

The Psychological, Emotional, and Physical Effects of COVID-19 to 3rd Year and 4th Year Medical Technology Students in a University in Manila and to their Desired Profession

Jade Celine Lu¹, Joey Anne T. Angeles¹, Jhoella Jean B. Antenor¹, Christian Von Rex P. Belleca¹, Jillian Patrice W. Bulanadi¹, Joslean Grace D.C. Galera¹, Karl Luisa R. Rodriguez¹, Alvin Rey F. Flores²

¹*Student, Department of Medical Technology, University of Santo Tomas, Manila, Philippines.*

²*Professor, Department of Medical Technology, University of Santo Tomas, Manila, Philippines.*

Corresponding Author: jadeceline.lu.pharma@ust.edu.ph

Abstract: - The sudden emergence of the COVID-19 pandemic brought a huge global impact to both developed and developing countries. It took a huge toll in people's daily lives, making it one of the greatest phenomena that has ever happened. This study was conducted to identify the effects of the COVID-19 pandemic to the psychological, emotional, and physical well-being of 3rd year and 4th year Medical Technology students in a university in Manila as well as to their perspectives toward being a healthcare professional. The researchers used a phenomenological approach to understand the experiences of six (6) respondents, from the 3rd year and 4th year level, all enrolled in a university in Manila for the academic year 2020-2021. In-depth interviews were done to gather the data followed by analysis through the use of Colaizzi's method. The findings of this study in terms of psychological well-being was that the COVID-19 pandemic had mostly negative effects on the participants' mental health. Analysis revealed that the fear of acquiring and transmitting COVID-19, loss and death of loved ones, government's lack of response to the health crisis, and sudden shift to online learning were mostly the causes of the psychological distress among the participants. It also had brought a diverse set of emotions to the participants, but negative emotions were more evident in the findings. The physical well-being of the participants were also affected during the pandemic in both positive and negative ways. Some participants mentioned that their lifestyle got healthier since the lockdown, as they were able to do physical exercise, eat healthy meals, focus on skin care, and fix sleeping patterns, while some admitted that they lived a sedentary lifestyle since the lockdown. The perspective of the participants with regards to the effects of COVID-19 affecting their desire to continue the profession were subcategorized into either positive or negative, where both positive and negative perspectives were observed. All participants were concerned with their practical skills due to the online classes acting as hindrance in the application of concepts and practical skills in the laboratory. Three out of six participants lacked the motivation to pursue the profession due to classes held online, while the remaining are still determined to pursue the profession.

Key Words: — *Medical Technology, COVID-19 pandemic, Psychological well-being, Emotional well-being, Physical well-being, Positive perspectives, Negative perspectives.*

I. INTRODUCTION

In December 2019, cases of pneumonia of unknown etiology with acute respiratory distress syndrome (ARDS) and other

serious complications were accounted for in Wuhan, Hubei Province, China. After one month, a novel coronavirus disease was discovered by the Chinese Center for Disease Control and Prevention (CDC) from the throat swab test of a patient and was named "COVID-19" by the World Health Organization (WHO). COVID-19 is caused by a strain of coronavirus called severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). According to CDC (2020), symptoms of COVID-19 include fever, cough, and shortness

Manuscript revised August 17, 2021; accepted August 18, 2021.

Date of publication August 19, 2021.

This paper available online at www.ijprse.com

ISSN (Online): 2582-7898

of breath, fatigue, nausea, sore throat, and muscle aches. However, these symptoms may vary from one person to another, depending on the severity of the disease. At the end of June 2020, approximately 500,000 deaths worldwide have been linked to COVID-19 [1].

The presence of the COVID-19 pandemic undeniably affected and changed the lives of people on a global scale. However, its overall impact may not be as severe as the bubonic plague or the “Black Death” in the 14th Century because of the numerous advancements and improvements in the field of medicine. International lockdown and the effective suspension of both civic and commercial activities in many countries revealed exactly how the economic, social, and political systems of each country function. Consequently, this has forced the beginning of global conversations and debates on how these present systems need to be changed.

The impact of the COVID-19 pandemic was profound not only on the global economic and social systems, but also on the implementation of education and method of routine teaching worldwide. According to UNESCO (2020) [2], the pandemic caused the largest disruption of the educational sector in history with 94% of students said to have been affected. Educational institutions, as one of the most affected sectors all around the world, were forced to empty the classrooms and send the students away from the physical infrastructure of institutions. Accordingly, colleges and universities had undergone a wide scale shift from traditional face-to-face teaching-learning process to online delivery of classes [3] this was the result of the need and heavy implementation of containment protocols and quarantine procedures to prevent further spreading of the disease [4].

Challenges have arisen from the online implementation of education during pandemic related to use of technology devices, time management, student assessment, communication and lack of physical interaction. An environment suitable for studying and access to devices such as laptops and stable internet connections are privileges not available to all students. Teachers, as well, have not been exempted from these challenges, with some having struggles with modern technology. With this, adaptation to technology-based learning is a huge challenge [3].

Another aspect of the modern world that has taken a significant impact due to the pandemic would be that of the overall well-being of an individual, specifically of students.

Experienced anxiety, exhaustion, homesickness, grief, hopelessness [5], and difficulties in concentrating on their studies were some of the effects noted. Furthermore, hindered social relationships due to online classes resulted in lesser collaborative learning of students from their peers, further limiting the opportunities to learn through shared experiences [6]. Stress levels were higher as compared to the pre-pandemic times [7]. Constant agitation, anger, and loneliness were also observed and the fear of acquiring the virus; fear of their loved ones contracting the virus; disruption to sleeping patterns; and decreased social interactions because of the implemented social distancing protocol [8] were seen as the major effects in the psychological and emotional well-being of students.

Physical activity is also vital. A fit and healthy body would not be susceptible to disease. However, studies have shown that during the pandemic, a sedentary lifestyle was observed [9][10][11][12]. This could lead to a higher risk of developing obesity and cardiovascular diseases among individuals.

Medical education had not been exempted from the transition of delivery of classes. In medical schools, the traditional student learning environment incorporates a community of practice known as “enculturation”. In this method, active participation of students starts from theoretical knowledge of concepts related to the course towards a solid grasp of the profession through experience of general practice. Loss of firsthand experience to applications of medical profession concepts can lead to loss of key in the development of health-related professionals towards obtaining mastery in their profession [13].

As the pandemic struck the countries worldwide, the Philippines faced one of its greatest challenges not only in education but in its healthcare system as well. In the months leading up to the rapid increase of recorded cases of COVID-19 infection, the Philippine government showed its lack of preparedness and inadequacy based on their lack of immediate response and action to the pandemic. It cannot be denied that the response of the government was slow on scaling up the capacity of the Philippines’ healthcare system on testing, tracing, and treating COVID-19 patients even though social distancing and various quarantine protocols were set forth [14].

The general treatment of medical frontliners or healthcare professionals when it comes to proper compensation as well

as sufficient hazard pay for risking their lives in the fight against COVID-19 was another factor to be considered when it comes to the career decision-making process of students. In a statement made last June 5, 2020, Robert Mendoza, the current national president of the Alliance of Health Workers (AHW) said:

“In the midst of a pandemic and health crisis, where health workers are being put at the forefront of the battle against an unseen and deadly disease, the DOH and the Duterte administration have even managed to deceive, divide and insult health workers... The government is not sincere in recognizing the contributions of health workers who are inevitably exposed to health risks and hazards, especially those assigned to disease-infested places which pose occupational risks or perils to life” [15].

The AHW noted that the amount of hazard pay being given to medical frontliners who work a 12-hour shift for four days in a week in a COVID-19 ward, is smaller in computation compared to that of office personnel who report for eight hours a day for five days a week [16].

