

Factors That Influence Third-Year Medical Technology Students Regarding Their Career Path Aspirations

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Abstract: Deciding on a career path is one of the most difficult decisions a student could make (Gati & Asher, 2001). To help them assess and determine the career they desire, they are influenced by a unique set of factors that improve their decision-making and help them settle on a career path. These influencers are categorized into environmental and personal factors. They are used to determine the level of influence and association in how they affect their career choices. This study explored the factors that influence two hundred seventy (270) third-year Medical Technology students enrolled in A.Y. 2020-2021 regarding their career path aspirations. The researcher-made online survey questionnaire used in the study focused on three main objectives: influential factors, student's career path, and the association between the two main factors and career path. The results showed that under environmental factors, the subfactors "Academic Qualification" and "Job Opportunity" were highly influential in the students' decision to take up medical technology. In contrast, subfactors "Interest," "Desire," "Contribution to Society," "Academic Excellence," "Suits Personality," and "Quality of Life" under personal factors were highly influential. Additionally, among the environmental factors related to future career paths, only "Career Advancement" had a significantly weak positive association with the latter. As for the personal factors, the majority of the subfactors: "Dreams," "Desire," "Contribution to Society," "Suits Personality," and "Quality of Life" had a significantly weak positive association. Overall, personal factors have a higher influence than environmental factors.

Keywords — *Career path, Influence, Medical technology, Personal factors, Environmental factors.*

I. BACKGROUND OF THE STUDY

1.1 Introduction

Medical Technology, or Clinical Laboratory Science, is defined as a branch of laboratory medicine that involves performing analytical procedures using biomedical systems (i.e., microscopes, complex machinery, and precision instruments) to provide accurate and precise laboratory results used for diagnosis and treatment. Aside from clinical duties, medical technologists can also provide service in other fields of work such as research, industrial laboratory companies, and marketing or developing medical devices and supplies.

Medical technology is known for being a decent pre-medical course due to the numerous subjects found in its curriculum that may serve as a stepping stone and create a foundation for knowledge as students proceed to medical school. With this, medical technologists have the option to take up further studies to either pursue medicine or other occupations related to health (the University of Wisconsin, n.d.).

Choosing a career is one of the most significant decisions a student could make and will eventually impact every aspect of their lives (Gati & Asher, 2001). Decision-making involves time and careful deliberation of aspects relevant to the choice an individual will make. When it comes to making big decisions in choosing which career path to pursue, students tend to approach other people to gain insights and weigh out the pros and cons of the profession they have in mind. Studies conducted by Lambrou, P. (2010) and Kusurkar, R.A. (2011) stated that interests in the medical field, good job opportunities, and the drive to help others may affect decision-making regarding their

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choice of a medical study. Furthermore, Scott et al. (2013) added that individuals have also considered the present and past experiences and peers and family influences when making career decisions.

Medical technology, as a career, provides multiple avenues for an individual, which is not only limited to clinical laboratory work but may also aid in further educational studies. Students taking up medical technology as their undergraduate program have gone through a similar if not the same process when deciding on their career paths. However, it should be taken into account that not everyone has the same career goal in mind. Identifying factors that influence a student's career path will help provide a better understanding of their career development. Despite available studies that share the same intentions of identifying factors that influence an individual's career choice, specifically those focusing on medical-related careers, there is no up-to-date research on medical technology students regarding their career choice and aspirations.

In line with this, the researchers focused on the environmental and personal factors that influence the target group — third-year medical technology students — to determine which among the factors is/are associated with their decision in choosing B.S. Medical Technology as their undergraduate degree, likewise their career choice in the future. The results of this study will help students in their decision-making regarding their career path. Also, this study may provide insights and information on ways of improving the medical technology program in the Philippines.

1.2 Objectives of the Study

The primary aim of this study is to explore the environmental and personal factors influencing the career path aspirations of third-year Medical Technology students who were enrolled for A.Y. 2020-2021 at the University of Santo Tomas (UST). Specifically, it aims:

1. To determine the level of influence of the following factors towards the students' choice to take up Medical Technology as their undergraduate degree,
 - 1.1. Environmental factors
 - 1.1.1. Family and Relatives
 - 1.1.2. Peers
 - 1.1.3. Mentor/Counsellor
 - 1.1.4. Media

- 1.1.5. Job Opportunity
- 1.1.6. Academic Qualification
- 1.1.7. Public Image

1.2. Personal factors

- 1.2.1. Interest
- 1.2.2. Desire
- 1.2.3. Contribution to Society
- 1.2.4. Academic Excellence
- 1.2.5. Suits Personality
- 1.2.6. Quality of Life

2. To determine the students' career path choices in relation to the environmental and personal factors affecting their decision, and

2.1. Environmental factors

- 2.1.1. Family and Relatives
- 2.1.2. Peers
- 2.1.3. Mentor/Counsellor
- 2.1.4. Media
- 2.1.5. Career Advancement
- 2.1.6. Compensation
- 2.1.7. Benefits

2.2. Personal factors

- 2.2.1. Dream
- 2.2.2. Desire
- 2.2.3. Contribution to Society
- 2.2.4. Career Excellence
- 2.2.5. Suits Personality
- 2.2.6. Quality of Life
- 2.2.7. Job Interest

3. To determine the association of environmental and personal factors with choice of career path

1.3 Statement of the Problem

The main problem of this study is determining which among the two factors (environmental and personal) are associated with the decision-making of third-year B.S. Medical Technology students in pursuing their career path aspirations. The researchers would also like to answer the following questions:

1. What is the influence of the factors on the students in choosing medical technology as their undergraduate program in terms of?
 - 1.1 Environmental factors
 - 1.1.1. Family and Relatives
 - 1.1.2. Peers
 - 1.1.3. Mentor/Counsellor

