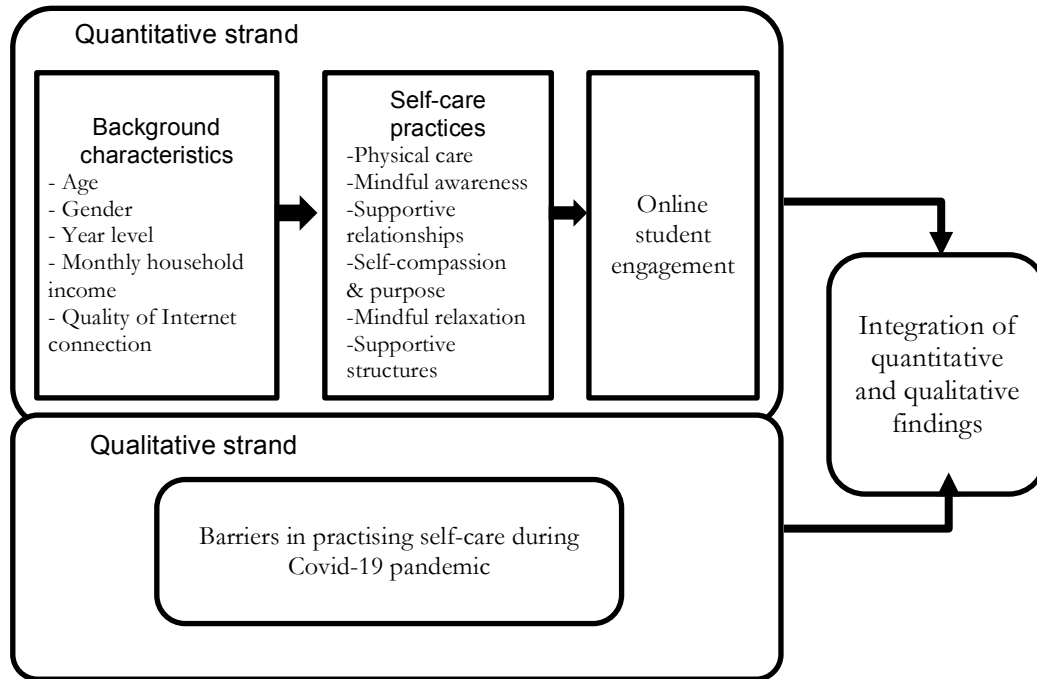
Figure 1: Framework of the present convergent mixed methods study,
presenting the concepts examined in the quantitative and qualitative strands,
and the consequent integration of the findings of the two strands

The first quantitative research objective is to determine the association of background characteristics such as age, gender, year level, monthly household income and quality of Internet connection and the extent of their self-care practices. Previous studies have identified these variables as significant influences upon Filipino students' wellbeing during the pandemic (Baloran, 2020; Cleofas & Rocha, 2021).

The second quantitative research objective is to determine the relationship between self-care practices and online student engagement, which refer to the extent of skills, emotions, participation and performance demonstrated by the students while being in online classes (Dixson, 2015). While there has been a wealth of pre-pandemic research that suggests the positive relationship of self-care to various facets of student engagement in traditional classroom set-ups (Cook-Cottone & Guyker, 2018; Cousins & DeLuca, 2016; Ghanizadeh & Navokhi, 2019; Gockel & Deng 2016; van Vliet et al., 2018; Zahniser et al, 2017), this present study examines this relationship in the context of Covid-19 and online classes.

Cognisant of the impact pandemic-induced societal changes and transition to online learning to the dynamics of students' daily lives (Power et al., 2020), this study's third objective is to describe the barriers in practising self-care during the Covid-19 pandemic. I

pursued this research objective qualitatively, to explain how these contexts challenged their performance of self-care, based on their personal experiences.

Finally, the overarching goal of this mixed methods study is to examine how the relationships established in the quantitative strand can be explained and contextualised by the nuances in the qualitative analysis, and vice versa, which will be accomplished through an integration of the findings from both strands.