Thus, the aim of this research is to determine if the reasons or factors regarding the impact of COVID-19 pandemic have had significant effects on the psychological, emotional, and physical well-being of Medical Technology students at a specific university in Manila, as well as to their perspectives towards their desired profession.

II. METHODS

A. Study Design and Participants

This research study utilized a qualitative type of study wherein it focused more on the behavior and perspectives of the participants regarding a particular topic. The target participants of this study were the 3rd year and 4th year Medical Technology students at a university in Manila. The method was based on a phenomenological method at which the study focused on the behavior and perspectives of the 3rd year and 4th year Medical Technology students at a university in Manila regarding the effects of COVID-19 to them and to their perspectives towards their desired profession.

Phenomenology is a type of qualitative research that centers on the commonality of an experience within a particular group. The primary goal of a phenomenological study is to look at the nature of a particular phenomenon [17]. Phenomenology as a methodological framework has evolved into a process that seeks reality in individuals' narratives of their lived experiences of phenomena [18][19][20].

The data for this study was collected from six (6) 3rd year and 4th year BS Medical Technology students at a specific university in Manila for the academic year 2020-2021. Specifically, it included three (3) interviewees from 3rd year Medical Technology students with at least one (1) male and one (1) female participants. The same goes for the 4th year level enrolled for the academic year 2020-2021. Accordingly, a snowball sampling was employed for the recruitment of subjects. In the snowball sampling, the first batch of respondents were picked through the network of the researchers for as long as these recruited respondents met the criteria for the study. Eventually, the first batch of interviewees endorsed potential respondents for the second batch of data gathering that also meet the specific requirements for the study. The six (6) participants selected represent the population.

B. Instrumentation

The research made use of a discussion guide that was created and designed by the researchers themselves. This was subjected to a review and approval of a licensed psychologist. The discussion guide encompassed questions related to the psychological, emotional, and physical welfare of the students and their perception of being a healthcare professional amidst the pandemic. This allowed the researchers to determine the effects of the COVID-19 pandemic on the participant's psychological, emotional, and physical states. The discussion guide was organized and divided into different categories to maintain an orderly sequence of questioning that focuses on one aspect of their health, namely: *psychological, emotional, physical, and desired profession-related* questions.

C. Data Gathering Procedure

For the researchers to gather data, they formulated a discussion guide which consisted of thirty (30) questions. The questions were primarily composed of personal questions; questions related to their psychological, emotional, and

physical status; and questions related to their academic performance and perspective towards being a future healthcare worker, all of which were open-ended. An in-depth interview was conducted to six (6) Medical Technology students in a university in Manila through the use of Zoom, an online application used for video conferencing, wherein it is going to be recorded, documented, and categorized based on the behavior and perspectives of the participants. The respondents were obligated to answer all of the questions based on their personal experiences and perspectives. The data was transcribed immediately once the interview was done. The data collected from the participants were saved in separate Google Drive folders and access to these folders were restricted to the researchers only. After the data analysis, the results of the study were given to the participants through their email addresses.

D. Data Analysis

The key variable in this study was the response given by the target participants. The raw data that presented the answers given by the respondents, were documented word per word. Common themes and patterns were identified through coding, and their relationship to each other were determined. Identifying repetition of words and phrases used by the respondents in answering the questions was a critical step in identifying patterns.

In this study, the data was analyzed using thematic analysis, particularly Colaizzi's method, which involved seven-phases. First, reading and rereading of the transcripts, wherein the transcribed interviews were read several times to ensure that the response of the participants were aligned to the focus of the analysis. Second was to extract significant statements from the transcripts. These statements must be the ones that were related to the experiences of the participants with regards to the phenomenon.

Third was to formulate meanings from the significant statements followed by the creation of the themes. The themes became the categories in analyzing the data, and it will be helpful in explaining the responses given by the participants. Fifth was to integrate all the findings followed by removal of any misused description or redundant words. Lastly, data validation was done through going back to the participants with the integrated findings to ensure that it was an accurate depiction of their experiences [21].

The data was interpreted by the researchers, and it determined if the COVID-19 pandemic had psychological, emotional, and physical impact on Medical Technology students and to their perspective towards their desired profession. Moreover, the framework Social Cognitive Career Theory (SCCT) was also helpful to better understand the answers of the participants especially with regards to their career decision making.

The main themes that emerged after data analysis of the effects of the COVID-19 pandemic to 3rd and 4th year Medical Technology students were affected mental well-being, maintaining interpersonal relationships, happy to be able to spend time with family, heightened anxieties, affected study habits, healthier lifestyle, self-awareness and self-care, coping or adjusting to the new situation, and changes on their attitude towards their future professions. All the themes that emerged from the data analysis points out that the COVID-19 pandemic impacted many aspects of the student's life.

III. RESULTS AND DISCUSSION

A. Psychological Well-Being

The COVID-19 pandemic had mostly negative effects on the mental well-being of the participants due to the change in how people lived, fear of COVID-19, losing loved ones, and new manner of deliverance of education. They experienced heightened anxiety due to circumstances of the pandemic, stress about how the government handled the situation, and concerns regarding the quality of education during the new normal. On a positive note, the participants were able to cope with the situation through sleeping, limiting social media use, writing, playing online games, and talking to friends. Some also opted to be optimistic with the situation and managed to become healthy minded. Moreover, there were participants who were able to have self-discipline, self-awareness, and self-care during the COVID-19 pandemic.

Mental Well-Being is affected:

The pandemic greatly affected most of the participants' mental well-being. With this, two participants directly stated that the COVID-19 pandemic affected their overall mental well-being. They experienced problems such as mood swings, procrastination, and anxiety, as the pandemic continues to challenge their mental health. This can be supported by Son et al. (2020) [8] as they found out that a huge number of

students were mentally affected during the COVID-19 pandemic and multiple factors led to such an event.

Another participant compared her overall mental well-being from pre-pandemic to her current mental well-being. The respondent stated that her overall mental well-being worsened due to the COVID-19 pandemic and that she felt like she already has depression. This can be supported with the study of Chandrarte (2020) [22], in which existing mental health problems became even worse since the pandemic had occurred.

Furthermore, having relatives or acquaintances that acquired the disease also had a role in psychological well-being [23][8]. With this, one of the participants expressed his misery about losing a loved one due to the pandemic. The loss of a loved one for him messed up his mind, and he found it hard to accept what had happened.

Heightened Anxiety:

Three out of six participants expressed their anxiety about entering the healthcare workforce without proper knowledge and laboratory practice. Studies showed that lack of on-campus learning, and less patient interaction greatly affected medical students and played a factor in the high levels of depression and experiences of anxiety that were recorded with them [22][24].

Given the fact that COVID-19 has a lot of symptoms, it is inevitable that people would get paranoid with regards to acquiring one of them [25][8][26]. With this being said, three out of six participants stated that they feel paranoid whenever they feel mild symptoms of COVID-19 such as common cold and fever.

Two participants also stated that they get paranoid about contracting the virus and spreading it to others. One of them claimed that she would still wear face masks even after the pandemic, while the other participant stated that he gets paranoid every time he comes in contact with his family at home after going out, that they sometimes do not even go near each other at all. Aside from acquiring the symptoms, the paranoia associated with spreading it to others, especially to family members is another factor [25][8][26].

Subsequently, two out of six participants directly stated that their anxieties worsened due to the COVID-19 pandemic. One

of them affirmed that despite her worsening anxiety, it is being balanced out, as she is with her family. As per the other participant, he stated that he experienced irrational episodes of mania where he was worried about the future.

Coping Well with the Situation:

Considering that this COVID-19 pandemic has already taken up many lives of people, one participant experienced losing one of his relatives during this pandemic. This participant described how sudden and hard it was to have lost someone. It was expected that it would be hard to stay optimistic during that kind of situation. The fact that people cannot do anything about it made it even harder. However, the participant stated to look at the brighter side which in his case, is that his immediate family is safe. He admitted that although feeling lonely and having experienced loss, he chose to be more determined towards his situation and challenged it instead.