- 1.1.4. Media
- 1.1.5. Job Opportunity
- 1.1.6. Academic Qualification
- 1.1.7. Public Image
- 1.2 Personal factors
 - 1.2.1. Interest
 - 1.2.2. Desire
 - 1.2.3. Contribution to society
 - 1.2.4. Academic Excellence
 - 1.2.5. Suits Personality
 - 1.2.6. Quality of Life
- 2. What specific factors fall under their respective categories that influence students in choosing their career path?
 - 2.1 Environmental factors
 - 2.1.1. Family and Relatives
 - 2.1.2. Peers
 - 2.1.3. Mentor/Counsellor
 - 2.1.4. Media
 - 2.1.5. Career Advancement
 - 2.1.6. Compensation
 - 2.1.7. Benefits
 - 2.2 Personal factors
 - 2.2.1. Dream
 - 2.2.2. Desire
 - 2.2.3. Contribution to society
 - 2.2.4. Career Excellence
 - 2.2.5. Suits Personality
 - 2.2.6. Quality of Life
 - 2.2.7. Job Interest
- 3. Is there an association between environmental factors and personal factors in relation to choosing their career path?

1.4 Scope and Limitations of the Study

As mentioned, this study aimed to analyze the career path aspirations of third-year medical technology students in the Philippines before undergoing any work experience. It focused on third-year Medical Technology students enrolled in A.Y. 2020-2021 at the University of Santo Tomas.

The study focused on different environmental and personal factors that can influence the students' decision-making process. To determine the level of influence of different factors towards the student's choice to take up medical technology, "Family and Relatives," "Peers," "Mentor/Counsellor,"

"Media," "Job Opportunity," "Academic Qualification," and "Public Image" were enumerated as environmental factors. Under personal factors, "Interest," "Desire," "Contribution to Society," "Academic Excellence," "Suits Personality," and "Quality of Life" were included. To determine the factors that influence students in choosing a career path, the researchers included the environmental factors, "Family and Relatives," "Peers," "Mentor/Counsellor," "Media," "Career Advancement," "Compensation," and "Benefits". On the other hand, "Dream," "Desire," "Contribution to Society," "Career Excellence," "Suits Personality," "Quality of Life," and "Job Interest" were included as personal factors. Other environmental and personal factors aside from those mentioned above are not included in the scope of the study.

Due to limited sample and access to data, the study cannot fully represent the general student population in the Philippines. In addition, the research process was compromised due to limited resources and time allotment. It has been observed that there is a lack of previous and relevant research regarding the career aspirations of Filipino medical technology students. Furthermore, the COVID-19 pandemic has limited the opportunities for face-to-face interaction during data collection; thus, only digital media and online platforms were used for the research. The collection and analysis of the research results were completed within three semesters, thereby posing a time constraint.

The limitations above impact the amount of information that can be acquired and included in the study. This lack of accessibility limited the study from giving an accurate generalization of the career aspirations of third-year medical technology students in a university. Moreover, these limitations hindered the researchers from broadening the scope of the research.

In line with this, the researchers suggest that future studies include broader sample size and scope. It is also hoped that future researchers utilize other means of data collection and distribution to reach a wider audience and gain more respondents. The study did not include the intra-relationship of the subfactors under the predetermined environmental and personal factors about the current limitations. As for data collection, the study only included descriptive and quantitative data on the career path aspirations of third-year students who are currently enrolled in the medical technology program of the University of Santo Tomas. The students were selected through

a convenience sampling technique. Furthermore, only the students' responses who can participate and complete the online survey were included in the study. Those with incomplete information and insufficient responses were excluded.

1.5 Significance of the Study

This study aims to assess the different factors that affect the career choice of third-year students taking the medical technology course at the University of Santo Tomas after graduation. Using a descriptive method of study is significant in assessing the likelihood of a specific factor affecting and inspiring students to decide on the path they are planning to take for their careers. The outcome of the findings in this study will be beneficial to the following:

To School Authorities:

This study will provide insights that can help them establish a progressive program for the medical technology course where students will be able to thrive and sustain their interest, augment their motivation, and develop proficiencies after graduating from the course.

To Medical Technology Students:

Regardless of not receiving direct benefits from participating, this study could serve as support material in their decision-making regarding their career paths as they continue on their journey upon graduating.

To the Aspiring Youths who wishes to pursue any Medical-Related Course:

This study will provide additional insights and background information on various planned aspirations of preceding medical technology students to help them formulate theirs.

To Future Researchers:

This study will provide additional information on such challenging topics as career paths, which to this data, has limited local literature and studies. This study would hopefully be developed by future researchers to make it more responsive and updated to the needs of others in similar fields.

1.6 Definition of Terms

Applied Sciences: A discipline that deals with art and science of applying scientific knowledge to practical problems.

ASEAN Countries: Association of Southeast Asian Nations. Countries that are found in the Southeast Asian region.

Associate degree: An undergraduate program that requires a two-year course of study.

Bachelor's degree: An undergraduate program that requires a four-year course of study.

Biomedical Systems: A complex of varying technological mediums (e.g., browser, software, machinery, portable device, etc.) applies both concepts of biology and medicine.

Career Path: The student plans to pursue the field, whether medical technology as a profession or further studies.

Career Path Aspirations: A long term career-goal, plan, or dream; more of an ambition than a desired result.

Clinical Laboratory: A site where medical practitioners can perform tests that help them in terms of diagnosis and treatment.

Demographic: A specific group that contains certain characteristics that satisfy the requirements and qualifications of a particular study.

Descriptive Study: A study that describes the variables and correlates them with other variables without manipulating these variables.

Education: The process of attaining knowledge from school or university.

Employee turnover: A number or percentage of old employees who left the organization and are being replaced by new employees.

Environmental Factors: Any physical and attitudinal environment affects how people live and conduct their lives. It encompasses various social and economic factors that affect people's abilities to make career choices, etc. These include education, income, employment, and more.

Experience: A factor used in determining the career path acquiring input by being present in that moment.

Extrinsic-personified: A concept or quality comes from external factors embodied and represented by a person, animal, or material object.

