

*Original Research*

# Factors and Experiences in Choosing BS Medical Technology Amid COVID-19: Understanding Career Paths and the Profession

Isabel D. Enriquez<sup>1</sup>, Jorraine Anne R. Escaña<sup>1</sup>, Mary Gail G. Gonzales<sup>1</sup>, Charlene Fae C. Hafalla<sup>1</sup> and Cesar M. Mendoza Jr.<sup>1</sup>

<sup>1</sup> School of Medical Technology, Emilio Aguinaldo College, Manila

## ABSTRACT

The emergence of the COVID-19 pandemic has immensely affected everyone, especially the learners who were caught off-guard amid this serious health crisis. Despite the risks and danger involved, learners continued to pursue and engage in the field of health sciences even with the drastic changes involved including the global impact and threats brought by the pandemic. The main objective of this study was to identify the different factors and contextualize the experiences that influenced first year and second year medical technology students from a private non-sectarian institution in the City of Manila regarding career options in the health profession during the COVID-19 pandemic. The research study used a convergent parallel mixed method research design, with the data collection and analysis done simultaneously and independently to provide a richer and comprehensive understanding of the factors and experiences of the participants. The data gathering was performed in the second semester of the academic year 2021-2022. The quantitative phase, focused on the collection of the data by using a researcher made instrument, Medical Technology Career Scale (MTCS) with a Cronbach's Alpha of 0.870. Using the multiple analysis of variance (MANOVA), specifically the utilization of Hotelling's Trace, whose (.008) p- value shows that there have been significant differences between the first- and second-year students' responses mainly on Personal Responsibilities ( $p = .034$ ). The qualitative phase focused on the collection of data using a semi-structured interview with an open-ended question and analyzed by thematic construction analysis (TCA). Three themes were established in this study after coding, categorization, and thematic analysis were made. In conclusion, the most perceived factor was the professional prestige of the medical technology profession during the COVID-19 pandemic. Many students believed that the medical technology profession would help them achieve the life that they foresee despite the different circumstances that brought about by the pandemic.

---

## Article Info

---

### Article history:

Received 21 March 2025

Revised 14 July 2025

Accepted 09 September 2025

---

### Keywords:

Medical Technology

Pandemic

Thematic Analysis

Academic course

---

## INTRODUCTION

The emergence of the COVID-19 pandemic has immensely affected everyone, especially the learners who were caught off-guard amid this serious health crisis. The livelihood, transportation, governance, health care system and even education

has been influenced which eventually result in drastic, unstable and frightening transitions (Deng, 2021). The education system also experienced drastic changes from face-to-face learning systems to using online learning systems. The education sector is one of the greatly affected by the COVID-19 pandemic (Tria, 2020). The immense changes and health issues that have been brought by the pandemic made drastic changes to the willingness of students to pursue their career in this health crisis. Some see this as an opportunity for pursuing a career while for some it is exhausting, risky, and challenging. It was difficult for most of the medical and allied health students. They went through immeasurable adjustments to cope up with the dramatic changes. Some have no choice but to be forced to carry on with their chosen professions, thinking that it will only become a waste of time to change their path in the middle of a crisis. Few are also constrained to change their career options and choices (Harries, 2020). Many medical and allied health science students have gained new life experiences from the pandemic. With the serious repercussions carried out by the COVID-19 disease, many students also endured many sufferings and problems. It may be considered as family issues, personal difficulties, health crisis, emptiness, financial distress, and even career pressures.

Consequently, a lot of college students are compressed forcibly in career decision-making. Decision-making became an essential management tool for most of the students. It is because it gives them the opportunity to examine, compare and balance the different aspects of their personal life from their life of being a student. Yet, the greatest challenge among every medical college student is how the COVID-19 pandemic significantly affected

their educational and career perception and even their outlook in their life. The COVID-19 pandemic has really caused inconspicuous circumstances towards the life of the medical college students in many aspects. Thus far, it has become an eye opener to some students because of the different work opportunities and new experiences that emerged and brought about by this health crisis. The main objective of this study was to identify the different factors and contextualize the experiences that influenced students regarding career options in the health profession during the COVID-19 pandemic.