Another participant opted to see the bright side of things; she expressed her gratitude and attributed her calmness towards the fact that her family was still complete and healthy despite the ongoing pandemic. Optimism influences the mental well-being of a person and that can be supported by the study of Conversano et al. (2010) [27], with that leading to having adaptive behaviors and cognitive responses. With this, the participant's optimistic behavior can also mean that he can cope well with the situation.

Additionally, finding ways on how to cope with a situation played a role in the mental well-being of a person. Four out of six participants were able to discover each of their coping mechanisms amidst the pandemic such as sleeping, limiting social media use, writing, playing online games, and talking to friends. Adopting a good coping mechanism was one way of being able to counteract the levels of stress and anxiety brought by the pandemic [8].

Adjusting to the New Situation:

The COVID-19 pandemic caused a health crisis at a scale never witnessed before. The world as we have known it so far has changed and continues to change every single day. This pandemic placed an impact on our lives and continues to push us to a new normal. In line with this, two out of six participants stated that they were able to adjust to the new situation. In addition, one of them stated that she was not used to being with her family and had lost her personal space.

Good Mental Health:

With the overwhelming effects of COVID-19 in most aspects of a student's life, staying mentally healthy during this pandemic was difficult [28]. Despite this, two out of six participants managed to become healthy-minded, as they disclosed that their overall mental well-being was still doing okay or good.

Awareness towards COVID-19, Self-awareness, Self-care:

People mostly spent their time at their homes during this pandemic which gave people a lot of chances to reflect and care for themselves. With this, one participant stated that he was able to learn more about himself and how to treat himself and others as well. Another participant described how her friend's condition who acquired COVID-19 infection affected her in terms of actions. She also stated that what happened to her friend became a wake-up call for her to be more mindful and careful. She also shared that during that time, she prioritized her mental health before anything else. In line with this, one must use self-care resources as well as social support to lessen distress during the temporary health crisis. In fact, allotting a few minutes for self-care can reduce the impact of COVID-19 [29].

Stress Due to Government:

Most of the participants expressed their disappointment towards the government on how they handled the pandemic in the country. One participant described that he felt stressed and bothered about how the government did not consider the suggestions of people. Another participant stated that she felt stressed and anxious about how things were being handled by the government and that it caused everything to be uncertain. Uncertainty, as a stressor, is associated with mental disorders such as anxiety [30] and greatly affects the psychological well-being of a person.

B. Emotional Well-Being

Emotional distress was one of the major upshots of the pandemic [7] mainly because of the strict implementation of the series of lockdowns, social distancing protocols, as well as fear of acquiring the virus [31]. These effects of the pandemic can interrupt the decision-making process of an individual [32] and their ability to focus [8] on what they are supposed to do. Once the emotional status of an individual is

damaged because of this pandemic, their performance in school might be affected as well as the activities they perform in their everyday lives. Thus, it is important to take note of the emotional well-being of a person.

The COVID-19 pandemic brought about both positive and negative emotions to the participants which can be observed through the diverse emotions they expressed during the interview. Most of the positive emotions stated were attributed to the reason that participants were able to spend more time with their families — all of the participants considered having a closer relationship with their family members as the comforting side of the spectrum. However, in general, most of the participants expressed negative feelings towards themselves, their futures, the local government's lack of response to the pandemic, and the pandemic itself. Negative emotions that emerged were feelings of loneliness, worry, stress, exhaustion, anger, disappointment, and sadness. Some also admitted to being more emotionally sensitive than before. Also highlighted were respondents' views of the importance of interpersonal relationships despite the distance, and how they deemed essential it was to follow social distancing.

Happiness Due to More Time with Self:

One of the positive emotions expressed by a certain participant was the happiness she felt when she was able to spend more time for herself. She felt happier since the stress from school somehow diminished and that she had more time to focus on herself. This can be supported by Son et al. (2020) [33] wherein they emphasized the options of working at home allowed an individual to take breaks and focus on organizing an approach that allowed one to promote a healthier lifestyle, both physically and mentally. A study by Armstrong-Mensah et al. (2020) [34] also showed that one of the positive outcomes that distance learning had brought to the students was time management and having more time to rest as compared to traditional face-to-face learning.

Happiness Due to More Time with Loved Ones or with People Around:

During the COVID-19 pandemic, three of the participants were happy to spend more time with their families and another participant expressed that not only was she able to become closer with her family and friends, but also highlighted how her religious relationship improved. Armstrong-Mensah et al.

(2020) [34] stated that spending more time with family was one of the positive outcomes that distance learning had provided. This supported the results of the study, where all of the participants revealed that since they had more time to do things, they were able to spend more time with their families, loved ones, and with the people around them. Moreover, according to Tuason et al. (2021) [35], Spirituality allows an individual to feel a sense of hope and meaning despite the given circumstances brought about by the COVID-19 pandemic. If used in a positive form, it can positively affect an individual's well-being and coping state

Coping Well with the Situation:

Three of the participants were able to cope well with the situation using coping strategies which differ from one person to another. One participant was able to cope well with the pandemic through the means of writing since he could not share his emotions and feelings towards his family and friends. Another participant was happy, as she used baking for others as a coping mechanism and distraction. While another participant expressed her happiness to discover new things amidst the pandemic. She stated that she felt happy as she was able to dive more into her hobbies and came across fresh finds since she had more time for it.

Coping styles contribute to an individual's management of the stress brought about by the COVID-19 isolation. According to the study of Mariani et al. (2020) [36], the strategies that are associated with lowering anxiety and depressive symptoms brought about by the pandemic include following a healthy and balanced diet, following a daily routine, not reading news/updates about the pandemic often, and pursuing hobbies.

Emotions were heightened, Emotionally Sensitive:

Common among all the participants were diverse emotions that were heightened by the pandemic. One of the participants expressed those emotions such as sadness, fear, and anger were heightened during the pandemic. It was also mentioned by the same participant that it seemed as if everyone was able to deal with the pandemic by just living with it and admitted to being more emotionally sensitive. The results gathered can be supported by a study conducted by Kakunje et al. (2020) [37], wherein they also stated that fear and anxiety are some of the initial responses of people to the COVID-19 pandemic, and these emotions can result in insomnia and panic.

On the other hand, two of the participants admitted that they felt exhausted and burnt out. One admitted exhaustion in general, while the other was a result of the national government's lack of response to the pandemic. Burnout is described in psychology as the "state of emotional, physical, and cognitive exhaustion as a consequence of performing responsible activities under demand and stress" [38]. It can be due to manifestations such as fatigue, derealization, and distancing with manifestations of abandonment and low achievement, and the loss of commitment and decline in personal achievement and motivation [38]. Individuals who encounter stress and overload over an extended period can also result in exhaustion and low motivation [38].

Negative Emotions Due to Government:

Half of the total participants expressed negative feelings toward the national government. Emotions such as irritation, anger, sadness, and disappointment were mentioned due to the said government's lack of response to the pandemic. In a study conducted by Banerjee and Rai (2020) [39], they mentioned that negative emotions such as anger and frustration on the authorities can be attributed to one's boredom and loneliness; this can result in the defiance of quarantine protocols and restrictions, thereby negatively affecting public health.

Worried about the Future:

Majority of the participants expressed their worries about their health and future profession. The pandemic affected the emotional well-being of the majority in terms of their worries about their future as one participant even expressed that she felt worried about the uncertainty of her future, most especially during the pandemic. While half of the participants revealed that their worries were directed towards the health of their families and friends.