Factors: A cause that contributes to an outcome.

Higher education: Any type of education offered after high school or secondary school wherein a diploma, certificate, or degree would be given upon completing the course study.

Internship: A process where the student or intern undergoes training to acquire work under an organization without pay to acquire work experience.

IPO Model: An Input-Process-Output model is an approach in problem analysis where its goal is to turn inputs into outputs using the processes involved in the study.

Laboratory Medicine: A branch of medicine that tackles the diagnostic aspect of diseases using laboratory tests to study the submitted specimen of a patient.

Licensure Examination: Tests are taken by graduates of a field to be acknowledged as fully fledged professionals.

Non-Experimental: Research that does not involve control of independent and extrinsic variables through random assignment.

Perception: An individual's view, understanding, and interpretation of a certain subject presented.

Personal Factors: An individual's personal preferences; a factor being considered when making a choice.

Pilot testing: Acts as a rehearsal of the study to test whether the research is feasible by approaching a small number of test participants before conducting the main study.

Pre-medical course: An educational track is taken by undergraduate students before proceeding to medical school.

Researcher-made questionnaire: A set of questions used in the conduct of the study constructed by the researcher/s.

Salary: A factor used in determining the career of the target demographic in terms of the income of money per month.

Sample: The subject that is being tested.

Sample size: The number of subjects that are being tested.

Self-administered questionnaire: An organized form contains a series of open-ended and close ended questions answered by the

respondents themselves without the assistance of an interviewer.

Undergraduate program: A program taken by a student pursuing a bachelor's degree at a college or university.

II. LITERATURE

2.1 Medical Technology as a Profession

2.1.1 Global view of Medical Technology Studies

The idea of Medical Technology globally is similar to the idea in the Philippines. Both aim to train students to be competent in technical skills and rich in knowledge to be qualified in their ability to perform in a clinical diagnostic laboratory. Moreover, it has the tools to improve a patient's life (Ortiz & Hsiang, 2018). As other countries acknowledge this study as Medical Laboratory Science or Biomedical Science, it exhibits no difference to "Medical Technology" in the Philippines. B.S Medical Technology includes three years of academic learning and one year of internship in the undergraduate program. Upon completing a bachelor's degree in medical technology, one can take a licensure examination to become a registered medical technologist.

This examination covers all the major subjects in the undergraduate program. It will be provided by the Board of Medical Technology. However, other countries have different qualifications for one to continue practicing the medical technology profession.

In the United States, one must graduate with either a bachelor's or associate's degree in medical technology to practice the profession. The associate's degree in Medical Technology in the United States requires two years to complete. It allows students to experience a real work setting in the laboratory. It is divided into two sections: General courses, including Math, Science, and English, and major courses that include Hematology, Microbiology, Clinical Chemistry, and Phlebotomy (AllAlliedHealthSchools, n.d.). On the other hand, the bachelor's degree consists of three-year coursework and clinical rotations in the final remaining year.

Completing the course takes 4 years, and graduates may take the Medical Technologist Exam (the University of Utah, n.d.). Upon graduating, they have to pass the Medical Technologist

Examination (AME) provided by the American Society for Clinical Laboratory Science. To become certified, they need at least two years of work experience in the field and take the accreditation from The American Medical Technologist (AMT) (MedProInternational, n.d.).

In South Africa, the curriculum for medical technology is different from other countries. It takes four years, three years of academic learning, and one year of practical training in the laboratory to get a degree in Bachelor of Science in Medical Laboratory Science. The subjects are divided into three courses: core courses, concentration courses, preceptorships, and research courses. The student must earn and complete at least 160 credits, wherein 120 of this must come from core and concentration courses (St. Monica Higher Institute, n.d.). Upon graduating, the graduates can take the licensure exam provided by the Medical Technology Professional Board. With these, they are now eligible to register for the Health Professions Council of South Africa (HPCSA) as Registered Medical Technologists (HPCSA, 2019).

2.1.2 Shortage of Medical Technologists

Based on Sanchez (2020), research was conducted discussing the Philippines' medical technologist rate per 10,000 population. In that statistical study, it tackled the number of medical technologists per region. The region with the highest number of medical technologists, the National Capital Region (NCR), only had 3 medical technologists per 10,000 population. This emphasizes the low medical technology count in the Philippines. The second highest region only had 2 medical technologists per 10,000 population, which is a large margin (Sanchez, 2020).

Moreover, the Professional Regulation Commission (PRC) records show that 7,544 out of 10,545 examinees in 2019 have passed the Medical Technologist Licensure Exam. Despite the high count of passers for the examination, a shortage is still present in the medical technologist workforce. Thus, the factors that contribute to this peculiarity are further investigated. These factors include low monthly income, a position underutilized by the laboratory management, lack of knowledge by others (e.g., public), the lack of acknowledgement for medical technologists than nurses and physicians, and poor working conditions.

