

# The effects of community quarantine to study habits among University of Santo Tomas Medical Technology interns of A.Y. 2020-2021 during the COVID-19 pandemic

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## ABSTRACT

The COVID-19 and quarantine due to it has affected people globally. The study aimed to determine the effects of community quarantine and study habits among medical technology interns from University of Santo Tomas. Variables such as time management, concentration, note-taking, reading comprehension, test preparation and test-taking, reading speed, and writing skills served as determinants on 220 medical technology interns during the academic year 2020-2021. The sampling size was divided to the total population of the Medical technology interns and multiplied to the total number of students per block section. Total 30 participants were chosen from section A, 28 participants each from sections B, C, D and 27 participants from section E. Survey questionnaire was utilized to evaluate a medical technology intern's study habit prior and during the COVID-19 pandemic. Results show that the shift of educational modality from face-to-face to the online setting due to the implementation of community quarantine has caused a significant change in four out of eight study habits. Specifically, time management, concentration, reading comprehension and reading speed. These changes were affected by factors such as time management, limited study environment, social media usage, and poor peer-interaction during community quarantine.

**Keywords:** community quarantine, medical technology interns, online teaching, study habits

## 1. INTRODUCTION

The spread of coronavirus caused severe loss and stagnant the normal flow of life. Community quarantine plays a crucial part in preventing the spread of the Novel coronavirus. Due to the

imposed quarantine protocols, most educational institutions had to shift to remote learning. The unforeseen transition to a new normal has led to many changes and affected students' study habits in several ways. For every student, there

has already been a long-established study habit which developed during the process of advancing through one's education. Study habit is generalized as a learning strategy an individual develops during their academic coursework. It directly influences further achievements and better study habits [1]. Due to current individual circumstances being faced in an online learning environment, every student may have to develop new study habits while adapting to the change in order to still perform academically well.

The medical technology education enables students to develop knowledge, attitudes and skills which are essential in the clinical laboratory. It plays a crucial role in the detection, diagnosis, prevention and treatment of diseases wherein the medical technologists must have a combination of education, internship and training [2]. As medical technology students it is essential to become interns during the last year of their coursework. Not only does the internship programs assess the performance of the medical technology interns, but also determines the ability to apply the theoretical knowledge into daily work experiences. The program helps the interns to work efficiently and accurately the necessary tests, from simple to complex detection and treatment of diseases and disorders [3]. The medical technology interns are not deployed to the respective assigned hospitals but are subjected to an online internship program.

Online education can be subdivided into two types of learning namely the synchronous and asynchronous learning. In synchronous learning

there is direct interaction between the students and the lecturers through virtual meetings or classrooms [4]. According to Lim (2017), this method is advantageous as the students receive immediate feedback from the facilitators or lecturers [4]. Contrastingly, asynchronous learning takes a rather more independent approach where the students are allowed to access learning materials and accomplish certain tasks at any convenient time. This permits self-paced studying which lifts a great amount of stress off of the students [5]. Overall, medical technology interns are able to devote more time for learning and reviewing the general and more professional courses considering that travelling is omitted in online learning [5]. However, there are more core proficiencies expected from a medical technologist which the interns have to fully enhance since it requires more experience in a clinical laboratory setting [6]. The interns grow to be more competent through facing different life and learning experiences, quality of education, internship and on-the-job training all together [6].

Due to the high risk of coronavirus infection in a hospital-based internship, the medical technology interns are required to adapt the current quarantine protocols by making certain adjustments in individual learning behaviors and study habits during this period of distance learning. The study habits significantly contribute to how one acquires knowledge and develops perceptual ability. One of the determinants of academic success can be rooted in a student's study habits and cognitive strategies utilized when learning [7]. Due to the

shift on the online learning platform, students are forced to monitor oneself by self-regulated assessments. Although online learning can be beneficial in some aspects, such as being persistent and consistently motivated during the lectures. It is deemed to be more challenging because of students' individual circumstances when situated at home [8]. Moreover, because students lack direct guidance from instructors, it is inevitable to develop bad study habits [1]. Online learning together with other measures taken to mitigate the spread of the virus, affected how students function as well as the level of interest in attending online classes and accomplishing tasks [5].

