

Self-Perceived Psychological and Educational Impact of COVID-19 Pandemic among Allied Health Students in a Philippine Private University

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Abstract – The study aimed to find out the self-perceived psychological and educational impact of the COVID-19 pandemic among allied health students. Respondents were 324 students from allied health courses such as Dentistry, Medical Technology, Radiographic Technology, Nursing, and Physical Therapy who were enrolled in the 1st semester of school year 2021-2022. Results showed that BSPT were the most psychologically impacted by COVID-19 pandemic in terms level of stress, anxiety, and study motivation while BSRT students has the highest change in sleep quality. Dentistry and BSRT have the lowest levels of academic learning, while BSPT was the most affected academically in terms of academic teaching, time for individual study, gain of practical skills, and future professional perspective. The third year has the highest level of stress, while the second and third year have high levels of anxiety, the second year has high change in the quality of sleep and the first year has a moderate affect for study motivation The sixth year has high academic learning, the first year has high level for academic teaching as well as time for individual study, the fourth year has moderate effect for skills acquisition while the second year has a high impact on future professional perspective. There was a significant correlation between anxiety and future professional perspective, between anxiety and time for individual study, between study motivation and academic learning, between study motivation and gain of practical skill, and between study motivation and future professional perspective. School administrators may provide a psychological assessment to identify those who are suffering from high levels of stress, anxiety, and depression and provide counseling and psychological therapy to affected students.

Keywords – allied health students, educational impact, psychological impact

INTRODUCTION

The COVID-19 pandemic has caused interruptions in the daily lives of people all over the world, especially in mobility, economy, and education. To prevent the widespread transmission of the disease, the Philippines was under community quarantine, in which classes and all school activities at all levels, mass gatherings were suspended, and home quarantine and work-from-home was implemented [1].

The pandemic has brought challenges to the lives of people, especially students, who have affected their lives both psychologically and educational [2]. Among the psychological impacts include anxiety and stress, impact on sleep quality, and study motivation. The educational impact includes the impact on academic teaching and learning, the impact on individual study, the gain of practical skills, and the impact on future professional perspective. The burden of mental health

issues among college students is overwhelming worldwide, with females experiencing higher levels of anxiety and depression than males.

The transition from the traditional classroom to online classes has caused interruptions of clinical practice in allied health courses such as dentistry, nursing, medical technology, radiographic technology, and physical therapy. This causes students to have inadequate clinical skills, which has been a cause of concern for e-learning [3]. No current teaching method can replace the acquisition of skills by practicing on real patients by dentistry students [4].

Stress levels among allied health students were present before the pandemic due to the academic workload, and additional stress has been added due to this pandemic [5]. The findings of this study can clarify the self-perceived impact of COVID-19 on allied health students to make recommendations to improve their

awareness to decrease their stress and anxiety for better health and education. Allied health students perceived stress levels and mental health during the pandemic should be monitored to prepare them to be healthcare providers with sound minds in the future.

COVID-19's psychological and educational impact based on year level of the allied health professional was very limited and was only focused on the perceived levels of stress, anxiety, and depression [2,3,4,6]. This study aimed to narrow the gap and provide results on the educational impact such as teaching and learning, study motivation, acquisition of practical skills and future professional perspective among all year levels of allied health students.

OBJECTIVES OF THE STUDY

The study aimed to determine the self-perceived impact of the COVID-19 pandemic to allied health students. Specifically, it aimed to determine the level of psychological and educational impact among allied health students according to the program. Moreover, it also aims to: determine the psychological and educational impact of COVID-19 when students were grouped according to year level. Lastly, it also aims to examine the relationship between psychological and educational variables. In the end, a proposed educational plan was presented, which can serve as a guide to improve allied health students' well-being and the sustainability of allied health education during a health emergency such as a pandemic and finally transitioning to the new normal.

MATERIALS AND METHODS

Research Design

A descriptive method of research is used to determine the level of the psychological and educational impact of the pandemic on allied health students in a private Philippine university using different statistical tools.

Participants of the Study

Respondents of the study were students from allied health programs such as Dentistry (DENT), Medical Technology (BSMLS), Radiographic Technology (BSRT), Nursing (BSN), Physical Therapy (BSPT) who were enrolled in the 1st semester of school year 2021-2022. A survey for a total of 324 allied health students was conducted using simple random sampling. The sample was composed of 138 BSMLS students, 109 BSN students, 56 DENT students, 14 BSRT students, and 7 BSPT students. Each sample size is

equally divided per year level. There was no representative from fifth-year DENT and second-year BSPT due to the lack of enrollees brought about by changes in curriculum in response to the implementation of K-12.