Methods

Research design

This study made use of the convergent mixed methods design and is adherent to the guidelines of *Good Reporting of a Mixed Methods Study* (GRAMMS) by O'Cathain et al., (2008). In convergent mixed methods design, the researchers gather and analyse quantitative and qualitative data with the intent of merging the findings of the analyses for both strands (Harrison et al., 2020). For this present study, the quantitative strand (QUAN) used a cross-sectional, descriptive correlational approach, whilst the qualitative strand (QUAL) used a qualitative descriptive approach. As explained earlier, the justification of the use for a mixed methods design for this research is the need to measure self-care practices as a distinct variable and determine its relationship with online student engagement, while also understanding how the students' personal and social contexts shape how they are able to practise self-care.

Research instrument

Both quantitative and qualitative data were collected using a single survey. The online survey consisted of four parts. The first part inquired about the students' background characteristics, which included age (in years; bracketed as below 20, and 20 above), gender (coded as 1 for males and 2 for females), year level (first to fifth year), monthly household income (based on the National Economic Development Authority brackets) and quality of Internet connection at home (rated as poor, fair, good, very good and excellent).

The second part of the instrument is the *Mindful Self-Care Scale* (MSCS) by Cook-Cottone and Guyker (2018), which was used to quantitatively measure the extent to which students practised self-care. The MSCS is a 33-item scale, composed of six domains which have been explained earlier in the study framework section. Each item is measured via a five-point Likert scale that inquired how often each behaviour had been done within the past week. The items included positively and negatively framed questions. An example item-statement is, "I did something interpersonal to relax (e.g., connected with friends)." The scale has a high Cronbach alpha value of 0.89 (Cook-Cottone & Guyker, 2018).

The third part of the survey is the *Online Student Engagement Scale* (OSE) by Dixson (2015), which was used to quantitatively measure the engagement of the student respondents. The OSE is a 19-item, unidimensional, five-point Likert scale, which measures the students' skills, emotion, participation and performance during online classes. An example item-

statement is, "I engage in conversations online (chat, discussions, email)." The scale has acceptable Cronbach alphas ranging from 0.86 to 0.95 (Dixson, 2015).

The fourth part of the survey is composed of open-ended questions to collect qualitative data regarding the barriers to practising self-care among students. The respondents were encouraged to type their answers as freely as they would like. These questions are:

- How did you practise self-care prior to the COVID-19 pandemic?
- How did your self-care practices change during the period of pandemic and online classes?
- How do you feel about these changes (if any)?

Study participants

The respondents in the study are undergraduate students from De La Salle University, Philippines, selected by convenience sampling. A total of 202 students participated in the online survey. No students below 18 years old were included in the study. The majority of the participants are below 20 years old (n=137; 67.2%), females (n=124; 60.8%), in their first year in college (n=131; 64%), with a monthly household income above PhP 200,000 (n=82; 40.2%) and an Internet connection rated as "good" (n=83; 40.7%).

Data gathering procedure and ethical considerations

The online survey was constructed using *Google Forms*. The link was placed in the announcement tab of the learning management system for the students at the university. The survey link was active from January to February 2021. This study protocol adhered to the guidelines for online research stipulated in the *National Ethical Guidelines for Health and Health Related Research 2017* (Philippine Health Research Ethics Board, 2017). The announcement and the first page of the online survey indicated the study objectives, the qualifications for respondents, the voluntary nature of the participation, the benefits, risks and rights of the participants, including the protection of the confidentiality and privacy of their data. Informed consent was secured digitally via the form.

Data analysis procedure

Statistical tests were used to address the quantitative research questions. To determine the extent of self-care practices and online student engagement, mean and standard deviation were used. To determine the relationships among the variables, t-test, ANOVA and Pearson R were used.