The researchers were motivated to conduct this study in order to present the effects of quarantine to students' existing study habits. This aims to determine the pre-quarantine and current study habits as well as the changes on how students perceive and keep up with the demands of online education.

## 2. METHODS AND MATERIALS

### 2.1. Research Design

This study utilized a descriptive quantitative research design to determine the study habits of medical technology interns prior and during the community quarantine. The different study habits utilized the Likert Scale Response Anchors by level of Likelihood (1 – Extremely unlikely, 2 – Unlikely, 3 – Neutral, 4 – likely, 5 – Extremely likely) to measure the respondents' studying style. The factors affecting the study habits namely, time management, study environment, use of social media, access to

internet connection and peer interaction utilized dichotomous and multiple choice type questions. The questionnaires used in the study were adapted from a published research by Gilbert Wrenn and researchers from Davao Doctors College with modifications [8]. Moreover, this was used to describe the different variables set as well as determine its correlation. Finally, quantitative results were obtained with the use of an adapted questionnaire or survey.

### 2.2. Research location

Participants in the study were from the fourth-year of the medical technology program or students undergoing clinical internship. Stratified random sampling was used to select participants from the given population. The chosen population is divided into smaller clusters with regards to their block section. Medical technology interns in the University have a total population of 220, with section A consisting of 47 students, section B with 45 students, sections C and D each with 43 students, and section E with 42 students. The computed sampling size is 141 using proportion with 95% confidence level. A stratified sampling design was utilized so that every sampling population will have an equal chance of being selected in the study. The sampling size of 141 is divided to the total population of the Medical technology interns and is multiplied to the total number of students per block section. Using this formula, the total number of 30 students was chosen from section A, 28 participants from sections B, C and D and 27 participants from section E. The selected respondents involved

**Table1a.** Study Habits Prior and During Community Quarantine (Time Management)

Study Habits	Prior			During		
	X	SD	Interpretation	X	SD	Interpretation
I spend hours cramming the night before an exam.	3.88	0.94	Likely	3.03	1.31	Neutral
I allot time for studying.	4.33	0.84	Likely	3.32	1.16	Neutral
I take occasional breaks while studying.	4.15	0.88	Likely	4.48	0.71	Likely

**Table1b.** Study Habits Prior and During Community Quarantine (concentration)

Concentration	X	SD	Interpretation	X	SD	Interpretation
	I cannot sit and study for long periods of time without becoming tired or distracted	3.35	1.17	Neutral	4.30	0.99
I study with the radio, TV, cellphone and/or laptop turned on.	3.48	1.34	Neutral	4.01	1.22	Likely
I need to improve my concentration when I am studying so I study with the radio, TV, cellphone and/or laptop turned off.	3.18	1.31	Neutral	3.09	1.33	Neutral

**Table1c.** Study Habits Prior and During Community Quarantine (note taking)

Note Taking	X	SD	Interpretation	X	SD	Interpretation
	I do not have enough information for my class notes	2.29	1.04	Unlikely	3.25	1.23
I failed to review my class notes within 24 hours of the time I wrote them.	2.94	1.16	Neutral	3.48	1.26	Neutral
I take down notes during class discussions.	4.22	0.92	Likely	2.96	1.17	Neutral

were the population attending the university's online education of the B.S. Medical Technology internship program in the academic year 2020-2021 wherein the members of the batch have reached at least 19 years of age.

### 2.3. Data collection

Each of the potential respondents that meets the criteria of inclusion were contacted through various online platforms (e.g., Facebook Messenger, Email) and were provided with a consent form to be acknowledged.

### 2.4. Data analysis

The evaluation of the gathered data was established by descriptive, quantitative, and comparative approaches because the survey made use of likert scale response anchors by level of likelihood in assessing the types of study habits and dichotomous and multiple choice type questions in assessing the factors affecting study habits.