## **METHODOLOGY**

This research analyzed and observed the various influences of different factors and experiences gained by the freshman and sophomore Medical Technology students on a private non-sectarian institution in Manila during the new normal setting brought by the COVID-19 pandemic as to what have influenced their understanding and decision of their career option in times of the pandemic.

### **Research Design**

A mixed-method approach was employed for this study which integrates both quantitative and qualitative approaches. Mixed method research design correlates the use of quantitative data and qualitative data (Creswell and Plano Clark, 2011).

The target population of this study are those who encountered the pandemic before or while choosing their college course, specifically the 1st to 2nd year Medical Technology students of a private institution in Manila in the second semester of School year 2021-2022. For the quantitative portion of the study, a convenience sampling technique was utilized

to select the respondents based on their availability, experiences, and willingness to participate.

The study examined the various attributes believed to affect the medical technology students' understanding and decision of their career options and how the various factors influence them. As for the quantitative part of the study, dimensions were considered in the instrument after exploratory factor analysis (EFA) that provided most of the data needed for the attainment of objectives of the study. This part apparently focused on the specific recognized variable of the study, mainly the career option of medical technology students and the influences on the decision-making. The qualitative phase focused on the collection of data using a semi-structured interview with an open-ended question and analyzed by thematic construction analysis (TCA).

### **Data Collection**

The quantitative procedure of the study concentrated mainly on the career options of the medical technology students in times of the pandemic. This approach was administered through Google Forms through a survey questionnaire entitled Medical Technology Career Scale (MTCS) which provided the different factors that might have influenced the students in their career choice. This is a researcher-made instrument that was pilot tested, analyzed for factor and dimensions using exploratory factor analysis (EFA) and evaluated for internal consistency using Cronbach's alpha. This consists of different sections in relation to factors such as: professional prestige, influence of family members, family support in education, personal interest in career, personal responsibilities, professional interest and development, employment opportunities and accessibility answerable by a 4-point Likert scale

with the choices: 4— Strongly Agree, 3—Agree, 2—Disagree and 1—Strongly Disagree.

The twenty-six (26) items on the survey questionnaire had a Cronbach alpha ranging from 0.61-0.8. In accordance to those, the overall twenty-six (26) items had encompassed the MTCS Cronbach's Alpha Value of 0.870. According to the journal of Ursachi et al (2015), a cronbach alpha of 0.6-0.7 is generally an accepted rule which indicates an acceptable level of reliability, while 0.8 or greater indicates a very good reliability while 0.95 are considered redundant. Moreover, cited also on Taherdoost (2017), in the pilot test of the study the reliability result must be equal or above to 0.60 to be acceptable. With regards to the qualitative part of the study, a semi-structured interview was conducted in order to choose the respondents from the first year to second year medical technology students in a purposive manner. This employed the utilization of Google Meet as the platform for interview because of its convenience and the on-going pandemic.

The inclusion criteria include students who were categorized as regular and full-time, who consistently advised arrangement of subjects within the current curriculum of the medical technology course, those who had decided to shift their choice of college course into a health science course, specifically, medical technology and transferee students from other schools who were currently enrolled in medical technology course were considered. This excludes students who were included in the academic year of 2019-2020, specifically those who were in the 3rd and 4th year level of Medical Technology at the current semester, those who did not experience the pandemic before choosing their college course, were not considered to be part of the research study.

### **Ethical Considerations**

The data gathered from the two different approaches remained exclusively confidential and to be used for academic purposes only. Prior to interviewing the selected respondents, an informed consent letter was given through electronic mails in order to identify and confirm if they were willing to participate in the interview by placing their signature and replying to the researchers. The informed consent letter consisted of confidentiality and data management as well as the purpose of the study and some relevant information.