Research Instrument

1. Demographic profile of the respondents.

Demographic data such as age, sex, course, and year level of the participants were asked in the first part of the questionnaire.

2. Psychological and Educational impact of the pandemic. The psychological impact consists of questions on the level of stress, anxiety, sleep quality, and study motivation. The educational impact is composed of questions regarding academic learning and teaching, time for individual study, acquisition of practical skills, and future perspective on the courses they are enrolled in. The instrument employed in this study was adapted from the study on the self-perceived impact of the COVID-19 Pandemic by Dental Students in Bucharest [4].

Each question has five scale responses according to the Likert scale such as non-existent, very low, low, high, very high; no affect, minor affect, neutral, moderate affect, major affect; not modified, minor modified, neutral, moderate modified, major modified in which responses varies depending on the questions being asked.

Data Gathering Procedure

Prior to data collection, a letter of approval to the Dean was requested. Data was gathered using Google forms questionnaires sent to the social media accounts of the respondents from August 24, 2021, to November 27, 2021.

Data Analysis

Frequency distribution was used to present the profile of the respondents, the weighted mean was utilized to assess their responses to the psychological and educational impact of the COVID-19 pandemic, Pearson - product Moment Correlation was used to test the significant relationship between the psychological and educational variables.

Ethical Consideration

No identities were mentioned in the study to respect the very confidential nature of the survey and interviews. Except for the fact that they were allied health students, the responders' identities were kept a

secret. Researchers merely provided information and results based on the data they collected; no opinions were expressed. There was no physical or psychological harm done to the study subjects.

RESULTS AND DISCUSSIONS

Table 1 presents the distribution of the respondent's profile. With regards to sex, the majority (77.5%) of the students were female. The Majority of the female enrollees in healthcare courses can be attributed to the perception that allied health courses are suited for females and males tend to enroll in masculine courses such as engineering and criminology [7].

There were more females than males enrolled mainly in applied colleges, which manifests the general situation in higher education [6, 8].

Most females take nursing as a course, which can be attributed to its social and historical context in which women are the ones responsible for household duties and possess informal knowledge of medical procedures, which started years ago as a service organized by religious institutions [9].

Table 1

Distribution of Respondents' Profile (N=324)

Profile Variables	Frequency	Percentage
Sex		
Male	73	22.5
Female	251	77.5
Age		
17 - 19 years old	139	42.9
20 - 22 years old	175	54.0
23 - 25 years old	6	1.8
26 years old and above	4	1.2
Program		
DENT	56	17.3
BSMLS	138	42.6
BSPT	7	2.2
BSRT	14	4.3
BSN	109	33.6
Year Level		
First Year	87	26.9
Second Year	80	24.7
Third Year	80	24.7
Fourth Year	66	20.4
Sixth Year	11	3.4

As to age, majority (54%) of the respondent's

belong to 20-22 years old The least (1.2%) of the respondents belonged to 25 years old Majority of the respondents are graduates from K-12 while the least were extended clinicians who have neither graduated in time maybe because of inability to fulfill graduation requirement or they are pursuing their second course.

Students in the health sciences aged 21 years old were born in 1995 and belonged to the Z generation [10]. They have shorter attention spans than millennials, spend most of their time on the internet, and are more realistic and career-oriented. The normal age distribution of students in Sudan, also assumes that most university students are between the ages of 15 and 25 [6].

Students who tend to study Nursing and Occupational Therapy perceive themselves to be expressive and strongly feminine due to the nature that health sciences degrees are oriented toward care [11]. However, the majority of the Physiotherapy students are males, which can be attributed to the nature of the course in which specific techniques are applied to treat patients.

Most (42.6%) of the respondents were BSMLS students followed by BSN students (33.6%). BSMLS has the greatest number of enrollees among the healthcare courses maybe because of the opportunity to work abroad and it is also a premed course for those who plan to pursue medicine after they graduated [12].

There was a gradual increase in the students enrolling in the program of medical technology [13]. They focused on satisfying their self-actualization and self-esteem needs are the most relevant factor affecting the decision to take up medical technology. The influencing factors that rated highest in choosing medical technology as course were personal interest and nature of work [14].

As to year-level distribution, the first year got the highest frequency of 87. Next were the second and third year who were tied at second place (80). The fourth year got 66. Least of the respondents are from the sixth year who got 11. It was expected that the sixth year would be the fewest among the respondents aligned with the DENT curriculum.