Mann Whitney U Test (Wilcoxon rank sum test), a nonparametric test is utilized when comparing two independent groups wherein the outcomes is not normally distributed [9]. The utilization of this test allows the researchers to draw different conclusions by stating the differences

**Table1d.** Study Habits Prior and During Community Quarantine (reading comprehension)

Reading Comprehension	X	SD	Interpretation	X	SD	Interpretation
I tend to highlight / underline everything in the text because I do not know how to pick out what is important	2.79	1.26	Neutral	2.62	1.26	Neutral
I often find myself getting lost in the details of a text while reading	3.28	1.05	Neutral	3.56	1.13	Likely
When I get to the end of a chapter, I quiz myself on what I have read.	3.67	1.16	Likely	2.93	1.27	Neutral

**Table1e.** Study Habits Prior and During Community Quarantine (test preparation & taking)

Test Preparation & Taking	X	SD	Interpretation	X	SD	Interpretation
I make sure I am mentally prepared for a test	3.99	0.87	Likely	3.59	1.04	Likely
I need to improve how I am preparing for and taking tests.	3.72	0.96	Likely	3.87	0.99	Likely
I often study in a disorganized way shortly before the test.	2.77	1.19	Neutral	3.21	1.34	Neutral

**Table1f.** Study Habits Prior and During Community Quarantine (reading speed)

Reading Speed	X	SD	Interpretation	X	SD	Interpretation
I read at the same speed whether the selection is difficult or easy.	3.38	1.05	Neutral	3.15	1.11	Neutral
I improve my reading speed.	3.52	0.87	Likely	2.81	1.11	Neutral
I can not keep up with my reading assignments, then I have to cram the night before a test.	2.93	1.14	Neutral	3.03	1.28	Neutral

**Table1g.** Study Habits Prior and During Community Quarantine (writing skills)

Writing Skills	X	SD	Interpretation	X	SD	Interpretation
I usually write my papers the night before they are due.	2.73	1.20	Neutral	2.84	1.38	Neutral
It is easy for me to understand the notes I took down	4.23	0.82	Likely	3.37	1.18	Neutral
I can't seem to organize my thoughts into words	2.53	0.98	Neutral	3.11	1.18	Neutral

in mean values between the independent groups. The data was quantitatively analyzed and compared using the Stata 15.1 software. The researchers analyzed the means and standard deviation of the individual survey questions for prior and during community quarantine, then an interpretation was formulated.

### 3. RESULTS AND DISCUSSION

The result displayed the different types of study habits of the medical technology interns prior and during the community quarantine. On time management prior to community quarantine, the respondents were likely to allot time to study ( $x=4.33$ ), take occasional breaks while studying ( $x=4.15$ ), and spend hours cramming the night before an exam ( $x=3.88$ ). On the other hand, during community quarantine, respondents were still likely to take occasional

**Table 2.** The time management of interns

How far in advance do you start studying for an exam?	f	%
1 Week	22	15.6
2 Weeks	7	4.96
Days before	94	66.67
The day before	18	12.77
What time of day do you do the most studying?	f	%
Afternoon (noon to 6 pm)	37	26.24
Evening (6pm to 9pm)	17	12.06
Late night (12am to 6am)	20	14.18
Morning (6am to noon)	12	8.51
Night (9pm to 12 am)	55	39.01
On average, how many hours do you study for an exam?	f	%
1 to 4 hours	46	36.62
5 to 9 hours	66	46.81
10 to 14 hours	20	14.18
15 to 19 hours	7	4.96
20 to 24 hours	2	1.42

breaks while studying even during the community quarantine ( $x=4.48$ ). Meanwhile, results show that respondents were neutral on allotting time for studying and spending hours cramming the night before an exam with means of 3.32 and 3.03 respectively (table 1a).