### **Data Analysis**

The quantitative approach utilizes the application of descriptive and inferential statistics through the utilization of Hotelling's Trace from MANOVA and Test of Between-Subjects Effect. On the other hand, a thematic construction analysis (TCA) specifically the Inductive approach was used for the qualitative approach of the study in which data was transcribed and garnered through semi-structured interviews to purposely select the respondents from first year to second year medical technology students of a private non-sectarian institution in the City of Manila. The transcribed data were coded, categorized, and analyzed to form themes that reflected the experiences of the respondents.

## **RESULTS**

### **Quantitative Analysis**

In the quantitative portion of the research study, a total of seventy (70) medical technology students actively took part in answering the survey questionnaire. There are thirty-eight (38) students in

first year level and had a percentage of fifty-four (54%) percent, the remaining thirty-two (32) students are from second year level and had a percentage of forty-six percent (46%).

#### *Professional Prestige*

In this factor, this item received the most responses. Respondents strongly agreed (50 responses) with an average of seventy-one-point four percent (71.4%). This item states "I think that this career option is very in demand since the emergence of pandemic and will be, even after it." This means that the majority believed in the viability of the program.

#### *Influence of Family Members*

The item that received the most responses for this factor. Thirty-five (35) responses with an average of fifty percent (50%) strongly agreed with the item "I have faith in myself that I will complete and pass the Medical Technology program that my family desires in the midst of the pandemic."

#### *Family Support in Education*

"My family has been supporting and financing me in the Medical Technology program, which can help me stay motivated in my studies in the midst of pandemic," received the greatest number of responses with a sum of forty-nine responses (49) and an average of seventy percent (70%). It can be inferred that one of the reasons many students took the medical technology course was that their family provided a strong support system that enabled them to choose and enroll for the course.

#### *Personal Interest in Career*

“I choose a Medical Technology program to be a doctor someday despite the pandemic” has the highest number of respondents on the Strongly Agree scale which has thirty- nine percent equivalent to 55.7%. This means that the Medical Technology program is seen as a preparatory course for the medical profession.

#### *Personal Responsibilities*

The item states “I chose the Medical Technology program because I personally want to help people who have illnesses especially those who have been affected by the pandemic” had accumulated forty-three (43) number of responses on the Strongly Agree Scale. This means that one of the main forces in choosing the course is to help people in need and contribute to the health profession especially during the pandemic.

#### *Professional Interest and Development*

The item states “I clearly visualize myself working in the laboratory despite the risks brought by the pandemic.” had the highest responses from the participants on the Strongly Agree scale. This is an indication that respondents despite the risk involved in working in the laboratory were still open in choosing the course.

#### *Employment Opportunities and Accessibility*

The last item had accumulated the greatest number of responses which has twenty-seven (27) responses on the Agree scale. Many of the students had decided to take the medical technology profession due to the work opportunities offered from many private and public hospitals since the emergence of the COVID- 19 pandemic.

Furthermore, a Multivariate analysis of variance (MANOVA) was employed. This was known as the extension of the commonly used Analysis of variance or ANOVA and is usually applied in cases where there were two or more variables. Using the multiple analysis of variance (MANOVA), specifically the utilization of Hotelling's Trace, whose (.008) p- value shows that there have been significant differences between the first- and second-year students' responses mainly on Personal Responsibilities ( $p = .034$ ). Hotelling's test as its MANOVA's variant is used in the study as it has two groups which were the 1st and 2nd school year level. In this case, it tested whether the set of means or the seven (7) variables is equal between the two groups. Based on Hotelling's trace within the Multivariate Testing, the result of the significance level is 0.008 which is lower than the p-value 0.05 which means that there is a significant difference between the first- and second-year students in terms of the different dependent variables. It was also evident in the narratives of the respondents that corroborated with the quantitative part.

#### **Qualitative Analysis**

Among the sixteen (16) respondents who became part of the qualitative portion, the eleven (11) participants from first year level accounted for almost sixty-nine percent (69%) of the total respondents. Whereas, the remaining five (5) number of participants accounted for thirty-one (31) percent of the total population of the respondents. There were three (3) different themes that had emerged from the experiences and perceptions shared by the participants of the research study such as: Social responsibility, Medical Exposure, Health related issues

### *Factors that influence career options in Medical Technology*

Based on the responses of the participants, it was clear that some of the factors identified in choosing a Medical Technology course were a sense of social responsibility, medical related work initiatives, health related reasons arising from a family member, financial and work opportunities locally and abroad. The following themes emerged after transcription, coding, and categorization.