As the level of dental education increases, there is a decrease in the number of students because some students were not able to fulfil the necessary requirements needed to advance to the higher year level. Dropping out due to financial reasons and transferring to another school were also reasons for the decrease in enrolment for higher years in dentistry [15].

In the level of stress, BSPT got the highest weighted mean of 4.29, followed by BSMLS (4.17), then BSN (4.12), and Dentistry (4.00) (Table 2). Least is BSRT with weighted mean of 3.79. All were interpreted as high. The level of stress across all programs got a composite mean of 4.07 and was interpreted as high. All the Allied health students have high levels of stress, maybe because they are afraid that they may be infected by COVID-19 as well as their loved ones, to include increased workload in their study because of the abrupt switch from traditional to online education.

Physiotherapy students had moderate to high level

of stress due the spread of the epidemic and lockdown [16]. The abrupt changes in teaching methods, from face-to-face to distance learning methods, social distancing, and difficulties in interrelationships with teachers and classmates were among the factors that contributed to an additional increase in stress among Physiotherapy students. There is a very high level of stress among Physiotherapy students during online examinations [17]. Most health sciences students had high-stress levels during the COVID-19 lockdown and moderate stress levels following the COVID-19 resumption [18].

Table 2
Psychological Impact of COVID 19 when grouped per Program

Indicators	BSPT		BSRT		DENT		BSN		BSMLS		CM	VI
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI		
Level of Stress	4.29	H	3.79	H	4.00	H	4.12	H	4.17	H	4.07	H
Anxiety	4.57	VH	3.50	H	4.02	H	3.96	H	3.96	H	4.00	H
Sleep Quality	3.57	H	3.79	H	3.43	L	3.68	H	3.56	H	3.60	H
Study Motivation	4.29	MO	3.50	MO	3.61	MO	3.87	MO	3.91	MO	3.83	MO

Legend: 4.50-.500=Very High/Major; 3.50-4.49=High/Moderate; 2.50-3.49=Low/Mild; 1.50-2.49=Very Low/Minor; 1.00-1.49=Non-existent/Not at all

As to anxiety, BSPT got the highest weighted of 4.57 interpreted as very high. This was followed by dentistry (4.02), BSN and BSMLS (3.96). The least are from BSRT (3.50). Dentistry, BSN and BSMLS and BSRT students' anxiety were interpreted as high. The level of anxiety across all programs got a composite mean of 4.00, interpreted as high. Allied health students were experiencing very high to high levels of anxiety due to prolonged lockdown and restrictions in the movement to prevent the spread of infection.

Among medical and non-medical students, COVID-19 has caused a great deal of fear, anxiety, and worry, especially because of its unknown prognosis, changes in society's lifestyles, lockdown restrictions, and interruptions in the educational system [19] and made physical therapy students anxious and depressed. [20].

BSRT students reported highest sleep quality (3.79), followed by BSN (3.68), BSPT (3.57), and Dentistry (3.43). The composite mean for sleep quality was 3.60. They have perceived a high impact of sleep quality during the pandemic maybe because of the high

levels of stress and anxiety they experienced during the pandemic. Whereas DENT students have a low impact on sleep quality, maybe because compared to before the pandemic, when they were burdened with academic duties, including clinical requirements that needed to be fulfilled for each semester, during lockdown, they had more time to relax and enjoy their leisure time.

Regardless of year level, BSN students have a moderate to high dread of COVID-19, albeit it is seen to be more pronounced among first-year students [21]. Psychological symptoms of excessive irritability and poor sleep quality are linked to BSN students' greater dread of COVID-19.

BSPT students (4.29) had the highest study motivation, followed by BSMLS (3.91), BSN (3.87), DENT (3.61), and BSRT (3.50). The overall study motivation for all five healthcare courses was moderate.

Physiotherapy students lacked desire for training and future professional growth during the COVID-19 pandemic [22]. There is a close link between lack of motivation and fatigue due to impact of COVID-19

pandemic. For students to engage in e-learning, they should be motivated [23]. A small percentage of health professional students were motivated when classes were shifted to online-learning due to lockdown.

Accomplishment of learning goals does not reflect remote learning motivation. Lack of motivation among students is a challenge in e-learning [24].