On concentration prior to community quarantine, results show that the respondents were neutral with regards to studying with electronic devices turned on ( $x=3.48$ ), not being able to sit and study for long periods of time without becoming tired or distracted ( $x=3.35$ ), and needing to turn off electronic devices to improve concentration ( $x=3.18$ ). Contrarily, respondents were likely to not sit and study for long periods of time without becoming tired or distracted ( $x=4.30$ ), as well as study with electronic devices turned on ( $x=4.01$ ) during the community quarantine. Meanwhile, respondents

**Table 3.** Study environment of interns

What is your preferred way to study?	f	%
Highlighting text	32	22.7
Repeating words out loud	33	23.4
Studying alone	37	26.24
Studying in group	14	9.93
Writing index / flash cards	9	6.38
Writing outlines	16	11.35
Where is your preferred place to study?	f	%
A relative/ friend's house	1	0.71
Bedroom at home	44	31.21
Coffee shop	38	26.95
Condo/ Dorm room	34	24.11
Library	17	12.06
Study hubs	7	4.96
What is your favourite study break?	f	%
Exercise	10	7.09
Playing computer/ video games	26	18.44
Praying/ meditating	1	0.71
Reading Novels	1	0.71
Sleeping/ Napping	38	26.95
Socializing	8	5.67
Surfing the internet	40	28.37
Watching TV/ Movie	17	12.06

stayed neutral on finding the need to turn electronic devices off in order to improve concentration when studying (table 1b).

On note-taking prior to the community quarantine, the respondents were likely to take down notes during class discussions ( $x=4.22$ ). Results also show that interns were neutral in failing to review class notes within 24 hours of the time it was written ( $x=2.94$ ), and unlikely to not have enough information for class notes ( $x=2.29$ ). On the other hand, during community quarantine, respondents were neutral in regards to failing to review class notes within 24 hours of the time they were written ( $x=3.48$ ), having

**Table 4.** Use of social media by interns

Which of the following social media tools do you use? (choose all that apply)	f	%
Twitter	79	11.65
Facebook	138	20.35
Instagram	112	16.51
Youtube	131	19.32
Tiktok	54	7.96
Discord	87	12.83
Viber	33	4.87
Telegram	44	6.49
How many hours do you spend using these social media?	f	%
<1 Hour	4	2.84
1-2 Hours	14	9.93
2-4 Hours	32	22.7
5-6 Hours	37	26.24
6-10 Hours	28	19.86
10-12 Hours	14	9.93
12 Hours	1	0.71
>12 Hours	11	7.8
Do you believe that your social media habits have negatively influenced your study habits?	f	%
No	45	31.91
Yes	96	68.09

enough information for the class notes ( $x=3.25$ ), and taking down notes during class discussions ( $x=2.96$ ) (table 1c).

On reading comprehension prior to community quarantine, the respondents were likely to self-examine at the end of a chapter on what has been read ( $x=3.67$ ), results also show that interns were neutral in finding themselves getting lost in the details of a text while reading ( $x=3.28$ ) and tend to highlight or underline every word in the text because of failure to pick out what is important ( $x=2.79$ ). Respondents, in contrast to results prior community quarantine, were likely to get lost in the details of a text

**Table 5.** Access to Internet Connection by interns

If you need help with school, do you reach out to a friend?	f	%
Fast Internet	96	68.09
No Internet	2	1.42
Slow Internet	43	30.5
Do you feel more motivated when studying in a group?	f	%
Yes	27	19.15
No	114	80.85

while reading during the community quarantine. On the other hand, respondents were neutral not only on having a self-examination as they get to the end of a chapter ( $x=2.93$ ), but also on highlighting or underlining everything in the text because of the failure to pick out what is important ( $x=2.62$ ) during community quarantine (table 1d).