#### **Theme 1. Social responsibility, medical exposure, and health-related issues as critical factors that influence career options in Medical Technology**

One of the themes that emerged highlighted that they saw the imminent need to take actions and participate in health care due to the pandemic. The participants noted that the pandemic opened the doors into professions that may be of help to the community and are also in demand and viable abroad.

Some of the respondents answered:

*“because of the pandemic, medical technology is in-demand, this is the course that I am taking right now. I believe that there are a lot of opportunities in our country and globally, that is why I chose BS Medical Technology course..”*

Other respondents said that the current crisis in health due to COVID-19 made them realize that they should take the course.

*“I think the factors that affected why I chose BSMT during the pandemic is, I think it is timely because of*

*the current health crisis. I think we need something, our country needs to have more medical technologists and considering the financial factors and the opportunities that the profession will provide after graduation”*

#### **Theme 2. Employability and Financial Gains: The Increasing Demands for Medical Technologists in the Local and International Workplace**

The health crisis on COVID-19 also provided a lot of opportunities and employment with the immense need for health care and medical technologists. The profession became more popular especially for the laboratory work in the diagnosis and treatment of COVID-19 patients. These financial gains and opportunities became a leverage for choosing Medical Technology as a profession. The following are some of the reasons as stated by the participants:

*“Today, this time of pandemic, I think there are many open job opportunities for Medical Technologists because it is in-demand when it comes to healthcare. Especially in testing, patient care, and diagnosis for COVID or any other diseases. That’s it.”*

*“With the pandemic, uhm it is relevant, most of what we need today are those who are in the medical field especially the medical technologist, in a way because we are part of the testing of different illnesses especially COVID-19, so it is important to hasten the tracking of disease to prevent it. So, in both local and international I think, it is relevant and important. and the work opportunities is increasing day by day”*

It became apparent that the health crisis has made people realize that the medical technology profession is another health care profession that they can venture in and still be rewarded financially due to its demand.

*“actually ahh in terms of work opportunity, what I plan is to work in the Philippines only for experience then I’ll try my luck to other countries and work there I think work opportunities in other countries is uhm, offers big opportunities. Also, it is aligned to my interest especially in laboratory related works or tasks”*

**Theme 3. Passion for health care and sense of duty to help community during the COVID-19 Pandemic**

As shortage of healthcare workers became apparent during the pandemic, some of the respondents saw the need to step-in and help the community. Some respondents answered:

*“I think I got curious on how I can help in terms of research especially when there are limited resources to prevent the pandemic to spread even further so I got interested on taking medical technology course. I was thinking that in the future, I can help little by little to prevent more pandemic from occurring.”*

Other respondents also mentioned that they got inspired seeing the health professionals during the peak of the pandemic.

*“Even when I was a child, I really like this course, I am already interested on it. It went deeper, my curiosity since I saw what their work is all about now that we have the pandemic. They manifested hard work so I am just more inspired now. That’s all.”*

*“It is my self-interest that propelled me in choosing medical technology since I really like it, I seemed that I am more inclined to the sciences subject, so I think medical technology is really the course that I envisioned myself with.”*