For the qualitative data, thematic analysis was used (Kiger & Varpio, 2020). The open-ended responses from the survey were read and reread until familiarity was gained. Codes were assigned to the narratives. From codes, categories and themes that exhaustively described the phenomenon emerged.

As this is a mixed methods research, quantitative and qualitative findings were integrated. For this, I used a simultaneous bidirectional strategy, wherein the data merging is characterised by an interactive consideration of both emergent quantitative and qualitative results in order to make the analysis robust (Moseholm & Fetters, 2017).

Results

QUAN: Descriptive results for self-care practices and online student engagement

Table 1 shows the mean and standard deviation scores for self-care practices and online student engagement. In terms of self-care, supportive relationships received the highest mean (3.76) with a verbal interpretation of "often," while physical care garnered the lowest mean (2.77) with a verbal interpretation of "sometimes." Online student engagement yielded a mean of 3.70, which is interpreted as "high engagement."

Table 1: Self-care practices and online student engagement

	Variables	Mean	SD	Interpretation
Self-care practices	Physical care	2.77	0.761	Sometimes
	Supportive relationships	3.76	0.820	Often
	Mindful awareness	3.40	0.815	Sometimes
	Self-compassion and purpose	3.58	0.815	Often
	Mindful relaxation	3.46	0.659	Often
	Supportive structures	3.58	0.841	Often
Online student engagement		3.70	0.549	High engagement

Note for MSCS: 1.00-1.80=Never; 1.81-2.60=Rarely; 2.61-3.40=Sometimes; 3.41-4.20=Often; 4.21-5.00=Regularly.
Note for OSE: 1.00-1.80=Very Low; 1.81-2.60=Low; 2.61-3.40=Moderate; 3.41-4.20=High; 4.21-5.00=Very high

QUAN: Background characteristics and self-care practices

Table 2 shows the results for the tests of difference in the extent to which the students practised the specific domains of self-care. The t-test scores suggest that there is a significant difference in physical self-care when grouped according to age (t=2.154; p=0.032). Younger students (below 20 years old) demonstrated higher mindful awareness compared to their older counter parts. On the other hand, t-test results on self-care grouped based on gender revealed that in terms of mindful awareness, males scored significantly higher compared to females (t=-4.037; p<.001).

ANOVA test scores (Table 2) suggest that there is a significant difference in mindful awareness (F=3.737; p=0.006) and supportive structures (F=2.674; p=0.033) when grouped according to monthly household income. Post-hoc tests reveal that students from households earning more than PhP 200,000 had significantly higher scores for mindful awareness (MD=8.018; p=0.012) and supportive structures (MD=0.7069; p=0.041) compared to less wealthy counterparts.

Table 2: Tests of differences in the domains of self-care practices
when grouped according to background characteristics

	Background variables and test used				
	Age (below 20 yr vs over 20 yr)	Gender	Year level	Monthly household income	Quality of Internet connection
	Independ. t-test (t)	Independ. t-test (t)	One way ANOVA (F)	One way ANOVA (F)	One way ANOVA (F)
Physical care	-1.411	-0.301	1.53	0.868	0.832
Supportive relationships	0.697	-0.674	1.75	1.312	0.001**
Mindful awareness	2.154*	-4.037***	2.00	3.737**	6.113**
Self-compassion and purpose	0.604	-1.648	1.39	0.815	12.119**
Mindful relaxation	1.157	-1.005	1.17	2.194	1.336
Supportive structures	1.348	-0.412	1.19	2.674*	3.532*

Note: * $p < .05$; ** $p < .01$; *** $p < .001$

When grouped according to quality of Internet connectivity, ANOVA test scores yielded a significant difference in supportive relationships (F=0.001; p<0.001), mindful awareness (F=6.113; p<0.001), self-compassion and purpose (F=12.119; p<0.001) and supportive structures (F=3.532; p=0.024). Post-hoc values indicate that students with poor connection have significantly lower scores compared to those who have rated their Internet connectivity as very good in terms of supportive relationships (MD=-0.863; p<0.001), mindful awareness (MD=-0.642; p=0.041) and supportive structures (MD=0.750; 0.007). Surprisingly, no pairwise comparisons were found to have significant differences among the groups for self-compassion and purpose. Upon eyeballing the data, those with excellent versus poor Internet connections yielded the highest mean difference (MD=0.5482). No significant difference was found in self-care domains based on year level.