On test preparation and test taking prior to community quarantine, respondents were likely to make sure to mentally prepare for a test ( $x=3.99$ ) and need improvement on preparing for and taking tests ( $x=3.72$ ). Meanwhile, results show that interns were neutral when studying in a disorganized way shortly before the test ( $x=2.77$ ). Moreover, respondents stayed likely to find the need to improve on test preparations and test-taking ( $x=0.87$ ), as well as making sure

**Table 6.** Significant Differences of the Study Habits Prior and During Community Quarantine

If you need help with school, do you reach out to a friend?	f	%
Yes	131	92.91
No	10	7.09
Do you feel more motivated when studying in a group?	f	%
Yes	98	69.5
No	43	30.5

**Table 7.** Significant Differences of the Study Habits Prior and During Community Quarantine

Study Habits	p-value	Difference
Time Management	<0.0001	Significant
Concentration	<0.0001	Significant
Note Taking	0.1361	Not Significant
Reading Comprehension	0.0207	Significant
Test Preparation and Test Taking	0.2429	Not Significant
Reading Speed	0.0004	Significant
Writing Skills	0.5414	Not Significant

to mentally prepare for a test ( $x=3.59$ ) during community quarantine. Respondents further stayed neutral in regards to studying often in a disorganized way shortly before the test with a mean of 3.21 (table 1e).

On reading speed prior to community quarantine, the respondents were likely to improve reading speed ( $x=3.52$ ). Meanwhile, interns were neutral when reading at the same speed regardless of the difficulty of a selection ( $x=3.38$ ) and cramming the night before a test because of failure to keep up with reading assignments ( $x=2.93$ ). On the contrary, during community quarantine, results showed that respondents were neutral in all conditions, with reading at the same speed regardless of the difficulty of the selection having the highest mean of 3.15. Not being able to keep up with reading assignments and having to cram the night before the test (3.03), then improving reading speed ( $x=2.81$ ) followed respectively (table 1f).

Lastly, on writing skills prior to community quarantine, the respondents were likely to easily understand the notes taken down ( $x=4.23$ ). Meanwhile, the interns were neutral in writing

papers the night before they are due ( $x=2.73$ ) and cannot organize thoughts into words ( $x=2.53$ ). The respondents, in contrast to results prior, were neutral in regards to easily understanding the notes taken down ( $x=3.37$ ), not being able to organize thoughts into words ( $x=3.11$ ), and writing papers the night before the deadline (table 1g).

From the results it can be observed that fourth year medical technology interns find it more difficult to focus for long periods of time without feeling tired or distracted during community quarantine as compared to prior. Due to the current circumstances experienced during the community quarantine and the modality of learning available, the attention of the students in online classes is found to be unfit since the learning atmosphere from one's own home comes with various distractions [10]. This also goes in accordance with the study conducted by Hardy (2019), which states that it may be rather difficult to regulate a student's concentration, given that online learning requires more time spent using electronic devices which leads to more exposure to numerous distractions found online [11]. Electronic devices and portable gadgets are usually being used while studying as benefits were made possible from their availability that eliminates geographic limitations. Moreover, these devices allow the enhancement of knowledge accessibility whenever there is a need to settle curiosity as well as provide better means of a faster information conveyance [12].

The following study habit is note-taking and the responses showed that it was unlikely for fourth

year medical technology interns to have insufficient information for class notes prior to the community quarantine and distance learning. However, responses in regards to this during community quarantine were found neutral which suggests that interns were still more attentive and concentrated in classes conducted prior to the community quarantine and thus have enough information for note-taking. This is in correlation to a study conducted by Özçakmak (2019) which states that note-taking requires attention and listening [13]. The results obtained from this study exhibits decrease in the concentration of the interns during the community quarantine which also then led to having, if not insufficient, less information for note-taking. This is also in line with the study of Duraku & Hoxha (2020) wherein the students' attention during online classes is observed to be less compared to classes taking place in the actual institution [10].