Table 3
Educational Impact of COVID 19 when grouped per Program

Indicators	BSPT		BSRT		DENT		BSN		BSMLS		VI	
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI	CM	
Academic Learning	3.14	L	3.43	L	3.43	L	3.28	L	3.09	L	3.27	L
Academic Teaching	3.86	H	3.57	H	3.45	MI	3.28	MI	3.09	MI	3.45	MI
Time for Individual Study	4.00	MO	3.57	MO	3.32	MI	3.56	MO	3.77	MO	3.64	MO
Gain of Practical Skill	4.43	MO	3.57	MO	3.95	MO	3.76	MO	3.88	MO	3.92	MO
Future Professional Perspective	4.86	VH	3.86	H	4.05	H	4.19	H	4.10	H	4.21	H

Legend: 4.50-.500=Very High/Major; 3.50-4.49=High/Moderate ; 2.50-3.49=Low; 1.50-2.49=Very Low/Minor ; 1.00-1.49=Non-existent/Not at all

Table 3 presents the educational impact of COVID-19 when grouped per program. Dentistry and BSRT got the highest weighted mean of 3.43 in academic learning, followed by BSN (3.28) and BSPT (3.14). The least (3.09) was from BSMLS. All academic learning for the five courses were interpreted as low. The composite mean for academic learning across all programs was 3.27 and interpreted as low.

Most of the allied health courses are skill-based education and the limitation of the online classes to teach the necessary skills required by the course led to the low appreciation of the allied health students in academic learning to add the inaccuracy of the result of assessment done online.

The majority of dentistry schools' clinical activities were halted [25]. European dental academic institutions have turned to virtual meetings, live videos, pedagogical software, access to other virtual resources, and social media groups for their non-clinical instruction. Among the challenges from the transition to remote learning in dental education includes lack of mobility for virtual reality systems, inability to utilize mannequins online, requirement for programs to assess students' proficiency without tests, and timely graduation.

Most dental schools choose to shift from traditional to remote teaching [26] due to the lack of social distance in preclinical simulation labs, however this presented the problem of assessing student proficiency without the use of exams.

E-learning has an impact on radiography students in that each student must now create their own study timetable, which calls for appropriate pacing to avoid overload from studying too quickly or feeling overwhelmed at the end [3]. In contrast to school facilities that were built for learning, not all students have a conducive atmosphere for independent learning at home. Since radiography is a hands-on field, eliminating practical instruction could seriously hamper students' learning.

On the contrary, the majority of the medical and allied health students reported that online classes, which combine video programs and live interaction, are more beneficial and fun than traditional classes [27]. In addition to taking online classes, they were receiving regular online counseling for psychological and mental support, and daily monitoring of their academic achievement was also done.

As to academic teaching, BSPT got the highest weighted mean of 3.86. This was followed by BSRT (3.57), interpreted as high; Dentistry (3.45) and BSN (3.28). The least was from BSMLS (3.09). The weighted mean of the last three courses were interpreted as neutral. Academic teaching obtained a composite mean of 3.45 and was interpreted as minor affect across all programs. This data suggests that BSPT has the highest quality of academic teaching, while other courses have lower quality of academic teaching, but it is still considered to be neutral or minor effect. The neutral overview of the quality of academic

teaching in five different programs suggests that the quality of academic teaching is generally considered to be good, but there is some variation in the data.

Physical therapy students attending the online classes rated high on their satisfaction on academic teaching [28]. All of them completed and have a high performance in their final online and oral exam and this can be attributed for having additional time for research and study of the course's subjects.

Among radiography students, 48% were dissatisfied, and 16% were very dissatisfied with the teaching method which is limited to distance learning, ascribed to the abrupt change from rigidly scheduled classes to flexible, at-home learning [29].

The BSPT got the highest weighted mean of 4.00 for time for individual study. This was followed by BSMLS (3.77). BSRT (3.57) and BSN (3.56) follow, interpreted as moderate. Dentistry (3.36) got the least, interpreted as neutral for individual study. The composite mean for time for individual study was 3.64 was interpreted as moderate as across all programs.

BSPT students were challenged to manage time in studying as compared to traditional classroom setting, but 6.8% of the respondents reported that they got better time management to study for examinations [17].

In gain of practical skill, BSPT got the highest weighted mean of 4.43 followed by Dentistry (3.95). Next was from BSMLS (3.88) and followed by BSN (3.76). The least was BSRT (3.57). All were interpreted as moderate. Composite mean obtained from gain of practical skill was 3.92 and was interpreted as moderate across all programs. This means that the students in all programs showed a moderate improvement in their practical skills because of their appreciation of quality of instruction and the ample amount of hands-on learning opportunities that are made available for them during the pandemic.