QUAN: Relationship between self-care practices and online student engagement

Table 3 shows the Pearson R test results that determines the significance of the relationship between the domains of self-care practices and online student engagement among the college student respondents. Findings suggest that physical care (r=0.166; p=0.018), supportive relationships (r=0.229; p<0.001) and mindful relaxation (r=0.259; p<0.001) had significant weak positive relationships with online student engagement, while self-compassion and purpose (r=0.300; p<0.001) and supportive structures (r=0.412) demonstrated significant moderate positive correlations with online student engagement. Mindful awareness was not significantly related to student engagement.

Table 3: Pearson R correlation test between domains of
self-care practices and online student engagement

	Domains of self-care practices					
	Physical care	Supportive relationships	Mindful awareness	Self-compassion and purpose	Mindful relaxation	Supportive structures
r-value	0.166*	0.229***	0.119	0.300***	0.259***	0.412***
p-value	0.018	<.001	0.091	<.001	<.001	<.001

Note: * p < .05, ** p < .01, *** p < .001

QUAL: Thematic findings on the barriers to practising self-care during Covid-19

As a result of qualitative analysis of the students' answers in the open-ended questions in the survey, two major themes emerged, describing the barriers to practising self-care during the pandemic. The two themes are: (1) *quarantine-related barriers;* and (2) *online-class-related barriers.* Table 4 presents an outline of the themes and the subthemes from which they emerged, and representative quotes.

Table 4: Themes and subthemes depicting the barriers
to practising self-care during Covid-19 pandemic

Themes	Subthemes	Sample representative quotes
Quarantine-related barriers	Decreased social interaction with peers and significant others	I used to go out with my friends on Fridays or the weekends but due to the pandemic, I can no longer do these. [P074] Socialisation is different from pre-COVID-19, and it has hindered me to spend more meaningful time with my friends & family. [P162]
	Restrictions in performing outdoor self-care activities	I used to go out, walk alone after class… and just unwind alone. That's something I miss doing—seeing the outside world… [P108] I am not able to jog around my usual jogging route… [P144]
	Self-care-related services closed during quarantine	I really like going out to the cinemas, eating at restaurants, staying at coffee shops… but because of the pandemic, I'm stuck at my place. [P202] Before the pandemic, I used to pamper myself at the salon and spa where I get my nails done and have a full body massage thrice a month… [P056]
Online-class related barriers	Time-consuming academic workload	The thing that I do not like in online classes is that I do not really have time for myself anymore… [P035] … there is this immense responsibility and an overload of things needed to get done. [P026]
	Psychological exhaustion due to online class	… online classes add more to the stress and even affects the mental and emotional health of students… [P018] It is draining and home doesn't feel like home anymore because it is not just the place where I rest, but also where I study. [P115]

Theme 1: Quarantine-related barriers

Because of the nationwide quarantine measures that were implemented to curb the spread of Covid-19, the students were restricted to their homes. Based on their narratives, many of their preferred self-care activities required mobility and space, usually outside their residences. This has discouraged them in practising self-care.

Subtheme 1.1: Decreased social interaction with peers and significant others
Many of the students indicated that an important self-care they practised pre-pandemic was socialising with friends. But because of social distancing measures enacted by quarantine, the students had almost no in-person interaction with peers since the pandemic broke. P150 explained the importance of peer interactions for their student life and stress management:

> I think the self-care that I did most prior to COVID-19 was meeting with my friends. I always met with my friends almost weekly whenever I am done with my requirements to release stress… Now that I do not get to spend time with my friends, I feel lonely, and I become more aware of how tired I am.