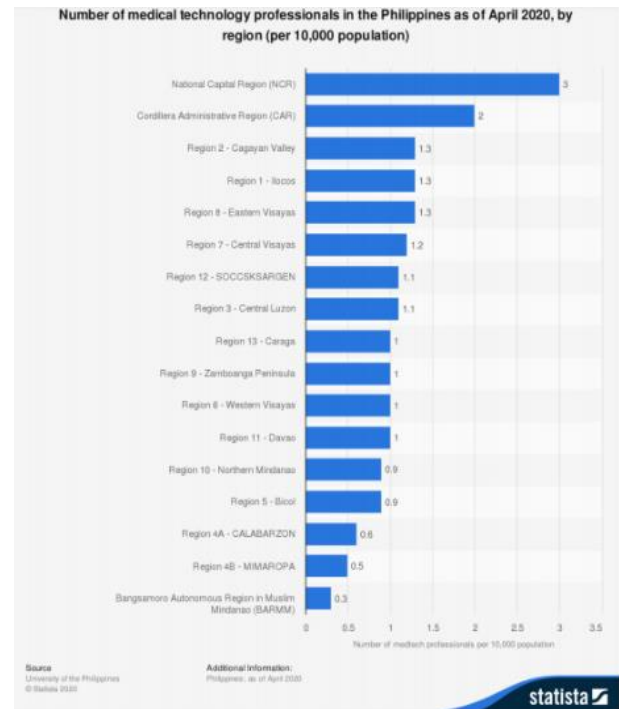


Fig.1. Number of medical technologists in the Philippines by region, per 10,000

The monthly income of medical technologists in the Philippines compared to other ASEAN countries is extremely low. According to Romualdez (2020), medical technologists in the Philippines have a regular income of 29,444 pesos per month. Comparing this with the minimum wage in the Philippines is 537 pesos a day; as of 2019, a monthly salary of the minimum wage would be 16,110 pesos. The minimum wage is only 13,334 pesos less than the average salary of a medical technologist. On a larger scale, the salary of the medical technologists in the Philippines compared to the salary in other ASEAN countries such as Vietnam, the second to the lowest place in terms of salary of medical technologists, are completely different (Romualdez, 2020). Vietnamese medical technologists earn 97% more than Philippine medical technologists. This indicates that Philippine medical technologists only earn 51% of a Vietnamese medical technologist's salary, showing clear emphasis that this compares the salary between the two lowest-ranking countries among the ASEAN countries (Romualdez, 2020). Comparing Philippine medical technologist salaries to other ASEAN countries with similar living expenses, such as Indonesia, Malaysia, and Thailand, Philippine medical technologists are extremely underpaid. This study mentions that medical technologists from Malaysia earn 178% more than Philippine

medical technologists, with 82,000 pesos per month (Romualdez, 2020). Comparing this with the highest-ranking ASEAN country, Singapore, their medical technologists earn 813% more than Philippine medical technologists with 210,000 pesos per month — setting aside the cost of living as a factor (Romualdez, 2020).

Average Monthly Salary of Medical Technologists in ASEAN countries (in Philippine peso)

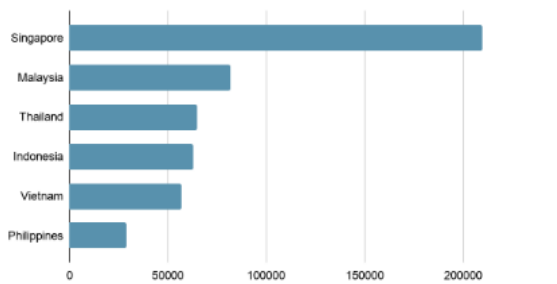


Fig.2.

Average monthly salary of medical technologist in ASEAN countries

In previous years, medical technologists were given much lower wages. Lorenzo et al. (2005) have mentioned earlier research that health workers tend to migrate to other countries due to high unemployment rates and low wages experienced in the Philippines. Between 1997 to 2002, medical technologists in the public sector received a monthly wage of 6,168 to 9,898 pesos. Compared to the United States, medical technologists are given a median annual wage of \$30,840.13, which can be converted to a staggering monthly wage of 128,500 pesos (Doran, 2009). The insufficient salaries given to health workers locally cannot compensate for one's cost of living and one's family. This drives health workers to find jobs abroad, providing higher salaries and better economic stability (Lorenzo et al., 2005). Other factors to be noted are family concerns, relationship problems, and an innate desire for adventure and independence. These economic and social factors motivate individuals to migrate abroad, leading to a shortage of health workers in the Philippines.

Aside from the economic factors, the shortage of medical technologists worldwide is due to the lack of knowledge of young students about the profession. As a result, fewer students are interested in enrolling in medical technology programs, thereby causing a decline in the number of schools offering the program. Primary and secondary students are not familiar with clinical laboratory science since it is neither a science program introduced in their K-12 years nor included in the regular STEM (science, technology, engineering, and mathematics)

program (Flanigan, 2018). According to Kaplan and Burgess (2011), nearly 500 accredited medical technology programs were closed in the United States from 1975 to 2005. Additionally, the American Society for Clinical Laboratory Science (ASCLS) reports that only less than 50% of the medical laboratory scientists and technicians needed in the workforce are currently trained and educated. With this, Wu and Green (2000) address insufficiency in terms of the number of graduates who would fill in the roles of clinical laboratory professionals in the healthcare setting, given the rapidly rising demand. Following this, Kaplan and Burgess (2011) mentioned in their study that a 2003 survey from the American Society of Clinical Pathology (ASCP) indicated that 72% of the health workers in the laboratory were over 40 years old, with the majority being close to retirement. A vacancy survey was later conducted in 17 clinical laboratories across the United States by the ASCP in 2016-2017 and revealed that the retirement rate in the next five years was 19.4% (Flanigan, 2018). Consequently, it was stated that 43% of clinical laboratories struggled to hire new laboratory workers due to the decline in medical technology graduates (Kaplan & Burgess, 2011).

The lack of interest from individuals in the medical technology profession can be associated with its "invisibility" to the general public. Flanigan (2018) expressed that it is difficult to recognize medical technologists from an outsider's perspective because of its numerous terms (e.g., clinical laboratory scientists, medical laboratory scientists, medical laboratory technicians, laboratory technologists, medical laboratory technologist, biomedical scientists, clinical laboratory technologist), thus often confusing its duties and responsibilities for another medical profession. Moreover, Kaplan and Burgess (2011) stated that medical television shows such as "House," "CSI," and "NCIS" have a tendency to neglect the role of medical technologists in their featured medical cases. This can influence the general public's perception of the profession. Furthermore, when an individual is asked who performs the tests in the laboratory, the most common answer is a nurse or a doctor. Therefore, Kaplan and Burgess (2011) conclude in their study that the shortage of clinical laboratory workers is due to the profession's lack of visibility to the public. Thus, the common individual is not educated with its purpose and remains uninterested in enrolling in medical technology programs.