Healthcare students were perceived as moderately affecting the acquisition of skills during the pandemic. It may be inferred that online learning is as effective as traditional face-to-face, but it is not suited to allied health courses in which skills acquisition is very important in the future as a health professional, especially in dentistry. During the pandemic lockdown, medical and allied health students are not getting the practical learning experience they need, but overall, student response to academic achievement has been positive [27].

Most health professional students believed that e-

learning had a negative impact on the level of their knowledge and skill acquisition as well as their comprehension of the subject matter [23]. Information acquisition is a crucial element in determining how successful an e-learning experience was.

Majority of the students perceived that preclinical learning had worsened due to insufficient practical clinical experience. Although online case discussions encourage critical thinking, but it won't replace patient care experiences. Although a preclinical curriculum can utilize alternative modes of learning, students in clinical learning cannot picture a virtual patient [30].

With regards to future professional perspective, BSPT got the highest weighted mean of 4.86 and was interpreted as very high. This was followed by BSN (4.19). Next is BSMLS (4.10) and followed by Dentistry (4.05). The least was from BSRT (3.86). All were interpreted as high. A 4.21 composite mean was interpreted as high was obtained from a future professional perspective across all programs. Health allied students thought that the COVID-19 pandemic had a very high impact on their profession in the future. Their clinical training was probably suspended, resulting in insufficient experience handling patients, and their graduation might be delayed, as well as the licensure examinations [31].

Unexpected lockdown had resulted to panic among healthcare students, and they became uncertain about their daily routine and uncertain of their purpose in life [32]. When radiography students were asked whether they would continue their career choice despite their experiences in this pandemic, the majority responded that they were enthusiastic and proud of their chosen profession and that they would continue their training in order to help other people [33]. Students were gratified by their position as student radiologists and were very proud of it. The epidemic has created issues for dental students' academic and professional futures, including effects on dental practice's future, concerns about employment and the security of their profession in the future, questions about professional accountability, and effects on clinical performance [34].

Table 4 depicts the psychological impact of COVID-19 when grouped per year level. As to level of stress, the second year got the highest weighted mean of 4.23 and this was followed by the third year (4.18). Fourth year (4.03) and first year (4.02) follow. The least was from sixth year (4.00). All were interpreted as

high. The composite mean obtained by level of stress across all year level was 4.09 and was interpreted as high.

Students perceived high levels of stress due to stress from academic requirements due to the shift from face-to-face to online mode of learning as well as stress brought about by the pandemic, such as fear of acquiring the disease and inability to associate physically with classmates and mandatory stay at home implementation by the government to stop transmission.

Undergraduate students had lower scores in terms of anxiety, whereas younger females had higher overall

and subscale scores. Being female and young were independent predictors of more subpar mental health outcomes [35]. Third-year female students had a statistically significant relationship with moderate perceived stress during lockdown. Third-year participants showed mild stress during lockdown due to worry about a compromised internet connection or difficulty understanding online courses [36].

However, 10% of third-year BSPT students, as well as 40% of BSN students, have perceived stress, which can be due to the fact that they do not deal directly with COVID-19 patients [37].

Table 4
Psychological Impact of COVID 19 when grouped per Year Level

Indicators	1st Year		2nd Year		3rd Year		4th Year		6th Year		VI	
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI	CM	VI
Level of Stress	4.02	H	4.23	H	4.18	H	4.03	H	4.00	H	4.09	H
Anxiety	3.80	H	4.00	H	4.00	H	4.11	H	3.91	H	3.96	H
Sleep Quality	3.41	L	3.78	H	3.71	H	3.48	L	3.27	L	3.53	H
Study Motivation	3.78	MO	3.66	MO	3.95	MO	3.98	MO	3.73	MO	3.82	MO

Legend: 4.50-.500=Very High/Major; 3.50-4.49=High/Moderate; 2.50-3.49=Low/Mild; 1.50-2.49=Very Low/Minor; 1.00-1.49=Non-existent/Not at all

The highest weighted mean for anxiety is 4.11 and was obtained by the fourth year. Next is obtained both 2nd year (4.00) and 3rd year (4.00). This was followed by the sixth year (3.91). The least was obtained by the first year (3.80). All were interpreted as high. Anxiety got a composite mean across all year level of 3.96 and was interpreted as high.

The majority of healthcare students have moderate anxiety, wherein the first year has the highest percentage among Saudi Arabian healthcare students [38]. Younger age has a greater chance of being anxious [39]. Fourth-year students had no anxiety, and there was no apparent difference determined between fourth-year and other-year levels [40].