There were a few students who could substitute their face-to-face get-togethers with friends with online interactions; however, many mentioned that they preferred physical interactions, like P007 who shared:

> You may think that I could just tell them thru online but for me, it would hit different. I wanna see their reactions in person, not online. I miss giving friendly back slaps because it's a regular thing I do with friends.

Aside from friends, some students also lamented that they could not have intimate moments with their romantic partners. P168 explained:

> …after class, I would go on dates and bond with my boyfriend such as eating out, going on dates, or being together which now is extremely difficult to do due to the circumstances…

Despite most of the students living and being quarantined with family members, they shared that the pandemic hindered them from their usual bonding outside the house, which they considered as self-care. P110 described an activity shared with a parent:

> … on weekends, my mother and I go to the mall to bond with each other because we rarely see each other during the weekdays.

Students were concerned about the possible detriments to their quality of life from this lack of interaction with peers and other significant others. As P152 pu it:

> It was hard because quality time is one of my love languages and this is how I am able to know and connect with them more and I am scared that because of that, I might lose connection with them.

Subtheme 1.2: Restrictions in performing outdoor self-care activities
Students cited pre-pandemic self-care practices that are usually performed outdoors. Simply seeing and being in an outside environment can help address their mental health needs, as P036 shared:

> I used to spend time outside to get some fresh air, because personally it helps me reduce my stress…

Because of the quarantine protocols that restricted them to staying at home, they could no longer go out and this affected their wellbeing. P116 wrote:

> I spend time with myself staring at nothing outside and relax my thoughts. It feels suffocating now that I can't do these.

Engaging in some form of outdoor physical activity was identified as a common form of self-care that they could no longer do because of the pandemic. These limitations can hinder even the simplest forms of mobility, such as walking. Related to this, P081 mentioned:

> Prior to COVID-19, one of my self-care practices is walking my dogs around the neighbourhood. Aside from being another way to exercise, it enhances my deep appreciation for nature. I feel a bit sad that I am not able to do this anymore…

There are also those who were restricted from engaging in regular exercise and playing outdoor sports, such as basketball, badminton and swimming, which was a part of the self-care habit of P134, who shared:

> I really miss swimming because it's exercise, meditation, and therapy all in one for me.

While some were able to devise ways to perform alternative indoor workouts to stay active, there were those who lamented the lack of space in their homes. P181 mentioned:

> Exercising for me was a daily routine but with no access to the gym and living in a small apartment, there is not much room for me to perform this practice.

Another outdoor self-care practice that some students could no longer do due to quarantine was travelling. While P084 understood these restrictions, the lack of travel had impacted them:

> I'd usually travel... It's hard especially now that I already experienced cabin fever…

Subtheme 1.3: Self-care-related services closed during the pandemic
Many businesses were limited during quarantine. Because of this, some of the students who relied on products and services from the private sector for their self-care needs found these became less accessible. For instance, eating out had been identified as an important self-care habit, and because of restaurants reducing services during the pandemic, these needs had been unmet. P043 shared:

> I used to treat myself to spontaneous dine-in sessions alone at various places… Due to quarantine restrictions, I was forced to put those independent food journeys to a halt. It's a bummer, but it's for the best.

Engaging in entertainment services was a preferred self-care practice for some students, but these had been inaccessible since the pandemic started. These included going to the movies, like P010, who wrote:

> I watch a movie in the cinema every Saturday night by myself just to enjoy some alone time. At the start of the pandemic, it was troubling that I don't get to taste badly popped cinema popcorn anymore.

For P029, it was watching music events:

> I loved going to concerts, the feeling of getting the ticket and being able to watch my favourite artist live.

Beauty and wellness services had also been reduced during the pandemic. P132 mentioned that they used to go for facials and body care services, explaining,

> The appointments I had were the ones that reminded me to really take care of my body but because of COVID-19, I lost the appointments and the skin beauty treatments that I could've had weekly.