A factor that can be associated with the loss of interest in the profession is poor working conditions. Beck and Doig (2005)

stated that poor working conditions are a universal issue for all healthcare workers worldwide, contributing to the shortage of medical technologists in the workforce. These circumstances impact their satisfaction, passion, and performance with the job. Thus, determining either the healthcare personnel's retention or turnover as time passes by. According to Manyisa and Aswegen (2017), one factor causing inadequate hospital staffing includes the appalling conditions that the medical technologists are in. Stress and fatigue from long working hours in the hospital often lead to longer hazard exposure for the personnel and a higher chance of errors and injuries due to decreased performance and functionality. Additionally, Lockley et al. (2007) and Barger et al. (2009) emphasized that long hours have a detrimental effect on the family and social relationships of the health worker. Aside from this, heavy workload, insufficient Personal Protective Equipment (PPE) and other resources, and increased fear of contracting diseases during epidemic/pandemic causes risk and/or adverse effects on their personal safety, health, and well-being.

According to Small (2013), employee turnover plays a key role in the shortage of medical technologists. This occurs primarily due to the individual's personal reasons, retirement, contraction of the disease, and death. It is also important to note that the duties and responsibilities of a medical technologist are heavily tied down to the clinical laboratory, which causes high stress to the staff due to the minimum wage pay of the country and the burnout they experience from overworking and cross-training in the laboratory (Flanigan, 2018). Thus, retention strategies need to be carefully addressed by the hospitals and their organizations, focusing on the upcoming generations as baby boomers retire from the field (Malone, 2011).

2.1.3 Perceptions of other Medical-related Courses

Research by Mkala (2013) evaluated first-year nursing students in an applied sciences university to determine the factors that influenced them to study and enroll in the nursing degree program. The data revealed that the socio-economic factors (e.g., family, friends, mentors) inclined most participants to pursue nursing as a career. The notable external influences mentioned by the participants include job security, job availability, personal satisfaction, personal abilities, flexibility in working stations, and fair wage (Mkala, 2013). The drive to make a positive change in society by coming to the aid of people in need pushes nursing students to exert effort and graduate with a bachelor's degree that will fulfill their lifelong

goal of becoming an individual who works to help the community.

The common attitudes and perceptions of students about how appealing clinical laboratory science careers are the variety of work environments that can be found in the laboratory setting, knowledge and skills to be gained, understanding how the body works, a hands-on type of work (e.g., laboratory work), and a health career that has very little patient contact (McClure, 2009). According to Ock et al. (2020), most students think that academic performance in medical schools is closely related to the feasibility of careers. Academic achievement is considered to have a direct relation with potential specialties, as it is often expressed that a specialty is a compromise of grades. The significance of self-understanding in choosing a career is also considered by the students. They want to pursue a specialty based on their talent and interest (Ock et al., 2020). Some examples of these specialties based on talent and interest are the capability to examine specimens under the microscope for a long period, the right skills for surgery, the ability to efficiently interact with patients, compatibility with research, and many more. After deciding on a specialty, other critical factors for career decision-making are considering the ability of management, accounting. (Ock et al., 2020).

Although academic achievement and formal learning prepare students for their potential careers, it does not always reflect their personal interests. A study conducted by Doran (2009) indicates that students pursuing science degrees in a university in Southern Illinois feel that their program in clinical laboratory science has prepared them for a career in science. However, these students do not perceive this career as having a strong impact on patient care. With the majority wanting to be involved in patient care, most of Doran's (2009) study respondents do not desire to pursue a career in laboratory science. In fact, only 4.5% of the students strongly agreed to pursue a career in laboratory science after college.

Furthermore, approximately 43% of college science students remain unfamiliar with the diverse career opportunities under the clinical laboratory science profession. Approximately 53% have no interest in a career in laboratory science (Doran, 2009). This can be associated with the increasing number of job vacancies in health laboratories. With the continuing uninterest and lack of attention from students, a shallow perception of the career opportunities of the medical technology profession may continue to persist.

In a study conducted by Ahmed et al. (2015), gender was found to be one of the main factors that showed a significant correlation to the specialization of medical students when asked about the reason for selecting their specialty choice. In contrast, their undergraduate programs showed no significant association with their specialty choice. Moreover, medical students decided on their specializations based on their personal interests and their degree of helpfulness to the community (Ahmed et al., 2015). There are only selected specialties chosen by the majority of the participants because the least preferred specialties were often viewed negatively for certain reasons. Specifically, the participants did not find them as appealing as other specialties, lacked knowledge and exposure to a certain specialty, did not carry the same weight of general practice in their curriculum, and also took into consideration the views of their family and outside references (i.e., peers) regarding job opportunities (Ahmed et al., 2015).

Pianosi et al. (2016) conducted a study on a Canadian medical school to determine themes influential to the students' decision-making in terms of their specialty career choices. Based on their findings, the most influential factor for the students was exposure to their chosen careers beforehand (Pianosi et al., 2016). Along with exposure to the right environment, the timing and context of the decision-making are essential aspects of the students' career life. Students with relatives who are medical professionals are at an advantage as they are introduced to the clinical setting at an earlier stage than those who would be the first in their families to pursue a healthcare profession. The curriculum provided by the institution, the views of the public on the career, the rate of recruitment, mentor/teacher influence and family influence, as well as the student's personal philosophy, were also major recurring themes mentioned by the students (Pianosi et al., 2016). Individuals have the tendency to rely on what their family and outside influences perceive about a certain career, which supports the thought that there are students who would be discouraged to pursue professions they have received negative feedback about.