Loneliness:

Two of the participants mentioned that loneliness and sadness were the negative emotions they felt during the pandemic. One of the participants admitted to not being able to tell his friends and family about certain things in his life and considered himself as a burden to them during the pandemic. The same participant admitted that there were moments when he wanted to be alone and voiced out his sadness about how relationships and learning before the pandemic happened

were only given attention and importance when the pandemic happened. Another participant expressed his sadness knowing that the only means of communication with his friends was via online. He admitted online communication was hard and compared it to his pre-pandemic experience, wherein face-to-face communication was possible.

Loneliness is defined by Kakunje et al. (2020) [37] as the "subjective painful emotional state occurring due to reduced social interaction". It was stated in their study that loneliness is associated with poor interpersonal relationships and that the required quarantine and isolation protocols can lead to cases of loneliness. It is considered a miserable feeling and regarded as an emotional factor in the development of depression, anxiety, adjustment disorder, chronic stress, insomnia, and late-life dementia [39].

Interpersonal Relationships Did Not Change:

One of the participants stated that his interpersonal relationships did not change during the pandemic. His same set of friends pre-pandemic was still the same set of friends during the pandemic.

Maintaining Social Connection is Important:

Most of the participants expressed how they considered maintaining social relationships despite the distance and quarantine protocols as important. One of the participants expressed that if not for her support system, she would not be able to finish Medical Technology. Another participant was able to describe her feelings towards her social connection as disheartening because the use of face masks was a hindrance to seeing a person's faces and emotions. Another revealed that although he chose to stay away from others at the start of the pandemic, the loss of a family member and his self-isolation made him realize the importance of maintaining his interpersonal relationships.

Maintaining social connection is important and it cannot be denied that while one is trying hard to keep people in their lives, one loses some as well. A particular participant's social circle was affected, however, it led her to ascertain who her true friends were. A study conducted by Kakunje et al. (2020) [37] highlighted the importance of social groups and how it deeply impacts the emotional and psychological integrity of an individual. According to them, group cohesiveness affects an individual's mind and behavior, thereby also affecting

one's functionality. Social connectedness can also be used as a coping mechanism related to the pandemic, as stated by Tuason et al. (2021) [35]. These studies supported the gathered data seeing that all of the participants expressed how important it was to maintain social connections despite the distance by which it helped in dealing with the stress they encountered.

Social Distancing is Necessary:

Preventive measures against COVID-19 such as social distancing were implemented worldwide. Although necessary, these preventive measures against COVID-19 greatly affected the emotional well-being of the people. All the participants described that social distancing was necessary, however, most of them expressed that it was somehow sad. One participant firmly said that these ideas of sadness should be disregarded and should be focused on the fact that social distancing was necessary. Another participant mentioned that he follows social distancing as an extra caution since he was not sure whether or not the people he met were infected with COVID-19. According to Tuason et al. (2021) [35], emotional and social loneliness, along with the sense of agency, are variables that are described in theories which concern the human need for relatedness and affiliation. Socializing and the physical presence of other people are important for most individuals. Therefore, the current situation where one is forced to quarantine themselves and to keep distance heightens the need for an individual's affiliation.

C. Physical Well-Being

University students are amongst the affected populace when it comes to the limitation of access to recreation facilities such as gyms and courts. A study by Barkley et al. (2020) [9] embarked on finding and comparing the differences in physical activity of university students and employees before and after the COVID-19 pandemic. Results of the study showed initial evidence of a significant decrease in physical activities in undergraduate university students [9]. Participants who were the most physically active among the sample group decreased total physical activity and increased sedentary behavior [9]. All the participants noted significant changes when it came to their physical well-being because of the COVID-19 pandemic and the subsequent lockdowns and quarantine protocols put into place in their municipalities or provinces. On a positive note, some participants stated that

they were able to implement physical exercises, eat healthy meals, focus on skincare, and fix sleeping patterns since they had more time during the pandemic that allowed them to focus on their fitness and health. On the other hand, there were also some participants who admitted that they lived a sedentary lifestyle during the pandemic which includes loss of appetite, the shift in sleeping patterns, and lack of exercise. With this, both positive and negative changes were observed in the data analysis of the statements made by the participants.

Healthier Lifestyle:

A notable positive effect on some of the participants' physical lifestyle would be finding more time and having been able to put more effort into their overall fitness and health. Two participants stated that they were able to eat healthier and were able to exercise daily as well as lose weight. One participant shared how he was able to find more time to exercise when there were no classes that needed to be attended to. He expressed that he was able to exercise whenever it was convenient for him. Another participant shared that she was able to have good nutrition, as well as fixing her sleeping pattern and body clock.

A study by Chopra et al. (2020) [40] revealed that there was an improvement in health and diet observed in younger populations (age < 30 years). The results gained from the said study showed that there was a significant but limited improvement in the quality of meals consumed through a reduction in unhealthy food including fried food, fast food, and junk food, and instead, some of the participants reported higher consumption of protein-rich foods such as pulses, eggs, and meat [40]. The responses of some of the participants highlighted that their healthy diet was due to being at home and finding more time to focus on their health. This study supports the findings that home-cooked meals, free time to prepare meals, incorporation of healthier food rich in nutrients and vitamins that help in boosting immunity, and better family support in maintaining a healthier eating pattern are prime reasons for the reduction in unhealthy eating habits [40].

Self-Care:

Self-care is defined as activities and/or practices that a person willingly engages in to maintain and enhance their health and well-being. One participant stated that during the pandemic,

she found time for “self-care” or being able to focus on caring for herself.

Many medical institutes such as the American Veterinary Medical Association, Harvard Medical School, Mayo Clinic, and the WHO support the need for and importance of self-care during the pandemic. Finding time to focus on enhancing and bettering one's health and well-being can be an effective way to remove and alleviate unresolved stress. It is common knowledge that stress can contribute to and can be a factor in developing diseases such as hypertension, obesity, heart disease, anxiety, and other illnesses. Thus, it is encouraged that people, especially during the pandemic, find time to cater to their needs to avoid undue stress and being overwhelmed with the situation with the COVID-19 pandemic.

Poor Physical Lifestyle:

The consequent closure of various sports and recreational facilities due to the COVID-19 pandemic led to inactivity among a large percentage of individuals who were not able to actively participate and practice either individual or group sports. Due to loss of access to these facilities, many became less physically active, acquired an unhealthy diet due to limitations in food options and services, and even developed sedentary behavior [41]. According to a study by Barkley et al. (2020) [9], things shifted from being physically fit to a sedentary lifestyle ever since the pandemic started. Not all of the participants were able to develop a healthier lifestyle when it came to their physical well-being due to the presence of the pandemic. Thus, some of them observed negative effects on their physical health leading to a poor physical lifestyle. One participant stated that she felt too lazy, and that the implementation of the lockdowns had a toll on her diet, making her lose weight by not eating.

One participant shared that she felt fatigued and physically exhausted, noting that her fitness declined. She expressed that this might be a cause for concern during her internship where she will be moving out and about the hospital. Another participant expressed how he had gained weight and slept later than usual ever since the lockdown. In a study conducted by Henderson (2020) [42], it was reported that a lot of people were having difficulty losing weight, 48% had less time for exercise while 56% had a lesser intensity of workouts.

Despite recommendations set forth by the WHO regarding the importance of maintaining an active physical lifestyle for the

prevention of infection, physical activities have decreased at all levels. The limitations of outdoor activities and the consequent closing of various recreational facilities (sports centers and gyms) have been linked to the decrease in active participation in exercise and normal leisure-related activity such as walking outside, doing groceries, jogging, and simply going out of the house [40]. Add in the increase in daily sitting and screen time, people lose any motivation to be physically active, developing sedentary behaviors instead.