In terms of reading comprehension, the interns were likely to get lost in the details of a text while reading during community quarantine as compared to prior community quarantine. Based on a study conducted by Rahmawati (2020), students accustomed to reading hard copies of handouts would have a difficult time in comprehending the reading materials provided by lecturers in distance learning since most would be available in soft copies [14]. Considering the modality of learning available in distance learning, the interns lack interaction with lecturers, making it difficult to fully explain and address student's concerns about the reading materials immediately. In monitoring one's learning process, the interns utilized

learning strategies, and it was found that it was likely for interns to self-test at the end of reading a chapter prior to community quarantine compared to during community quarantine. A study conducted by McAndrew, Morrow, Atiyeh & Pierre (2016) states that although rereading is very common, it was found to be ineffective and time-consuming as compared to self-testing [15]. Prior to community quarantine and during face-to-face classes, there was less time available for studying since there was a large amount of workload, examinations, and other activities to manage all at the same time. Time constraint pushed the interns to rely on this method of learning more than rereading to retain more information. Furthermore, this agrees with another statement in the study of McAndrew, Morrow, Atiyeh & Pierre (2016), wherein it was discovered that self-testing was found to improve the retention of study material by having students answer self-generated questions to help them study [15]. Additionally, the interns were likely to text-highlight for both prior and during community quarantine as it is a common strategy used by most students to improve comprehension during self-regulated learning.

In test preparation and test taking, the interns were likely to ensure mental preparation for a test and feel the need to improve ways to prepare and take tests both prior to and during community quarantine. One of the ways in ensuring test preparation is to take note of the dates of an examination [16]. With this, the interns were able to plan out study schedules as well as utilize different learning strategies in

preparation for exam prior community quarantine. Furthermore, respondents were found to be neutral in regards to often studying in a disorganized way before a test both prior to and during community quarantine. Based on the study of Adams and Blair (2019), students are often left bombarded with tasks at the last minute due to poor time management skills [17]. Last minute studying before an exam or cramming is due to the improper planning out of the study schedule ahead of time and resorted to studying the material the night before or hours before the exam [18].

Reading speed, regardless of the difficulty, and cramming the night before, due to not being able to keep up with reading assignments, rather stayed consistent in both prior to and during community quarantine for the medical technology interns. A study by Abdullah (2018) stated that one way to increase reading speed is to improve on vocabulary [19]. It is also said in the aforementioned study that speed reading does not necessarily negatively affect the reader's comprehension whether it may be a physical copy or a soft copy of the material. This claim is further supported by the results obtained in this study as responses gathered also indicated that the interns found it likely to improve reading speed prior to the community quarantine. On the other hand, in general, there were neutral responses for this matter during community quarantine. Reading speed improvement aids students to still be able to comprehend despite the time constraint being faced as it was studied that speed reading does not necessarily negatively affect the reader's comprehension. The need to improve reading

speed stems from the lack of time management during face-to-face classes, while having the need to comprehend reading materials within a shorter period of time than needed. In contrast to this, the mode of learning during community quarantine provides a more flexible schedule. Furthermore, due to the implementation of online learning, educational technologies and materials were affected as well. More than ever, students are exposed to digital displays and the use of them for learning. However, a study conducted by Kazanci (2015) to investigate the preferences of university students for reading from a printed material or from a digital screen, concluded that majority of the university students still preferred reading from printed materials [20]. In line with this, the Interns may have found the need to improve the skill of speed-reading as there was more motivation to read paper-based texts than texts on digital screens.

Lastly, in writing skills, the interns were likely to easily understand the notes they took down prior to community quarantine as compared to during community quarantine. This is due to the fact that well-founded elucidations are possible during face-to-face education as learners may simply ask for clarification from the instructor if some context is found to be vague. This is supported by the study of Arkorful & Abaidoo (2015) which had expressed the state of absolute exclusion of personal interactions between instructors and learners as well as between colleagues that result in receding elucidations on course matters when compared to the traditional education [5].

Moreover, in the study of Dunn-Lewis, Finn & FitzPatrick (2016), wherein college students are most likely to be motivated to study in longer intervals such as cramming learning materials and studying a day before the scheduled deadlines or examinations [21]. The results show consistency in both prior and during community quarantine with the interns writing academic papers the night before they are due as well as not being able to organize thoughts into words. In the study Dahlstrom (2019), the utilization of digital tools helps meet one's writing needs making it easier to revise and improve text compositions in academic papers [22]. Considering interns have already been accustomed with the utilization of digital tools to submit academic requirements during the normal face-to-face education, it has not presented much challenge during online education as interns are already familiar with the approach.