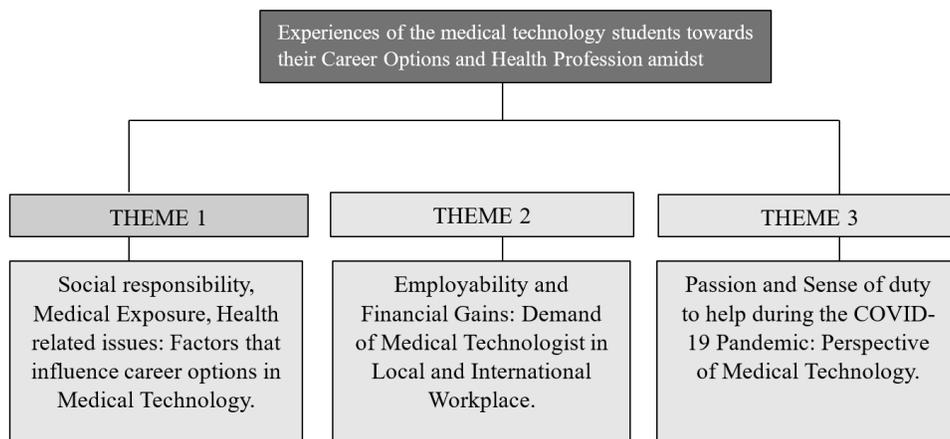


Figure 1. Themes developed from the study

**DISCUSSION**

Many students continue to pursue their goals despite unanticipated consequences, multiple

challenges, and circumstances that stand in their way, regardless of the repercussions. This was proven as the COVID- 19 pandemic affecting their pursuance

and choice of career. They have been influenced by a variety of situations that have provided inspiration and motivation throughout their academic lives. Despite the health crisis, a number of the responders have decided to enroll in the Medical Technology program as part of their own personal pursuit of personal interest. However, a vast variety of students' past academic experiences, social experiences, laboratory interests, and skill-based interests have influenced, developed and served as their incentive to continue pursuing their choices and long-term aspirations. These experiences have molded their goals and determination to further their education, enroll in the college course of their choice, and follow the vocation of their choice. It was also established that the students had some support from their family members. Some students' relatives who work in the medical industry served as inspiration and support for their goal and drive to pursue a career in health sciences especially medical technology. Even though the pandemic has a significant influence on work possibilities in the laboratory for patient testing and diagnosis, these individuals continue to follow their chosen courses in the field for several reasons as evidently identified in this study. Both the quantitative and qualitative parts identified salient factors that resulted in choosing a medical technology course.

Based on the results, the experiences of the medical technology students on their career option amidst the pandemic mostly has a great contribution to pursue this health profession course as it is also in-demand, financially rewarding, and a gateway to working in the future in the healthcare industry worldwide.

It was also evident that there are significant differences in the perceptions between the first- and

second-year students' responses mainly on personal responsibilities ( $p = .034$ ). This could be further studied upon to identify in detail the reasons for the disparities in the responses specifically when personal responsibilities are at stake.

As for the qualitative portion of the research study, a total of three themes had emerged from the data that were accumulated from the transcript of the semi-structured interview. The first theme on social responsibility, medical exposure, and health-related issues as critical factors that influence career options in Medical Technology manifested a wide range

of experiences that resulted in enrolling in the course. It is their aspirations and that led them to choose this college course. The second theme on employability and financial gain resulting from the increasing demands for Medical Technologists in the local and international workplace only proves that monetary factors are still important issues and concerns in choosing a college course. The economic side and viability of the profession to provide finances and returns are imminently important. The last theme of some respondents verbalizing their passion for health care and sense of duty to help the community during the COVID-19 pandemic is also a salient theme. There is no denying that pandemic brought the best and worst in all of us. The mere sight of people suffering from the disease and its impact on their lives and families made people realize that enrolling in the course may provide them an opportunity to serve and help people in need. These experiences have served as their sources of motivation and inspiration throughout their academic careers.

Some of the responders have chosen to take part in the Medical Technology program out of

personal interest, notwithstanding the changes brought about by the evolution of the health issue. On the other hand, a great deal of students' prior academic experiences, social experiences, laboratory interests, and skill-based interests have been established to serve as a motivator for them to keep going after their decisions and long-term goals.

## **CONCLUSION**

The pandemic has profoundly impacted the field of education, introduced unprecedented challenges and reshaped the way students and educators engage with learning. With the onset of the pandemic, widespread school closures became a global occurrence, disrupting traditional learning environments and necessitating a rapid shift to remote and online education. This transition highlighted existing disparities in access to technology and digital resources, exacerbating inequalities in educational opportunities. Students faced disruptions in their academic progress, and educators had to adapt quickly to new teaching modalities, often navigating the complexities of virtual classrooms. As the world strives to recover, there is a growing emphasis on building resilient and adaptable education systems that can withstand unforeseen challenges, ensuring continued access to quality learning experiences for all students, regardless of the circumstances.