No Motivation:

Another negative effect of the COVID-19 pandemic was that some of the participants lacked any sort of motivation to better and improve their physical health. One participant expressed how she was more easily tired even with minimal physical activities because of lockdown and quarantine protocols; that having no one to join her during her workouts contributed to her becoming lazy to exercise. Another participant shared that she was, at first, conscious of her fitness so she did workout and ate healthy for the first few months of the pandemic. However, she soon became too lazy to continue and opted to settle for an almost sedentary lifestyle. She also became less active and lacked any motivation to improve her physical well-being. A study conducted by Chopra et al. (2020) [40] revealed that adverse changes in physical activity levels were reported due to lack of motivation. The stress, anxiety, and other negative impacts of the COVID-19 pandemic on a person's well-being contributed to the decrease in motivation to be physically active during the pandemic.

D. Positive Perspectives toward Desired Profession

Most of the participants experienced a change in their study habits due to the effects of the COVID-19 pandemic such as the change in the learning environment from face-to-face classes to online virtual learning. Despite the said changes, the participants were still able to cope with the situation and some were able to achieve better academic performance as compared to the pre-pandemic period. There are few participants whose study habits were affected on a positive note due to reasons such as being able to focus more on learning, having more time studying, and being more productive due to control over time. Moreover, in relation to their desire of becoming future healthcare workers, most of the participants mentioned their determination in pursuing the profession because of the higher demand and the need for a

larger medical workforce and the relevance of healthcare workers in society.

Family's Situation has No Effect on Academics:

Two out of the six participants stated that their family's situation, such as their overall health during the pandemic, did not affect their academics in an online-based setting. One of the participants was still concerned about her family's health since she knew that they were getting older, however it did not affect her studies. Another participant was locked-minded while studying, therefore, his family's situation did not affect his academic performance. The aforementioned statements were supported by a study conducted by Meo (2020) [43] which stated that the quarantine did not have much effect on student's learning, but for those who feel emotionally detached from other people such as their family, it resulted in a decreased overall work performance.

Coping well with the Situation:

One out of the six participants were able to cope well with the situation by drinking coffee while studying when there were no breaks in between classes. He mentioned that he was doing his best in learning and tried to adjust during the pandemic, especially that he was already a 4th-year student with different activities and tests stacking up. On the other hand, one out of the six participants were able to develop a way to cope up with the online internship program with her friends during the pandemic. In terms of examinations, she and her friends made reviewers for studying, while in terms of requirements, she did it ahead of time. According to the study conducted by Abdulghani et al. (2020) [44] in any challenging situation, just like the COVID-19 pandemic, each person relies on different coping mechanisms where the social support system plays a role in the development of coping strategies against stress.

Study Habits are affected:

During the pandemic, three out of six participants' study habits were affected, on a positive note, due to a change of learning approach from traditional face-to-face classes to online learning. One of the 4th year participants had decided to be more deliberate and specific in choosing what time to study. While one of the 3rd year participants stated that the pandemic helped him focus on learning and although he would play games whenever he gets bored during a

discussion, playing games while listening to the professor did not distract him from learning. One of the participants had more time studying during the pandemic which helped him absorb and retain more of the discussion of his professor. Also, he became more productive as he was able to control his time allowing him to re-watch and re-read the lecture videos and lessons. This is supported by a study conducted by Angkarini (2021) [45] wherein it is stated that online learning is more flexible than face-to-face classes since it follows the wishes of students and provides opportunities for students to achieve learning goals independently.

Better Academic Performance:

Three of the participants had better academic performances during online classes as compared to face-to-face classes. Their grades improved due to different reasons such as having adequate resources at home and understanding the lessons more, allowing the application of concepts in real life and enabling them to answer their examinations correctly. According to the study conducted by Sahi et al. (2020) [46], the period of "no teaching" during the pandemic can be a period of "greatest learning" since students, especially those who are involved in the medical field, can watch first-hand the epidemiological principles in practice and have the time to catch up to their previous lessons which can help enhance their academic performance.

Passion for Profession:

Most of the participants were determined to pursue their desire in becoming future healthcare workers. One of the participants wanted to become a medical technologist due to the higher demand for healthcare workers in society. In her opinion, higher demand for this profession meant more job opportunities were waiting for her. She had no second thoughts about continuing the profession since she liked it more during the pandemic as it emphasized the importance of medical technologists in battling the diseases spread in the world.

Other participants also mentioned that they did not have second thoughts about pursuing the profession; it was their dream to be a part of the future healthcare system and also felt the need for medical professionals during the pandemic because of how healthcare professionals were constantly afraid of their safety as well as of their loved ones. Two of the participants mentioned their passion for becoming a medical

professional allowed them to stay in this field even with the various negative effects brought about by the pandemic. One of the participants realized the contribution of medical professionals in the world and the relevance of the medical technologists being involved in creating vaccines from simple principles, which ignited her passion for becoming part of the medical field. She also mentioned that she wanted to pursue a Medical Doctor degree since she cannot imagine being anyone else. Another participant also stated the influence of his professors as well as of his parents to his medical dreams. He also mentioned that the Medical Technology course was a good foundation if he was to pursue Medicine, considering that he had a good understanding of it and they are both application-based courses.

The statements of the participants are supported by the study conducted by Compton et al. (2020) [47] wherein many medical students prefer to return to the clinical setting since it is part of their professional responsibility which is consistent with their desire to become part of the medical team. Also, according to Tempski et al. (2021) [48] medical students' sense of duty as well as altruism motivates them to participate in the fight against diseases spread worldwide, just like the coronavirus disease.

E. Negative Perspectives toward Desired Profession

The closing of schools due to the COVID-19 pandemic resulted in a stressful event for educational institutions with limited options [49]. Subsequently, the sudden shift from face-to-face classes into online learning left the students with no choice but to adapt to it. As a result, it affected the perspectives of the students towards their desired profession not only positively but also negatively. While some students were able to cope with this shift, not all of them share the same sentiments.

Did Better During Face-to-Face Classes:

Most of the participants acknowledged that they did better during face-to-face classes compared to online classes. Among the reasons that were mentioned are better memory recall and ease of learning during face-to-face classes. In conjunction with the study of Baticulon et al. (2021) [5], it stated that in online classes during the pandemic, students admitted to lack self-discipline and drive to study resulting in fewer hours spent in studying as compared during face-to-face classes.

Poor Academic Performance:

Overall, four out of six participants expressed that online classes during the pandemic was the cause of their poor academic performance. One expressed that she used to study more before the pandemic as compared to during online classes where scanning the lessons would suffice. She affirmed that online learning during the pandemic was a battle against herself that she was not winning. The study conducted by Meeter et al. (2020) [50], revealed that the lack of motivation can be attributed to a lack of effort in which students have admitted to spending less time with their studies, and attending fewer lectures and small-group meetings. University students have also described online education as lacking the social aspect, causing discomfort because of technical failures, or just "not real education" [50].

Three respondents expressed that their poor academic performance was due to their loosened schedule and laziness during virtual learning. While professors play a big role in helping the students adapt, the self-discipline of students is also an integral part of it [51].

Another participant expressed that her academic standing was lower because she felt as if professors failed to see her efforts during online classes. In a study by Adnan and Anwar (2020) [52], a conventional class setting would include students that actively participate more in academic activities due to face-to-face engagement than in an online setting. In addition, traditional learning was more motivating than distance learning.

Environment Not Conducive for Learning:

A particular participant expressed difficulties in studying due to her current learning environment, as compared to during face-to-face classes. Based on the study of Onyema et al. (2020) [53], availability, accessibility, and use of technology in education are not widespread especially in developing countries; thus, receiving formal education in the comfort of homes could be challenging. One of the participants expressed the lack of personal space and the presence of noise during class hours. Apart from the cost of accessing online education, many other factors such as network issues, poor power supply, distractions, poor digital skills, inaccessibility, and availability issues can also hinder smooth study from home [53]. This is evident in one participant wherein power

interruptions and internet connection problems were sometimes encountered.