On the other hand, P034 paid for relaxation services:

> I used to have a 'spa day' back then where I get everything taken care of, but due to the quarantine restrictions, I can no longer do it…

Aside from the business sector, the religious sector of society had also been limited by the pandemic. Because of this, spiritual services, which some students had identified as self-care, became less available for them. P020 shared how important going to church was, and how its closure due to quarantine had a negative effect:

> I used to go to my Church about five times a week on an average, that used to be my happy place, I just go there to attend fellowship and serve worship services just to reset my mental state. But now since I can't do that there are times wherein, I would be in a negative state, and I can't go anywhere just to reset my mental state especially when the problem is at home.

Theme 2: Online-class-related barriers

Another emergent barrier to practising self-care among students is the nature of online classes. A majority of the students reported that transitioning from traditional to full online education was difficult for them. This hindered their self-care habits.

Subtheme 2.1: Time-consuming academic workload

During the traditional mode of classes prior to the pandemic, the students had more control over their daily and weekly schedules, allowing them to allot time for self-care activities. However, during the pandemic, most of their time had been eaten by schoolwork. P003 complained about workload being doubled:

> Profs can upload assignments, require submissions any time of the day. Because of this, the supposed rest time after classes has vanished.

Because of the increased demand of online schooling on students, even the meeting of their basic physiological needs, such as eating and sleeping, had been disrupted as well. P035 mentioned:

> I usually spend most of my time watching lecture videos and answering my never-ending homework and I normally sleep at around 3-4 am these days just to finish my homework and be prepared for the discussions in class for the next day.

Moreover, some students felt like the relaxation that they usually get when they return home from school had already vanished, because they attended online classes at home. Also, they reported that online discussions with classmates were more taxing, compared to in-person conversations they had pre-pandemic. Related to this, P127 wrote:

> …not having the proper environment to study - because being in the house is distracting since it's supposed to be my comfort space - limited modes of communication, the workload of some subjects is overwhelming that even during break, we don't get a break.

Another challenge for active involvement in online classes is reliability of their Internet connections. Most students complained about how a poor connection disrupted and further lengthened the time they spent on accomplishing schoolwork, disrupting their rest and self-care patterns. For instance, P040 shared:

> I used to sleep early, before 12 am, to let my body and mind rest, however, due to Internet connections, I usually sleep at night and start working on my requirements at 12 am because it is the only time that the Internet is available and fast.

Subtheme 2.2: Psychological exhaustion due to online classes

Students also reported that because of the pressure of coping with online learning, they become too fatigued to engage in more active forms of self-care practices. P145 described it as:

> … the stress of constantly feeling like I am always in school thus being unable to relax through sudden notifications…

While there are self-care habits that involve resting and being still, some students engaged in active physical and mental exercises for self-care. But because online classes had taken most of their energy, they started missing performing these. For instance, P156 reported being no longer able to perform a bedtime ritual:

> I used to do some sleep meditation or sleep affirmations before. However, I became too lazy to do it before sleeping, I guess, due to fatigue. Since I stopped doing them, I sometimes find it hard to sleep and wake up energised.

For students whose self-care activities included creative work, they claimed that online classes caused them to have less psychological drive to do these. P019 wrote:

> I used to dance and write. But my self-esteem went downhill during the start of the lockdown, and I've recently hit a slump in my life… because of overload of schoolwork.

Some students also reported that stresses due to online classes and long periods of exposure to online apps, have led to physical symptoms that hindered them from doing active self-care. Related to this, P019 mentioned:

> … online class makes me dizzy if done too much over a long period of time. When I go to exercise and train I feel like vomiting.

Finally, another source of mental strain among students that hampered their self-care activities was the juggling of multiple roles within the same space. Some students revealed that aside from personal and school responsibilities, they also had to engage in housework. P026 explained:

> … There is no distinction anymore on home and school duty since both are in the same place so there is this immense responsibility and an overload of things needed to get done.