On the other hand, the pandemic has highlighted the critical role of health care workers in safeguarding public health and has underscored the need for robust support systems, adequate resources, and recognition for their tireless efforts. As societies continue to navigate the complexities of the ongoing health crisis, the dedication of health care workers

serves as a testament to their selflessness and resilience in the face of adversity.

The purpose of this study was to evaluate the various elements that influence medical technology students' career choices and health profession in the new normal environment. The study showed that the perceived factor that influenced most the students in terms of their career choice was the professional prestige of the medical technology profession. By the means of this, many students had seemed to considered and claimed that the reputation of medical technology profession since the emergence of the COVID-19 pandemic would act as a bridge or foundation for their attainment of personal goals, skills developments and would give them the needs necessary for their desired outcomes in life.

## **FUNDING**

This study did not receive any specific grants from funding agencies and all expenses related to the conduct of this study were personally funded by the authors.

## **DECLARATION REGARDING GENERATIVE AI IN SCIENTIFIC WRITING**

The authors declare that no generative artificial intelligence (AI) or AI-assisted technologies were used at any stage of the study.

## **CONFLICT OF INTEREST**

The authors declare that they have no conflicts of interest relevant to this study.

## **REFERENCES**

Creswell, J., & Plano Clark, V. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, CA: Sage.

- Creswell, J. W. Research design: Qualitative, quantitative and mixed methods approaches/john W.Creswell. - 3rd ed.p.cm. Designs in Social Science Research. The Qualitative Report, 12(2), 281-316 <https://doi.org/10.46743/2160-3715/2007.1638>
- Deng, J., Que, J., Wu, S., Zhang, Y., Liu, J., Chen, S., Wu, Y., Gong, Y., Sun, S., Yuan, K., Bao, Y., Ran, M., Shi, J., Wing, Y.K., Shi, L. & Lu, L., (2021). Effects of COVID-19 on career and specialty choices among Chinese medical students. Medical Education Online, 26:1, 1913785, DOI:10.1080/10872981.2021.1913785.
- NCSS, L. (2016). NCSS Statistical Software Multivariate Analysis of Variance (MANOVA) [https://ncss-wpengine.netdna-ssl.com/wpcontent/themes/ncss/pdf/Procedures/NCSS/Multivariate\\_Analysis\\_of\\_Variance-MANOVA.pdf](https://ncss-wpengine.netdna-ssl.com/wpcontent/themes/ncss/pdf/Procedures/NCSS/Multivariate_Analysis_of_Variance-MANOVA.pdf)
- Onwuegbuzie, A. J., & Collins, K. M. (2007). A Typology of Mixed Methods Sampling Designs in Social Science Research. The Qualitative Report, 12(2), 281-316. <https://doi.org/10.46743/2160-3715/2007.1638>
- NCSS, L. (2016)
- Harries, A. J., Lee, C., Jones, L., Rodriguez, R. M., Davis, J. A., Boysen-Osborn, M., Kashima, K. J., Krane, N. K., Rae, G., Kman, N., Langsfeld, J. M., & Juarez, M. (2021). Effects of the COVID-19 pandemic on medical students: A multicenter quantitative study. BMC Medical Education, 21(1). <https://doi.org/10.1186/s12909-020-02462-1>
- Taherdoost, H. (August 10, 2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. Available at SSRN: <https://ssrn.com/abstract=3205040>
- Tria, J. Z. (2020). The COVID-19 Pandemic through the Lens of Education in the Philippines: The New Normal. International Journal of Pedagogical Development and Lifelong Learning, 1(1), ep2001. <https://doi.org/10.30935/ijpdll/8311>
- Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How Reliable are Measurement Scales? External Factors with Indirect Influence on Reliability Estimators. Procedia Economics and Finance, 20, 679–686. [https://doi.org/10.1016/s2212-5671\(15\)00123-9](https://doi.org/10.1016/s2212-5671(15)00123-9)