In sleep quality, the second year got the highest weighted mean of 4.78 followed by the third year (4.71) in which both were interpreted as high. The fourth year (3.48), followed by first year (3.41). The least was from the sixth year (3.27). The fourth year, first year and sixth year weighted mean were interpreted as low. The composite mean across all year level was 3.53 and was interpreted as high. This means the sleep quality of students in the second and third years is generally considered to be very good. However, there is some variation in the data, with the fourth, first, and sixth

years having lower weighted means may be due to a number of factors, such as the workload, stress levels, and lifestyle choices of the students.

Worsening of sleep quality is observed during lockdown among women, first year and second year nursing students. Initial quality sleep scores were the same across all year levels even though there was a decrease among the lower year levels wherein students in their first and second years went through considerable modification during lockdown [41].

The beginning years of nursing studies are mainly theoretical, becoming skill-based as time goes on, with a greater number of clinical requirements. While students in their first years of study had to adapt to a new method of teaching and virtual assessments to pass the course, which could have increased stress and worsened sleep quality. Disruption in sleep quality and eating patterns is associated with pandemic-related depression and anxiety [38].

The fourth year got the highest weighted mean of 3.98 for study motivation. This was followed by the third year (3.95). Next is the first year (3.78) followed by the sixth year (3.73). The least who obtained a weighted mean of 3.66 was the second year. All health care year levels weighted mean in study motivation was

interpreted as moderate. Study motivation across all year level got a composite mean of 3.82 and was interpreted as moderate.

Self-directed learning decreases as students age and their years of study increase [42]. More than half of the students feel less engaged to continue with distance e-learning, especially 4th year [43].

As to academic teaching, the first year got the highest weighted mean of 3.56 and interpreted as high. While 6th year, 2nd year, 3rd year and 4th year got weighted mean of 3.45, 3.29, 3.13, 2.94 respectively and were all interpreted as neutral.

First year got highest weighted mean of 3.67 on time for individual study and was followed by 2nd year (3.66). Third year was next (3.60) followed by the

Table 5
Educational Impact of COVID 19 when Grouped per Year Level

Indicators	1st Year		2nd Year		3rd Year		4th Year		6th Year		VI	
	WM	VI	WM	VI	WM	VI	WM	VI	WM	VI	CM	VI
Academic Learning	3.43	L	3.36	L	2.99	L	3.00	L	3.73	H	3.30	L
Academic Teaching	3.56	H	3.29	MI	3.13	MI	2.94	MI	3.45	MI	3.27	MI
Time for Individual Study	3.67	MO	3.66	MO	3.60	MO	3.56	MO	3.36	MI	3.57	MO
Gain of Practical Skill	3.70	MO	3.66	MO	3.99	MO	4.03	MO	4.27	MO	3.93	MO
Future Professional Perspective	4.00	H	4.14	H	4.06	H	4.38	H	4.09	H	4.13	H

Legend: 4.50-.500=Very High/Major; 3.50-4.49=High/Moderate ; 2.50-3.49=Low/; 1.50-2.49=Very Low/Minor ; 1.00-1.49=Non-existent/Not at all

Table 5 shows the educational impact of COVID-19 when grouped per year level. In academic learning, the sixth year got the highest weighted mean of 3.73 and was interpreted as high. This was followed by the first year (3.43) and by the second year (3.36). Next is the fourth year (3.00) and least was the third year (2.99). All weighted mean last four years were interpreted as low. Sixth year were the final year dental students who were used to utilize the internet in their classes because most of their classes are consist of seminar which deals with latest in dentistry that they perceived that academic learning during pandemic is high.

Most of our students felt as though they had missed out on critical learning opportunities, particularly the clinical applications, and they were less motivated to pursue further distant learning [44]. A significant number of freshmen students preferred distance learning compared with the seniors [45]. The time of study contribute to the findings in which senior dental students learned more clinical dental sciences composed of knowledge and skills that require laboratory skills. With the suspension of classes due to pandemic, it resulted to lack of skills and clinical experiences relevant for treating patient. While the curriculum of the first year is consist of concepts and theories of dental sciences.

fourth year (3.56). All year level time for individual study was interpreted as moderate. Least among the year level on time for individual study were sixth year with weighted mean of 3.36 interpreted as neutral.

The effects on abilities to study indicated that first year university students in Italy complained highest study impact during the lockdown than other year level [16]. Post-hoc analyses showed that freshmen were significantly different by both second ($p = 0.003$) and fifth ($p = 0.03$) year of course.