2.1.4 Factors that Influence the Career Choices of Students

Most often, students at a very young age have chosen what career path they would like to pursue in the future; some pursue, and some do not. Behind these decisions have some contributing factors that influenced their decision. The majority are influenced by parents, teachers or mentors, and peers. Students with physician parents most often made their

admission decision as they grew up watching their parents' technical aspects. In contrast, students with non-physician parents are determined to enroll in medical school following their parents' wishes. Parental expectations largely influence the student's aspirations (Lippman et al., 2008). Two meta-analyses have found that parents are the strongest family-level predictor of student outcomes (Jeynes, 2005). In the Philippines setting, Filipino parents are shown to be participative in their children's school activities, career goals, and other choices both at home and school (Kurian, 2014). Thus, despite considering a career's attractiveness and the student's academic disposition, students chose to study medicine-inclined courses due to external factors such as parents' influence, mentors, grades, and job security rather than their personal inclinations. Aside from the external factors that influence the student's career choice, they also consider the stability and feasibility of the career, self-understanding, expected income, job satisfaction, and expected quality of life. Therefore, predicting the quality of life has a significant impact on career choices. Realizing the challenging quality of life of the students in that specific department would let them seek a specialty that guarantees more personal time. After practicing in their preferred departments, students who experienced physical and mental difficulties (e.g., trauma) also changed their minds on their career paths after sensing the unsatisfactory expected quality of life despite their interest in the field. In addition to this, some critical factors that can alter career choice, especially for females, is the expected quality of life that might affect marriage, childbirth, and parenting (Ock et al., 2020).

In reality, students are overwhelmed with excessive academic competition and do not have much time to explore career options. In addition to this, currently, the primary focus of medical schools is on essential medical knowledge and skills, with relatively little interest in the student's career choice. Career decision-making for students should not be considered a personal challenge for this decision will impact a future physician's life-long duty and performance (Ock et al., 2020).

According to Joseph (2012), students who are uncertain of their career aspirations tend to lose interest in education. Counseling in school delivers supervision and growth to students regarding their careers. However, there are insufficient studies concerning it and career development among high school students because there is a supposition that students recognize their own abilities and know-how to integrate them in career decision-making. On the other hand, school counselors assist in the discovery of

individual skills and talents that permit students to make informed career decisions. Career education offers an avenue for students in the early identification of their careers and goals. Through this, a sense of motivation and direction would emerge. It would result in student empowerment to determine their interests, skills, and values that could lead to discovering the career they want (Joseph, 2012).

Duffy et al. (2009) studied the interrelation between personality, professional interest, and work values in a sample of medical students who already chose their career path to be a physician but still lack the resolution in choosing their specialty. Duffy et al. (2009) observed that these variables are vital to an individual's career motivation. Experience and interest's ingeniousness, candor and agreeableness, and social interests are observed to have the strongest correlation. Thus, the study's findings suggest that intellectually curious students who also have a bright imagination are expected to pursue artistic paths and seek medical specialties. Furthermore, assertive, talkative, and extroverted students have a greater tendency to seek jobs that involve social interaction, leading, and persuading others.

In addition to one's own personality, a profession's work ethics and practical benefits can motivate students to pursue a specific career. According to McClure (2009), students undertaking Clinical Laboratory Science cited that the important job element is salary followed by job satisfaction, opportunities for advancement, flexible working hours, and being part of the healthcare team. Moreover, other essential factors such as employer benefits needed to be acquired are health insurance, paid vacation, retirement plan, and tuition reimbursement.

Noden et al. (2015) stated in their study that students enrolled in a clinical laboratory science program in Namibia expect a career after they complete the program, with the majority expecting a career in a government hospital (29%) or public health industry (35%). Their choices are influenced by several factors, such as wanting to be exposed to a wider range of illnesses in government hospitals and experience in working for low-income groups. Furthermore, students chose a career in this profession to work in a government hospital for personal reasons such as a desire to experience a new environment to build knowledge and provide services to underprivileged populations. Furthermore, the majority of the respondents chose to study laboratory science themselves. This could

indicate that they saw the potential for satisfaction in this line of work (Noden et al., 2015).

Aside from personal interests, the overall beliefs and support from family, peers, and teachers also play a significant role in influencing an individual's decision regarding their career path aspirations. According to the study of Shumba and Naong (2012), the majority of the participants agreed that their educational background aided and led them to decide on their career paths even before entering university. With that said, the people that significantly influenced them during their primary and secondary education involve their teachers, for the most part, as well as their family and peers. According to a study by Isabel (2016), students' relationships with their instructor or preceptor can influence how prepared the student is for further education. The relationship between the instructor and students affects the students' confidence and experience in their chosen careers. There are also instances wherein an individual's career choice is influenced by the occupation, both past, and present, their family members or mentors have. Students are prone to deciding a certain career path based on how involved and how impactful the influence of socio-economic factors on their character and interests as they grow.

2.2 Synthesis of Previous Studies

With the ever-changing conditions in healthcare, it is established that medical technology plays a crucial role in providing better patient outcomes in the diagnosis, treatment, and monitoring of various diseases. Years of rigorous education and training are dedicated to honing the knowledge, understanding, and skill sets of students, thus ensuring proficiency and competence in the practice of the profession in the future.

Nevertheless, staff shortage, salary, working conditions, and job satisfaction are significant economic, social, and personal challenges present in the sector today. With this, understanding the common attitudes and perceptions of health-allied students can shed light on how the influences in the career choice, experiences in the first years of education, and other internal and external factors have impacted their decision-making and view of the profession as well as the next steps they are most gearing towards. Ultimately, the decisions that students make with the factors involved in their career choice and aspirations are of great significance in the balanced distribution of healthcare professionals in the future.

2.3 Theoretical Study

The process of decision-making is carefully considered when contemplating career path aspirations. A set of factors inevitably influence an individual's decision-making in all aspects of their life. Students rely on numerous factors — social influences, aspirations, goals, work environment, and the potential for success — to help them decide on the career path to pursue. The Social Cognitive Theory is a correlative social learning theory that emphasizes the dynamics between the behavioral changes of an individual given the social and environmental factors that influence them (Bandura, 1986). This theory uses experiences from one's past that have significantly helped shape the ideologies of the person, evaluate the worth of these goals, and set standards for themselves to achieve their ideal performance.