P055 narrated how the blurring of self-care, school and home roles had been challenging:

> … Before, I am able to sleep eight hours a day, but at present I wasn't able to have a good sleep since I am pulling an all-nighter to just meet the deadlines… it is hard to focus my attention while in online classes since my parents also gave me household chores that I should do.

Integration of quantitative and qualitative findings

Practising self-care despite barriers

Interestingly, despite the quarantine and online-class related barriers demonstrated in the qualitative findings, quantitative descriptive results revealed that students are still able to partake in self-care. Although, it can be noted that the self-care domains that received lower scores can be linked with certain subthemes from the qualitative analyses. For instance, the ability to engage in the physical care component of self-care (e.g., exercising, eating nutritious foods and engaging in mind/body practices) that got the lowest score can be related to the quarantine-induced limitations, such as the restrictions in engaging in outdoor self-care activities and closure of self-care related services, as seen in the qualitative results. Also, the lower level of mindful awareness could be linked to the lack of social interactions, work overload and psychological exhaustion they experienced due to the pandemic and the nature of online classes.

Social position and mindful awareness

Findings suggest that older, female students from poorer households garnered significantly lower scores for mindful awareness. These can be linked to psychological exhaustion related to the pandemic and online class. For instance, most of household responsibilities that can encroach on personal and study time are usually assigned to older and female members of the family. Also, since they do not have funds to outsource household services, poorer families have to divide chores among members. When housework overlaps with schoolwork, the ability to maintain a calm awareness may be more challenging.

Internet connectivity and self-care

Self-reported quality of Internet connection was quantitatively associated with the multiple domains of self-care, including supportive relationships, mindful awareness and self-compassion and purpose. Qualitative findings suggest that the time-consuming and psychologically exhausting nature of online classes is compounded further by an unreliable Internet connection. This could result in poorer mental states that can consequently decrease their mindful awareness or self-compassion. In addition, since human connection has been considered as an important form of self-care among students, a poor quality of Internet connection may also cause them to have lesser interactions with their peers and significant others during times of quarantine.

The nuanced relationship between self-care and online student engagement

Quantitative findings suggest that five out of the six domains of self-care practices are significantly positively related with online student engagement. Students who have high levels of physical care, supportive relationships, self-compassion and purpose, mindful relaxation and supportive structures, are observed to have higher engagement in online classes. However, qualitative results demonstrate that the physically and psychologically taxing nature of online class had been a barrier for self-care. Descriptive quantitative findings did show high student engagement, however qualitative data suggested that the time and energy they spent engaging in online class were time and energy lost for self-care. These divergent findings demonstrate the nuances in students' ability to balance responsibilities for school and their own wellbeing.

Discussion

The goal of this convergent mixed methods study is to determine the relationship of self-care practices to background characteristics and online student engagement and describe the barriers to practising self-care among undergraduate students during Covid-19 pandemic. As of this writing, this is the first mixed methods study that focuses specifically on self-care practice, its barriers, and its relationship with online class engagement in the Filipino undergraduate student population conducted during Covid-19.

The present study qualitatively demonstrates that quarantine-related restrictions and the nature of online classes are barriers to practising self-care among students during the pandemic. This finding is supported by Power et al., (2020) who argued that limitations experienced by the youth during Covid-19 can impact the activities that contribute to their over-all wellbeing and interrupt their social and emotional transitions towards becoming adults. Similar to the barriers described in the current study's findings, Baticulon et al. (2021) also identified related challenges among students during the pandemic, such as mobility restrictions, limited space in the house for activities, lack of basic needs and stringent educational policies and practices. Physical care garnered the lowest score amongst the domains, which demonstrates the increased inactivity and sedentariness during the pandemic (Stockwell et al., 2021).