This research supported the Dunn and Dunn Learning Style model theory [23] which stated that in determining an individual's learning style, emphasis of learning-style variables such as their learning conditions and preferences are taken into consideration, thus the effects of these factors during community quarantine lead to the changes in the study habits of medical technology interns.

The interns were exposed to further questions related to different effecting parameters which show their responses to statements with regards to time management that had affected the study habits of the respondents. A majority of 66.67% stated that they had studied days

before the exam, while 15.6% study a week before the exam, 12.77% a day before and 4.96% two weeks before the exam. As for the common time the respondents studied the most, 39.01% studied at 9pm to 12am, 26.24% studied from noon to 6pm, 14.18% studied late at night from 12am to 6am, 12.06% studied from 6pm to 9pm, and 8.15% studied from 6am until noon. For the duration of time the interns spent to study for an exam, 46.81% studied for at least 5 to 9 hours for an exam, 36.62% studied for 1 to 4 hours, 14.18% studied for 10 to 14 hours, 4.96% studied for 15 to 19 hours, and 1.42% studied for 20 to 24 hours (table 2).

With regards to time management, a factor that may have caused the interns to less likely cram a night before the exam during community quarantine is that the majority of them start studying in advance days before the exam commonly at night (9 PM to 12 AM). The study of Fischer, et al., (2020) states that distance learning offers flexibility upon the opportunities to study with regards to the learner's favorable schedule [24]. Thus, it allows more time to be devoted for learning, so most interns were able to study 5 to 9 hours on average for an exam. However, it is in contradiction with the fact that interns were less likely to allot time for studying during community quarantine.

The study environments of the interns affect the study habits of the medical technology interns. Based on the results under the preferred way to study, 26.24% studied alone, 23.4% repeat words read loudly, 22.7% highlight texts, 11.35% write outlines, 9.93% studied in a group, and 6.38% utilized index cards or flash

cards. As for the preferred place to study, 31.21% preferred to study in the bedroom at home, 26.95% preferred coffee shops, 24.11% preferred condo or dorm room, 12.06% preferred the library, 4.96% preferred study hubs, while the least preferred place is in a relative's or friend's house with 0.71% (table 3).

Lastly, on favored study breaks, 28.37% of the interns surf the internet, 26.95% chose to sleep or nap, 18.44% play computer or video games, 12.06% watch movies or television, 7.09% exercise, 5.67% socialize, while reading novels and praying as the least favorite (0.71%) (table 4). As for the study environment, majority of the interns preferred studying outside their respective homes - coffee shops (26.95%), condominiums / dormitories (24.11%), libraries (12.06%). This is in line to the study of Duraku & Hoxha (2020) and Baticulon, et al. (2020) on the unsuitability of learning in the home environment [10, 25]. As Yasar (2018) states that students who view their study environment as favorable are more inclined to perform well in learning managed by oneself, interns who preferred studying alone at home in their bedrooms are expected to study effectively [26]. Moreover, activities done by the interns while they are taking their occasional breaks from studying are likely to be sleeping/napping next to surfing the internet.

The different statements with regards to the usage of social media that affected the study habits of the interns were recorded. Among the social media tools used, the majority used Facebook with 20.35%, and Youtube with 19.32%, while the minority used Telegram with

6.49% and only 4.87% used viber. On the hours spent on social media, 26.24% spent 5 to 6 hours, 22.7% spent 2 to 4 hours, while 2.84% spent less than an hour, and 0.71% spent 12 hours. On social media habits, 68.09% believed that it has negatively influenced the interns' study habits (table 5).

For the status of internet connection, 68.09% have fast internet connectivity, 30.5% have slow internet connectivity, while 1.42% have no internet connectivity. On internet interruptions, 80.85% do not experience interruptions. Data gathered for peer interactions showed that the majority (92.91%) of the interns reach out to a friend if help is needed for school. Furthermore, this supported the data wherein 69.5% of the respondents were found to be more motivated when studying in a group (table 6).