It also suggests that social interaction affects decision-making as it is influenced by society's ideologies and perceptions. Through the experiences brought about by social and external factors, a student's decision-making process is affected based on their recurring presence, impact, and the extent to which they depend on these influences.

Bandura's theory was later integrated into a model specifically curated for the career decision-making process of an individual referred to as the Social Cognitive Career Theory, which will be the main theoretical basis of this research. The Social Cognitive Career Theory stresses the relationship between the dynamics presented in Bandura's social cognitive theory and how it builds an individual's self-efficacy and ideology of their career (Lent et al., 1994). Additionally, the theory relies on the person's cognitive skills to develop a goal-oriented system in career planning that will join the ends of one's self-efficacy, aspirations, expected outcomes for their career choice, and external influences. This allows the students to think critically about their career goals and be motivated to excel for their future.

Moreover, an individual's social environment can influence the perceptions and self-awareness of a person, which in turn affects their career decision-making. The accordance between personal goals and external influences will aid the student in developing a career plan that is tailored to their interests and strengths and the knowledge and technical evaluation of their desired career.

2.4 Conceptual Framework

To construct the framework for this research study, the researchers will use an IPO (Input Process Output) model. The input involves factors that make B.S. Medical Technology a desirable course under the two categories of factors. These two categories of factors are environmental and personal factors. The input requires the target demographic to be a third-year B.S. Medical Technology student from the University of Santo Tomas. Also, it requires them to have knowledge and awareness of the career path that this undergraduate program can provide. This data is used for descriptive analysis to further assess the student's desire to enroll in this program. The process is essential in determining how these factors ultimately lead to a certain result and correlate it with other findings to understand its relevance on why medical technology is the desired course. The output of the study should result in being able to determine the association between the two categories of factors and the career path aspirations of the students. Additionally, the output is where the researchers will identify the target demographic's career path and all the factors involved in helping them determine their career path.

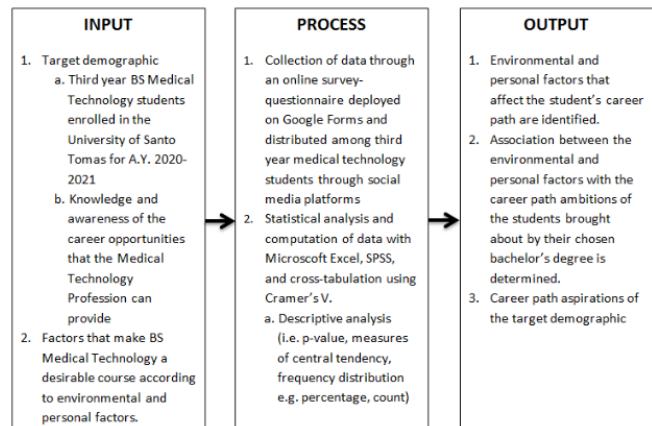


Fig.3. Input-process-output of factors influencing students' career path aspirations

III. RESEARCH METHODS

3.1 Research Design

The researchers used a quantitative descriptive method for this study which involves gathering data through questionnaires and other related studies to obtain quantifiable information regarding a population sample for statistical analysis. This method is characterized as a survey or normative approach that

focuses on identifying the who and what experiences or occurrences of any particular phenomenon that lacks information. It is concerned with events and studies that seek to organize findings and draw inferences or causal relationships from them. The method used is appropriate for the study to identify the most favored career path and the factors that mostly affect it, based on the quantitative analysis of the responses. In addition, these factors are inferred through a descriptive form of a query by summarizing the responses of the target population on the environmental and personal factors that influence their career path aspirations (Allen et al., 2001).

This study conducted a non-experimental survey through a self-administered online questionnaire. The inquiries from the questionnaire sought to ascertain the environmental and personal factors that influence the respondents to take up medical technology and similar variables that affect the student's choice regarding their career path. The gathered information allowed the researchers to identify the significant relationships of environmental and physical factors.

3.2 Subjects and Study Site

This study utilized a non-probability convenience sampling wherein it relies on the own discretion of the researchers to select the participants in this study (Etikan et al., 2016). The respondents were the third-year B.S. Medical Technology students who were enrolled for the academic year 2020-2021 at the University of Santo Tomas. Preference in age and gender were not observed for the findings of this research. Following the principles of non-probability convenience sampling, there was no need to determine a computed sample size. Despite this, the researchers found it important to establish a 5% margin of error to maintain the significance of the data. The researchers estimated a total of nine hundred (900) enrolled third-year students with a total number of twenty-two (22) blocks. The evaluated data was run through the Raosoft software and obtained an estimation of two hundred seventy (270) respondents with a 95% confidence level for the study. The sampling method employed in this study allowed the researchers to make generalizations from the sample being studied (Lavrakas, 2008).

Regarding the timely and careful deliberation in decision-making, third-year students are at a point in their life where they are faced with multiple paths showing them the careers they may want to pursue. This study would like to better understand

what influences the participants to decide on their future career paths. The qualified participants were given access to the Google Forms link containing a consent form that they must read and accomplish before answering the online survey questionnaire curated by the researchers.

3.3 Data Measure or Instrumentation

A researcher-made online survey questionnaire was developed for this research with some questions adapted from the respective studies of Doran (2009), Mkala (2013), Maina (2013), and Noden et al. (2015). Only selected questions relevant to the scope of this research were utilized from the aforementioned related studies. In contrast, a number of the questions in the survey questionnaire were formulated by the proponents of this paper. The survey is a 28-item questionnaire consisting of tabulated Likert scale questions, binary questions (yes or no), and multiple-answer questions. The Likert scale used in this research applied the 5-point scale observing the "Strongly Disagree" to "Strongly Agree" scale intensity. The flow of the questionnaire was organized so that it consecutively addressed the objectives of this research.