Study Habits are affected:

Some participants expressed that their study habits were affected negatively during the pandemic primarily due to the lack of change in environment, distractions, and shorter attention span. In the study of Mukhtar et al., (2020) [54], students expressed that their attention span became more limited during online classes than during face-to-face classes.

A participant expressed that their family matters affected his ability to focus on his studies and that it put more pressure on him. In a study by Baticulon et al. (2021) [5], the more time spent at home during the pandemic did not equate to more time for academic activities. Some students could not concentrate because of family matters — be it family disputes or difficulty in turning down conversations with the family members out of respect. Some of them also have their responsibilities such as taking care of the sick and running errands for their household.

One of the participants stated that they finish outputs only to make it through, while another expressed her dismay in not being able to retain memory due to the change in study habits.

No Learning:

Two participants stated that they lacked in learning during the pandemic and felt as if their knowledge had deteriorated. Among the factors that were mentioned was the load of activities given to students. One of them even emphasized that although her grades were higher, it did not reflect her learning. According to the study of Adnan and Adwar (2020) [52], even though the choice for online learning helped ensure the safety of both students and instructors, it is not as effective as traditional face-to-face learning when it comes to acquiring knowledge. It also did not produce desirable results in underdeveloped countries.

Concerned About Practical Skills:

Changes that may seem relatively minor in comparison to the global pandemic have the potential to be drastic turning points in the career progression of many [55]. Since Medical Technology is a skill-based program, the shift to online learning affected the exercise of practical skills of the

students. With this, all of the participants affirmed that they were concerned about their practical skills in the program. Some participants expressed their anxiety about working in the laboratory without the prior practice of practical skills in the program. Some also expressed their disappointment with the hindrance of online classes in the application of concepts into practical skills. Based on the study of Baticulon et al. (2021) [5], medical students were concerned about the lack of learning and essential skills considering the lack of patient exposure. Moreover, the replacement of in-person classes with online equivalents is an obvious necessity at this time but creates a loss of collaborative experiences that has the potential to be a significant detriment to education [55].

No Motivation:

A participant believed that her lack of motivation to study during the online classes was due to her lack of self-discipline. She admitted to not exert that much effort to study since it was online and also reiterated that she did not see the need to study during online classes. Some also expressed about doing online classes only to make it through. One participant even said that she was left with no choice but to continue. In a research study by Driessen et al. (2020) [56], results showed that one week after transitioning to online learning, lack of motivation to study was reported wherein one student explained that there are other more important things going on in their lives that made them less worried about examinations. Subsequently, university students expressed that they are less motivated when it comes to their studies and academic responsibilities than when face-to-face classes were still in effect [50].

Pursue Profession Abroad:

Three participants expressed their desire to practice the career of Medical Technology abroad. Lack of opportunities and poor governance were among the prominent reasons that were mentioned. In a study by Naicker et al. (2011) [57], the factors the migration of healthcare professionals from developing countries include lack of career opportunities, underfunding of healthcare facilities, poor remuneration and condition of service, governance and health service management shortcomings, and civil unrest and personal security.

Hesitation in Continuing the Profession:

Three of the participants were hesitant to continue the profession of becoming a future healthcare worker due to

various reasons. One of the participants hesitated at first because medical technologists were underpaid and overworked, which was clearly emphasized during the pandemic. She affirmed that healthcare workers were not given appreciation in the middle of a pandemic. Another participant expressed that the pandemic allowed him to contemplate on whether or not to still pursue a medical profession; he was torn between achieving his parent's dream of him becoming a doctor or pursuing his passion of becoming a pilot. In a study by Hämmig (2018) [58], being insufficiently rewarded for the effort at one's work is one of the main reasons why healthcare workers opt to leave their profession.

Inability to Cope:

One of the participants mentioned that she cannot cope successfully with the lecture videos provided by her professors. She tried coping up with the online internship by making reviewers with friends and it was not effective for her. During the pandemic, the medical students stated that they spend fewer hours studying in an online setting and admitted to having difficulty in coping with online classes [5].

Difficulty with Online Classes:

One of the participants admitted to having difficulty with online classes because of the numerous distractions he encountered during class hours. This made him feel more exhausted during the pandemic as compared to the pre-pandemic period wherein subjects were also heavily loaded. In a study by Nadeak (2020) [59], it was shown that students have difficulty understanding course materials provided online. They also have difficulty in maintaining concentration watching online lectures.

IV. CONCLUSION

The presence of the COVID-19 pandemic had greatly impacted the lifestyle and well-being of students all around the globe. It had affected nearly 1.6 billion students in over 200 countries, with the closure of schools, institutions, and other learning facilities that impacted over 94% of the student population on a global scale [60]. With this being said, this study highlighted three main objectives: To determine the psychological, emotional, and physical effects of the COVID-19 pandemic on the well-being of 3rd year and 4th-year Medical Technology students from a university in Manila; to

determine the positive perspectives of the said group towards their desired profession despite the COVID-19 pandemic; and lastly, to determine the negative perspectives of the said group towards their desired profession in relation to the COVID-19 pandemic. The data gathered along with the subsequent data analysis revealed both positive and negative effects of the pandemic on student well-being, lifestyle, and overall health.

The overall psychological well-being of the participants mostly pointed out that they were negatively affected by the said pandemic. Analysis revealed that the fear of acquiring and transmitting COVID-19, loss, and death of loved ones, the government's lack of response to the situation, and the sudden shift to online learning were causes of the psychological distress. In regard to the latter mentioned, analysis also showed that all of the participants were negatively affected mentally as deep concerns regarding the quality of education and the honement of practical skills arose. Also common among all the participants was the heightened anxiety they had developed during the pandemic. However, most of the participants were able to adjust well and form various coping mechanisms despite the situation. It was also revealed that self-care and self-awareness were also given more importance during the pandemic.

The emotional well-being of the participants generally showed the development of both positive and negative emotions. However, despite the diversity, highlighted to a greater extent was how the majority of the emotional well-being of the respondents was negatively affected. Feelings of loneliness, worry, stress, exhaustion, anger, disappointment, and sadness were one of the emotions felt and were heightened as expressed by the respondents. Reasons behind the negative emotions were due to the national government's lack of response to the said pandemic, concern for their future, and concern for their families and friends. Positive emotions, on the other hand, were attributed to more time spent with families and on coping mechanisms that they had developed. In relation to social distancing protocols, all of the respondents deemed it important to follow social distancing, however, most of them expressed sadness regarding it. The analysis also revealed that the respondents viewed the maintenance and development of interpersonal relationships despite the distance with utmost importance.

For the physical health and well-being, the participants revealed a mixture of both positive and negative effects of the

COVID-19 pandemic. Some of the participants expressed how the pandemic allowed them to become more physically active and fit, helped them have a healthier diet due to being back at home with family instead of a school dorm, and gave them more time to focus on themselves and their health. These were clear indications of the positive influence the pandemic had on student lifestyle regarding their physical well-being. On the other hand, other participants stated how the pandemic negatively affected their physicality. They revealed that the pandemic made them lazier and unmotivated, thereby contributing to the development of an almost sedentary lifestyle.

In terms of their attitude and perspective towards their future profession, there was also a mix of both positive and negative effects stated and expressed by the participants of the study. In terms of the negative effect of the COVID-19 pandemic in terms of profession-related attitude and perspectives, the participants expressed hesitancy and lack of motivation in further pursuing the profession due to a number of factors such as low wages, being overworked, as well as the actions taken by the government in combating the pandemic and its treatment of the country's medical workforce and/or health sector. These factors made some of the participants express their desire to pursue their future profession and practice abroad. Positive effects of the pandemic in relation to the participants' view and desire in pursuing their wanted profession include a more determined drive in wanting to become future healthcare professionals because of the higher demand and the need for a larger medical workforce and the relevance of healthcare workers in society.