The sixth year got the highest weighted mean of 4.47 in gain of practical skill. Next are the fourth year (4.03) followed by third year (3.99), first year (3.70) and the least were the second year (3.66). All were interpreted as moderate. Sixth year students were the most affected in gain of practical skill because of the suspension of doing dental procedure on live patient due to the vulnerability brought about by close contact and removing the mask during treatment.

There was an increase in the relevance of acquiring practical skills [4]. The third year as well as to the students of the clinical years namely, the fourth, fifth and sixth years were more affected than the first year and second year. Most of the students felt less motivated to continue with distant learning because they believed they had lost crucial learning

opportunities, particularly skills acquisition [44].

As to future professional perspective, the fourth year got the highest weighted mean of 4.38 followed by are the second year (4.14), then the sixth year (4.09), the third year (4.06) and the least, first year (4.00). All were

interpreted as high. The fourth year perceived the highest in future professional perspective maybe because, they are mostly graduating, and suspension of clinical duties may delay their graduation.

Table 6
Correlation between Psychological and Educational Variables

Paired Variables	Level of Stress			Anxiety			Sleep Quality			Study Motivation		
	r-value	p-value	I	r-value	p-value	I	r-value	p-value	I	r-value	p-value	I
Academic Learning	-0.093	0.093	NS	-0.035	0.531	NS	0.030	0.595	NS	0.185**	0.001	S
Academic Teaching	-0.042	0.456	NS	-0.075	0.181	NS	0.034	0.548	NS	0.003	0.956	NS
Time for Individual Study	0.051	0.363	NS	0.127*	0.022	S	0.002	0.970	NS	0.283**	0.000	S
Gain for Practical Skill	0.058	0.297	NS	0.036	0.513	NS	0.024	0.661	NS	0.379**	0.000	S
Future Professional Perspective	0.146**	0.009	S	0.100	0.071	NS	0.020	0.714	NS	0.311**	0.000	S

******. Correlation is significant at the 0.01 level/*****. Correlation is significant at the 0.05 level

Nearly two thirds of the study group desired to be monitored after graduation, and dental students were unsure of the skills they had learned before graduation [44].

Mentoring was valued highly, yet there were some reservations to independent dental practice. In addition, results indicate that students' perceptions of their readiness to graduate were adequate for a variety of affective abilities and characteristics. Although the students demonstrated confidence in communication and commitment to lifelong learning, several skills of evidence-based practice and knowledge still need to be strengthened and given more attention.

The highest composite mean of 4.13 interpreted as high was obtained by future professional perspective from educational impact across all year levels. This was followed by gain of practical skill with composite mean of 3.93 and time for individual study with composite mean of 3.57, both were interpreted as moderate. Academic learning got a composite mean of 3.30 and was interpreted as low and the least among the educational impact is academic teaching which got a composite mean of 3.27 and interpreted as minor affect.

As seen from Table 6, there exists significant relationship between level of stress and future professional perspective with R-value of 0.146 and p-value of 0.009 which less than $\alpha = 0.01$. This means

that students have high level of stress experienced during this pandemic also have high evaluation of impact of COVID-19 to their future profession. Students who have a high level of stress will feel that their future as healthcare professional will be affected because the pandemic have cause delay in graduation and postponement of licensure examinations.

The level of professional identity is negatively correlated with the perceived stress level of nursing students, meaning that the lower the perceived stress, the higher the level of professional identity [46]. Nursing students with stronger professional identity values experienced less role stress. There was also evidence that nursing students with greater professional identity values had lower levels of role stress. There was a positive link between anxiety and stress score.

Time for individual study and anxiety were significantly correlated which means that as the level of anxiety increases, the time for individual study will be modified compared to the period before the pandemic ($r=0.127$; $p=0.022$). When student is anxious, their level of study is affected because of lack of focus due to the fear that they may be infected by COVID-19 as well as other members of the family. Any type of mental illness can have a negative impact on the cognitive development and learning [47]. There is a negative and a strong association between anxiety

level and perceived efficacy of learning, the higher the anxiety, the lower the perceived effectiveness of learning [23].