However, despite these barriers, quantitative findings of the current study suggest that students were able to perform self-care practices at least a few days in a week during Covid-19 period. Similarly, Rotas and Cahapay (2021) demonstrated that despite the challenges brought about the pandemic and online learning, students found the value of positive coping patterns that mirrored the self-care practices found in this present research, such as managing time, self-compassion, emotional release and spiritual practices.

Quantitative results of the present study suggest that older, female students coming from poorer households have significantly lower mindful awareness self-care. This is corroborated by the qualitative subthemes on the time-consuming and psychologically exhaustive nature of online classes, which is compounded by household responsibilities. This is supported by previous research that has identified age, gender and economic status as significantly correlated to Covid-19 worries among university students in the Philippines (Cleofas & Rocha, 2021). In addition, during engagement in online classes students experienced difficulties such as financial distress, domestic responsibilities, and physical and mental health issues (Baticulon et al., 2021), which can be seen among those from poorer families.

Moreover, quantitative findings of the current study suggest that students with poorer Internet connectivity demonstrated lower self-care in specific domains. This explains some barriers emerging from qualitative data, which are: (1) inaccessibility of self-care-related services, which have also transitioned online due to quarantine; (2) lack of social interactions, which are mostly conducted through online mediums during pandemic; and (3) increased time and mental effort spent on online classes. These can be explained by previous studies that have established the importance of reliable Internet connections in improving health, social and learning outcomes among Filipino students (Baticulon et al., 2021; Cleofas & Rocha, 2021; Rotas & Cahapay, 2020).

Finally, the quantitative results of the study have established the positive relationship between self-care practices and online student engagement. This extends previous literature (Cook-Cottone & Guyker, 2018; Cousins & DeLuca, 2016; Gockel & Deng 2016; van Vliet et al., 2018; Zahniser et al, 2017) by confirming that students who practise more effective self-care have better student engagement, even in the context of online

learning. Interestingly, qualitative findings demonstrate that the nature of online classes as a deterrent to practising self-care. The relatively high scores for both self-care and high online student engagement in the sample shows that despite the difficulties posed by digital learning, the students can find moments to practise self-care that may eventually translate to better student performance. This is loosely supported by Rotas and Cahapay (2021) who demonstrated qualitatively how students experienced ups and downs while engaged in online classes and employed various psycho-emotional strategies to cope with the stresses, which increased their resilience towards learning. This novel and nuanced finding on the relationship establishes the importance of building students' agency to optimally care for themselves while excelling in school.

Conclusion

Despite the presence of barriers related to quarantine and online classes, students are able to practise self-care. Older, female students from poorer households and with poor Internet connectivity had significantly lower levels of self-care practices. While self-care has the potential to improve online student engagement, the time-consuming and psychologically exhaustive nature of online classes can hinder students from engaging in meaningful and satisfactory self-care practices. This convergent mixed methods study provides novel empirical evidence on the nuances of students' engagement in self-care and schoolwork, which can have both a symbiotic and detrimental relationship with each other.

Strengths and limitations of the study

The main strength and novelty of this study is its design as a convergent mixed methods research that is able to test hypotheses while also immersing into the personal and social contexts of the students to gain a deeper understanding of the phenomenon of self-care during the Covid-19 pandemic. Admittedly, this study is limited by its non-probability sampling from a single institution, and its cross-sectional nature that affects the generalizability of its results. Future researchers are encouraged to apply the protocol to a larger sample size from multiple schools, and also adopt a longitudinal design.

Recommendations

Future studies can look into mediators and moderators that can help explain the complex relationship between self-care and online student engagement. Educational institutions should adopt policies and practices that support students from poor families and with unreliable Internet connections, as they experience more barriers to self-care and therefore are at risk for poorer health and student outcomes. Educators must strategically plan online classes that consider students' personal time. Likewise, self-care promotion in schools should not be designed and implemented as a monolithic program. The nuances found in this study call for an individualised self-care program that takes into consideration the personal backgrounds and experiences of students.

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