Many of the key themes determined in the data analysis revealed similarities between certain categories that reveal an interconnectedness that exists between the different aspects of the student's health and well-being. This supports the definition of "health" brought about by the World Health Organization (WHO) in 1947 wherein, it is defined as a state of complete physical, mental, and social well-being. The Canadian Mental Health Association describes the relationship between mental and physical health as being risk factors to each other — poor mental health can lead to poor physical conditions, and vice versa. As stated in a study conducted by Stewart-Brown (1998) [61] the evidence shows how emotional distress can also be a risk factor to an individual's physical health; and how emotional support can prevent illness, recovery, and premature mortality. In the

same year, the British government's green paper entitled *Our Healthier Nation* redefined "health" as 'being confident and positive and able to cope with the ups and downs of life' [62], this further supports the existence of a correlation between the different aspects of health when it comes to the overall well-being of a person.

Ethical Considerations:

This study was approved by the University of Santo Tomas Faculty of Pharmacy Research Ethics Committee. Approved written consent forms were given to the participants. The participation for the study is completely voluntary and free of coercion. Respondents had the option to withdraw their participation at any time.

To protect the right to privacy and confidentiality of the participants, their names and other information will not be disclosed to anyone but only to the researchers. Furthermore, the data collected was used for academic purposes only and was treated with confidentiality. Also, the participants have the right to access their data as well as the results of the study.

Conflict of Interest:

The authors of the study declare that the research was conducted without any conflict of interest.

REFERENCES

- [1]. Johns Hopkins University of Medicine (2020). World Map-Global Deaths.
- [2]. UNESCO (2020). UN Secretary-General warns of education catastrophe, pointing to UNESCO estimate of 24 million learners at risk of dropping out. Retrieved September 21, 2020.
- [3]. Rajab, M. H., Gazal, A. M., & Alkattan, K. (2020). Challenges to Online Medical Education during the COVID-19 Pandemic. *Cureus* 12(7): e8966.
- [4]. Verma, A., Verma, S., Garg, P., & Godara, R. (2020). Online Teaching during COVID-19: Perception of Medical Undergraduate Students. *Indian Journal of Surgery*, 82(3), 299-300.
- [5]. Baticulon, R. E., Alberto, N. R. I., Baron, M. B. C., Mabulay, R. E. C., Rizada, L. G. T., Sy, J. J., Tiu, C. J. S., Clarion, C. A., & Reyes, J. C. B. (2020). Barriers to online learning in the time of COVID-19: A national survey of medical students in the Philippines, 12.
- [6]. Kokemuller, N. (2013). What Are the Positive & Negatives With Online Learning?. Retrieved October 4, 2020.
- [7]. Shanahan, L., Steinhoff, A., Bechtiger, L., Murray, A. (2020). Emotional distress in young adults during the COVID-19 pandemic: evidence of risk and resilience from a longitudinal cohort study. Cambridge University Press.
- [8]. Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar F. (2020). Effects of COVID-19 on College Students' Mental Health in the United States: Interview Survey Study. *Journal of Medical Internet Research*, 22(9):e21279.
- [9]. Barkley, J. E., Lepp, A., Glickman, E., Farnell, G., Beiting, J., Wiet, R., & Dowdell, B. (2020). The Acute Effects of the COVID-19 Pandemic on Physical Activity and Sedentary Behavior in University Students and Employees. *International journal of exercise science*, 13(5), 1326-1339.
- [10]. Barwais, F. (2020). Physical Activity at Home during the COVID-19 Pandemic in the Two Most-affected Cities in Saudi Arabia. *The Open Public Health Journal*.
- [11]. Larcom, A. (2020). Physical Inactivity & the COVID-19 Pandemic. Retrieved November 25, 2020.
- [12]. Uildriks (2020). Pandemic measures had a strong impact on mental and physical health. Retrieved September 21, 2020.
- [13]. Cullum, R. J., Shaughnessy, A., Mayat, N. Y., & Brown, M. E. (2020). Identity in Lockdown: Supporting Primary Care Professional Identity Development in the COVID-19 Generation. *Education for Primary Care*, 31(4), 200-204.
- [14]. Quintos, P. (2020). The Philippines' COVID-19 Response: Symptoms of Deeper Malaise in the Philippine Health System. Retrieved September 21, 2020.
- [15]. Mendoza (2020). Hazard pay for gov't workers 'deceptive,' 'divisive' — health workers' group. Retrieved September 21, 2020.
- [16]. Gonzales, C. (2020, June 10). Hazard pay for gov't workers 'deceptive,' 'divisive' - health workers' group. Retrieved September 21, 2020.
- [17]. Creswell, J.W. (2013). *Qualitative Inquiry & Research Design: Choosing Among the Five Approaches*. Thousand Oaks, CA: SAGE Publications, Inc. (pp. 77-83)
- [18]. Cilesiz, S. (2009). Educational computer use in leisure contexts: A phenomenological study of adolescents' experiences at Internet cafes. *American Educational Research Journal*, 46(1) 232-274.
- [19]. Husserl, E. (1970). *Logical Investigation (Vols. 1 - 2)* (J. N. Findlay, Trans.). New York: Humanities Press.
- [20]. Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