The significant differences between the study habits prior and during community quarantine using the Wilcoxon rank sum tests [27] was evaluated. Results show that there was a significant difference for time management (p-value <0.0001), concentration (p-value <0.0001), reading speed (p-value 0.0004), and reading comprehension (p-value 0.0207). Whereas, there was no significant difference for note taking (p-value 0.1361), test preparation and test taking (p-value 0.2429), and writing skills (p-value 0.5414) (table 7).

The current situation of having online education is quite unfavorable for much of the interns as they find more motivation studying in a group; this can be explained by the study of Arkorful & Abaidoo (2015) wherein the most recurring

setback of online education is the absolute exclusion of personal interactions among colleagues [5]. Majority of the interns feel the need to reach out to a friend whenever help is needed and are more motivated when studying in groups. This is because peer-based tutoring gives students a more engaging learning environment where the group could share knowledge and clarify gaps in individual understanding [29]. It is also mentioned that the support from friends and family is a key factor to effective self-learning. In line with this, a study by Vygotsky (2016), showed that learning is an experience mediated by people and that a learner cannot reach full potential without help from others [30]. Since nearly all interns reach out to their friends when they need help in academics, the usefulness of social media and the internet can be given a great deal of significance as these platforms allows communication to make reaching out possible as it lessens the gap in terms of socialization. As so, the most commonly used social media tools by interns are found to be Facebook and Instagram, usually for about 2-4 hours or 5-6 hours, to make socialization possible despite being apart from colleagues. However, the majority of the interns believed that the use of social media has negatively influenced their study habits. In an online learning environment, the negative effects of social media outweigh the positive. More often than not, most students who have access to social media spend their time consuming non-educative information instead of using it as a tool to accomplish academic requirements. Excessive usage has also caused students to lose their sense of time while seeking pleasure from the vast media presented

online. A recent study showed that students who devote their time to networking and surfing the net have a greater tendency to abandon academic responsibilities leading to poor academic performance [31].

Concerning the intern's access to internet connection, those who have fast internet connectivity and experience no interference are predominant. Problems encountered with internet connectivity can greatly affect one's study habits given that productivity during online remote learning mainly relies on a high speed internet connection. A high percentage of students agree that having a stable internet connection made the transition to online learning. Students who had access to wifi (i.e. fixed wireless broadband) perform significantly better in comparison to students who use mobile internet data [32]. Lapses in student performance due to internet access exist regardless of differences in socioeconomic status but may also be due to unpredictable interferences from leading internet providers in the country [25]

#### **4. RECOMMENDATION**

The researchers believe that there are some points to improve on for the benefit of this study therefore the researchers recommend the following:

For the improvement of the study, future researchers should focus on how well the incoming medical technology interns have adapted to online learning considering if the study habits will still be affected by the abovementioned factors, if online classes were

to continue for the next academic year. Additionally, future researchers should widen the number of respondents by not limiting the study to one batch but by also including medical technology undergraduates as increasing the number of respondents will make the study more reliable and accurate. Moreover, future researchers may also look into factors that might affect the students' study habits post-pandemic, to determine if these factors are comparable to the factors observed prior and during the pandemic.

## 5. CONCLUSION

The study habits of the interns were significantly affected by the implementation of community quarantine and the shift of mode of learning from face-to-face classes to online learning. A significant difference is observed among the interns' study habits in view of time management, concentration, reading comprehension and reading speed prior and during community quarantine. The study focused on certain factors affecting the interns' study habits, namely time management, study environment and use of social media. These factors had negatively influenced time management, concentration, reading comprehension and reading speed of the interns. The medical technology interns are accustomed to the conventional way of learning that the impact of changes in these factors on study habits has been negative during community quarantine. The influence of these factors on study habits could still change after a complete adjustment to the new normal has been achieved. Conversely, interns' study habits

in view of note taking, test preparation, test taking and writing skills expressed no significant difference prior and during community quarantine.

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## 7. CONFLICT OF INTEREST

The authors have declared that there is no conflict of interest.

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