Study motivation is significantly related with academic learning ($r=0.185$; $p=0.001$), time for

individual study ($r=0.283$; $p<0.001$), gain of practical skill ($r=0.379$; $p<0.001$) and with future professional perspective ($r=0.31$; and $p<0.001$). When students are motivated, they are willing to learn, have the initiative to perform task assigned to them, and are inspired to

Table 7
Proposed Educational Plan to Enhance Students' Well being in time of Pandemic

OBJECTIVES	STRATEGIES	PERSONS INVOLVED	SUCCESS INDICATOR
PSYCHOLOGICAL IMPACT			
Stress and Anxiety To determine and provide therapy to students suffering from stress and anxiety	Periodic psychological assessment and provide online psychological counselling and therapy to students suffering from stress and anxiety	Dean Faculty Member Dental Students Guidance Office	Stress and anxiety of students will be addressed
To be knowledgeable about the pandemic	Inclusion of topics about the pandemic in subjects such as community dentistry, hospital dentistry and microbiology.	Faculty members teaching the subjects. Dental students	Students will be updated about the pandemic and will develop resiliency in facing the pandemic.
Sleep Quality To improve sleep quality of the students	Seminars on sleep quality	Students Resource speakers	Students will develop the habit of sleeping on the right time to achieve quality sleep.
Study Motivation To motivate students to study	Teachers giving positive reinforcements such as praising, rewards to students for a task well done	Faculty Students	Students will be motivated to study because of the reinforcement
To train teachers on ways how to motivate students to study	Trainings among teachers on how to motivate students to study	Faculty Resource speakers	Teachers will be equipped with knowledge and skills to motivate students
EDUCATIONAL IMPACT			
Academic Teaching To increase student engagement in learning	Trainings of teachers on microteaching and other innovative ways in facilitating e learning such as flipped classroom, teaching through virtual reality and 3d printing technology	Faculty Resource speakers	Improved students learning engagements
Academic Learning Encourage learning through collaboration	Assign group projects	Faculty Students	Students develop teamwork where they can discuss and interact with each other virtually
Increase interest of student in learning	Utilizing innovative methods such as gamification and another teaching method in a way that makes e-learning enjoyable to the students.	Faculty Students	Increase interests by the students on the subject matter
Time for Individual Study To develop study habit among allied health students	Seminars on how to develop effective study habits among students	Resource Speakers Students	Students will develop a habit of studying regularly
Gain for Practical Skill To improve skills acquisition of dental students	Design an innovative e-learning strategy that focuses on skills acquisition allied health students	Dean Faculty	Students will gain practical skills required for their future professional practice
To simulate clinical setting	Acquisition of learning models that will utilize by the students to perform clinical procedures to simulate actual clinical setting	Dean Faculty Purchasing office	Acquisition of practical skills by the students
Future Professional Perspective To be resilient in times of pandemic	Inclusion in practice management subject topics on how to adapt their professional practice during the pandemic	Faculty Students	Provide a professional practice that is adaptable to change especially pandemic and other calamities in order to continue of service to mankind despite the adversaries

perform them well and feel that there is no task that are difficult to do. Motivation is one of the factors that determines the success and quality of academic learning [48]. It is important in learning situations and is a key factor for the student's development both in traditional and online environments. In learning motor skills, motivation is very important and is associated with subsequent learning outcomes [49]. There is a weak favorable correlation between motivation and psychomotor skills and how well dental students do in cavity preparation exercises.

Students thought they were less motivated and that online education was less satisfying than campus-based education [50], reflected in less attendance in lectures and small-group meetings. There were decrease in time for study among students due to lower motivation. Strongly motivated students wanted to continue their education as well as their professional and life goals in the future. Students' motivation and well-being have positive effects on learning and achievement in school [51].

CONCLUSION AND RECOMMENDATION

Majority of the respondents are female, ranging from 20-22 years of age, taking BSMLS and freshmen students. Among the allied health students, BSPT were the most psychologically impacted by COVID-19 pandemic in terms level of stress, anxiety and study motivation while BSRT students had the highest change in sleep quality. Dentistry and BSRT have the lowest levels of academic learning, while BSPT were the most affected academically in terms of academic teaching, time for individual study, gain of practical skills and future professional perspective.

The students experience a variety of challenges and stressors throughout their academic career, specifically third year students having the highest level of stress, followed by the second year. Second and third year have high levels of anxiety. Second year has a high change in the quality of sleep. First year has a moderate effect on study motivation. The sixth year has high academic learning. The first year has a high level for academic teaching as well as time for individual study.

The fourth year has a moderate effect on skills acquisition.

The second year has a high impact on future professional perspective.

There was significant correlation between anxiety and future professional perspective, between anxiety and time for individual study, between study motivation and academic learning, between study

motivation and gain of practical skill and between study motivation and future professional perspective. A proposed educational plan (Table 7) has been formulated that will improve allied health students' wellbeing and the sustainability of the allied health education in this time of pandemic and eventually to the new normal.

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