- [21]. Wirihana, L., Welch, A., & Williamson, M. (2018). Using Colaizzi's method of data analysis to explore the experiences of nurse academics teaching on satellite campuses. *Nurse Researcher*, 25, 4, 30-34.
- [22]. Chandratre S. (2020). Medical Students and COVID-19: Challenges and Supportive Strategies. *Journal of medical education and curricular development*, 7, 2382120520935059.
- [23]. Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., & Zheng, J. (2020). The psychological impact of the COVID-19 epidemic on college students in China. *Psychiatry Research*, 287, 112934.
- [24]. Nishimura, Y., Ochi, K., Tokumasu, K., Obika, M., Hagiya, H., Kataoka, H., & Otsuka, F. (2021). Impact of conversanothe COVID-19 Pandemic on the Psychological Distress of Medical Students in Japan: Cross-sectional Survey Study. *Journal of Medical Internet Research*.
- [25]. Ferrando, S. J., Klepacz, L., Lynch, S., Tavakkoli, M., Dornbush, R., Baharani, R., Smolin, Y., & Bartell, A. (2020). COVID-19 Psychosis: A Potential New Neuropsychiatric Condition Triggered by Novel Coronavirus Infection and the Inflammatory Response?. *Psychosomatics*, 61(5), 551–555.
- [26]. Morote-Jayacc, P., Sandoval, K., Moreno-Molina, M., & Rondan, A. (2020). Mental health studies in medical students in the context of COVID-19. *Revista Colombiana de Psiquiatría*. Vol. 49. Issue 4.
- [27]. Conversano, C., Rotondo, A., Lensi, E., Della Vista, O., Arpone, F., & Reda, M. A. (2010). Optimism and its impact on mental and physical well-being. *Clinical practice and epidemiology in mental health: CP & EMH*, 6, 25–29.
- [28]. Duraku, Z. H., & Hoxha, L. (2020). The impact of COVID-19 on higher education: A study of interaction among Kosovar students' mental health, attitudes toward online learning, study skills, and lifestyle changes.
- [29]. Norcross, J. C., & Phillips, C. M. (2020). Psychologist Self-Care during the Pandemic: Now More Than Ever. *J Health Serv Psychol* 46, 59–63 (2020).
- [30]. Wu, D., Yu, L., Yang, T., Cottrell, R., Peng, S., Guo, W., & Jiang, S. (2020). The Impacts of Uncertainty Stress on Mental Disorders of Chinese College Students: Evidence from a Nationwide Study. *Front. Psychol.*,
- [31]. Fuentes, M., Jurado, M., & Martinez, A. (2020). Threat of COVID-19 and emotional state during quarantine: Positive and negative affect as mediators in a cross-sectional study of the Spanish population. *Plos One*.
- [32]. Dos Santos, L. (2020). How Does COVID-19 Pandemic Influence the Sense of Belonging and Decision-Making Process of Nursing Students: The Study of Nursing Students' Experiences. *International Journal of Environmental Research and Public Health*, 17, 5603.
- [33]. Xiao, Y., Becerik-Gerber, B., Lucas, G., & Roll, S. (2021). Impacts of Working from Home during COVID-19 Pandemic on Physical and Mental Well-Being of Office Workstation Users. *Journal of Occupational and Environmental Medicine*, vol. 63, issue 3, pp. 181-190.
- [34]. Armstrong-Mensah, E., Ramsey-White, K., Yankey, B., & Self-Brown, S. (2020). COVID-19 and Distance Learning: Effects on Georgia State University School of Public Health Students. *Frontiers in Public Health*.
- [35]. Tuason, M., Guss, C., & Boyd, L. (2021). Thriving during COVID-19: Predictors of psychological well-being and ways of coping. *New Journal Introducing PLOS Global Public Health*.
- [36]. Mariani, R., Renzi, A., Di Trani, M., Trabucchi, G., Danskin, K., & Tambelli, R. (2020). The Impact of Coping Strategies and Perceived Family Support on Depressive and Anxious Symptomatology during the Coronavirus Pandemic (COVID-19) Lockdown. *Frontiers in Psychiatry*.
- [37]. Kakunje A, Mithur R, Kishor M. Emotional well-being, mental health awareness, and prevention of suicide: Covid-19 pandemic and digital psychiatry. *Arch Med Health Sci [serial online] 2020 [cited 2021 Jun 4]; 8:147-53*.
- [38]. Fernández-Castillo, A. (2021). State-Anxiety and Academic Burnout Regarding University Access Selective Examinations in Spain During and After the COVID-19 Lockdown. *Coronavirus Disease (COVID-19): Psychoeducational Variables Involved in the Health Emergency*.
- [39]. Banerjee, D., & Rai, M. (2020). Social Isolation in Covid-19: The Impact of Loneliness. *International Journal of Social Psychiatry*.
- [40]. Chopra, S., Ranjan, P., Singh, V., Kumar, S., Arora, M., Hasan, M. S., Kasiraj, R., Suryansh, Kaur, D., Vikram, N. K., Malhotra, A., Kumari, A., Klanidhi, K. B., & Baitha, U. (2020). Impact of COVID-19 on lifestyle-related behaviours—a cross-sectional audit of responses from nine hundred and ninety-five participants from India. *Diabetes & metabolic syndrome*, 14(6), 2021–2030.
- [41]. Bas, D., Martin, M., Pollack, C., & Venne, R. (2020). The Impact of COVID-19 on Sport, Physical Activity and Well-being and its Effects on Social Development. (2020). UN Department of Economic and Social Affairs onyema(DES) Policy Briefs.
- [42]. Henderson, E. (2020, June 11). COVID-19 pandemic impacts mental, physical health of people with obesity. Retrieved November 25, 2020.

- [43].Meo, S., Abukhalaf, A., Alomar, A., Sattar, K., & Klonoff, D. (2020). COVID-19 Pandemic: Impact of Quarantine on Medical Students' Mental Wellbeing and Learning Behaviors. *Pakistan journal of medical sciences*, 36(COVID19-S4), S43–S48.
- [44].Abdulghani, H., Sattar, K., Ahmad, T., & Akram, A. (2020). Association of COVID-19 Pandemic with undergraduate Medical Students' Perceived Stress and Coping. *Psychology Research and Behavior Management*.
- [45].Angkarini, T. (2021). Study Habits of Undergraduate Students during Pandemic of Covid-19. *Journal of Learning and Instructional Studies*, 1(1), 37–51.
- [46].Sahi, P., Mishra, D., & Singh, T. (2020). Medical Education amid the COVID-19 Pandemic. *Indian Pediatrics* vol. 57 pp. 652-657.
- [47].Compton, S., Sarraf-Yazdi, S., Rustandy, F., & Krishna, L. (2020). Medical student's preference for returning to the clinical setting during the COVID-19 pandemic. *Duke-NUS Medical School, Singapore*.
- [48].Tempski, P., Arantes-Costa, F., Kobayasi, R., Siquiera, M., Torsani, M., Martins, M. (2021). Medical students' perceptions and motivations during the COVID-19 pandemic. *PLOS ONE*.
- [49].Khalil, R., Mansour, A., Fadda, W., Almisnid, K., Aldamegh, M., Al-Nafeesah, A., Alkhalifah, A., & Al-Wutayd, O. (2020). The sudden transition to synchronized online learning during the COVID-19 pandemic in Saudi Arabia: a qualitative study exploring medical students' perspectives. *BMC Medical Education*.
- [50].Meeter, M., Bele, T., Hartogh, C. den, Bakker, T. C., de Vries, R. E., & Plak, S. (2020). College students' motivation and study results after COVID-19 stay-at-home orders.
- [51].Gelles, L. A., Lord, S. M., Hoople, G. D., Chen, D. A., & Mejia, J. A. (2020). Compassionate Flexibility and Self-Discipline: Student Adaptation to Emergency Remote Teaching in an Integrated Engineering Energy Course during COVID-19. *Education Sciences*, 10(11), 304.
- [52].Adnan, M. & Adwar, K. (2020). Online learning amid the COVID-19 pandemic: Students perspectives. *Journal of Pedagogical Sociology and Psychology*, 1(2), 45–51.
- [53].Onyema, E. M., Alsayed, A. O., Sharma, A., Atonye, F. G., Sen, S., Obafemi, F. A., & Eucheria, N. C. (2020). Impact of Coronavirus Pandemic on Education. *Journal of Education and Practice*.
- [54].Mukhtar, K., Javed, K., Arooj, M., & Sethi, A. (2020). Advantages, Limitations and Recommendations for online learning during COVID-19 pandemic era. *Pakistan Journal of Medical Sciences*, 36(COVID19-S4).
- [55].Ferrel, M. N., & Ryan, J. J. (2020). The Impact of COVID-19 on Medical Education. *Cureus*, 12(3), e7492.
- [56].Driessen, E., Beatty, A., Stokes, A., Wood, S., & Ballen, C. (2020). Learning principles of evolution during a crisis: An exploratory analysis of student barriers one week and one month into the COVID-19 pandemic. *Ecology and Evolution*, 10(22), 12431–12436.
- [57].Naicker, S., Eastwood, J., Plange-Rhule, J., & Tutt, R. (2011). Shortage of healthcare workers in sub-Saharan Africa: a nephrological perspective. *Clinical Nephrology*. Published.
- [58].Hämmig, O. (2018). Explaining burnout and the intention to leave the profession among health professionals – a cross-sectional study in a hospital setting in Switzerland. *BMC Health Services Research*, 18(1).
- [59].Nadeak, Bernadetha (2020) The Effectiveness of Distance Learning Using Social Media during the Pandemic Period of COVID-19: A Case in Universitas Kristen Indonesia. *International Journal of Advanced Science and Technology*, 29 (7). pp. 1764-1772.
- [60].Pokhrel, S., & Chhetri, R. (2021). A Literature Review on Impact of COVID-19 Pandemic on Teaching and Learning. *Higher Education for the Future*, 8(1), 133–141.
- [61].Stewart-Brown, S. (1998). Emotional wellbeing and its relation to health. Physical disease may well result from emotional distress. *BMJ (Clinical research ed.)*, 317(7173), 1608–1609.
- [62].Gabbay, J. (1998). Our healthier nation. *BMJ (Clinical research ed.)*, 316(7130), 487–488.