The questionnaire for this study was focused on the three main objectives: (1) influential factors, which mainly focuses on the two categories (environmental factors and personal factors) that influenced the students to take up Medical Technology as their Bachelor's degree; (2) student's career path, in which the respondents will be asked about how the aforementioned main factors affect the student's choice of career path; and lastly (3) association between the two main factors and career path, which focuses on the correlation between environment and personal factors with student's career path. The respondents were asked whether they want to pursue further academic studies (e.g., master's degree, medical school) after graduating from Medical Technology or pursue a career path that is either related or not related to a health-allied profession such as medical technologist.

Before implementing the instrument in the study, statistical analysis and pilot testing were conducted to gauge the questionnaire's reliability. Thirty-three (33) student representatives were initial respondents of the targeted population to test the approved survey. The researchers employed the Cronbach's Alpha statistical tool to check for the internal consistency validity by comparing it to the acceptable score of 0.7 or higher. The study questionnaire garnered a score

of 0.77, indicating that the survey has a good level of internal consistency and that the study's proponents can proceed with proper data collection.

3.4 Data Gathering Procedure

The study was conducted on third-year B.S. Medical Technology students of the University of Santo Tomas enrolled in the academic year 2020-2021. The researchers created the survey questionnaire online through Google Forms. They distributed it among the respondents in the first quarter of 2021 during the second semester of the academic year 2020-2021 via Facebook. A Facebook post was generated containing a Google Forms link that leads to the survey and consent form of the study. This post was uploaded to a shared group page with third-year B.S. Medical Technology students, and was also distributed across Facebook messenger groups of their respective blocks. Before answering the survey, a consent form was provided for the respondent to read and understand the terms and conditions of the survey. The third-year B.S. Medical Technology students who agreed to participate in accomplishing the survey were automatically directed to the set of questions prepared by the researchers. The responses that were obtained from the participants were collated, processed, and summarized. The results of the data gathered and arranged served as the basis of the research's information for further analysis and interpretation.

3.5 Ethical Considerations

As the participants are under the supervision of the Faculty of Pharmacy (FOP), the researchers provided a letter to the FOP-Department of Medical Technology administrators seeking permission to collect data on the total number of enrollees for the third year Medical Technology students for the academic year 2020-2021 of the University of Santo Tomas. The UST FOP Ethics Review Committee was sent a copy of the proposed study to send their approval. Students were invited to answer the survey through means of social media platforms such as Facebook (e.g., messenger, public post) for the recruitment process. Social media contains multiple connections that allow faster dissemination of information which can be utilized to reach a wider range of respondents. Since respondents were collected through convenience sampling, any third-year student currently enrolled for A.Y. 2020-2021 in the B.S. Medical Technology program of the University of Santo Tomas was provided with the link to the survey. Before the survey began,

the nature of the study and the time commitment needed for participation were explained to the participants. It emphasized that the data gathered is strictly for research purposes only. To protect the participants' information, data was stored securely and permanently deleted after research completion. No identifiable identity was present in the interpretation and reporting of results to preserve the utmost anonymity and confidentiality of the participants. The informed consent and agreement were only obtained once the participant has confirmed voluntary participation and understanding of the research process in the data gathering of the study. Participants are free to withdraw their participation in the study at any given time, even after providing informed consent.

The researchers abided by the ethical principles in the conduct of this study. There is no conflict of interest, in any form, to declare.

3.6 Data Analysis

For quantitative analysis, all data collected via Google Forms was inputted into a Microsoft Excel™ spreadsheet and analyzed through the SPSS software. In determining the factors (environmental and personal factors) that affect a students' choice based on their undergraduate program and their career path, descriptive statistics such as measures of central tendency, frequency distribution (percentage and count) were used. To determine the association between the established environmental and personal factors with the student's chosen career path, SPSS and cross-tabulation using Cramer's V test of independence were used to analyze its quantitative measures and the significance of the relationship of these variables. The range of correlation coefficient values and their corresponding level of correlation is shown in Table 1 (Evans, 1995).

Table.1. Range of Correlation Coefficient Values and Level of Correlation

Range of Correlation Coefficient Values	Level of Correlation	Range of Correlation Coefficient Values	Level of Correlation
0.80 to 1.00	Very Strong Positive	-1.00 to -0.80	Very Strong Negative
0.60 to 0.79	Strong Positive	0.79 to -0.60	Strong Negative
0.40 - 0.59	Moderate Positive	-0.59 to -0.40	Moderate Negative
0.20 to 0.39	Weak Positive	-0.39 to -0.20	Weak Negative
0.00 to 0.19	Very Weak Positive	-0.19 to 0.01	Very Weak Negative

Table.2. Likert Scale Mean Score

Scale	Mean Range	Description
5	4.20 - 5.00	Strongly Agree
4	3.40 - 4.19	Agree
3	2.60 - 3.39	Neutral
2	1.80 - 2.59	Disagree
1	1.00 - 1.79	Strongly Disagree

Table 2 represents the rating scale, the range of means, and the interpretation of the Likert scale used in the study to facilitate the analysis. The following scale and descriptions were adapted based on the curated survey questionnaire for the research.

Data visualization tools were utilized to have a better understanding of the data gathered and sorted. To check for accuracy, entered data were rechecked and validated by the researchers every tenth survey response.

IV. PRESENTATION, ANALYSIS, AND INTERPRETATION OF DATA

4.1 Results

Factors Influencing Students to take up Medical Technology as their Bachelor's Degree

Table.3. Level of Influence of Environmental Factors towards taking up B.S. in Medical Technology

Environmental Factors	Mean Score	Interpretation
Family and Relatives	3.05	Neutral
Peers	2.25	Disagree
Mentor/Counsellor	1.82	Disagree
Media	2.53	Disagree
Job Opportunity	3.40	Agree
Academic Qualification	4.59	Strongly Agree
Public Image	3.13	Neutral

Interpretation: 1.00-1.79 = Strongly Disagree; 1.80-2.59 = Disagree; 2.60-3.39 = Neutral; 3.40-4.19 = Agree; 4.20-5.00 = Strongly Agree

Table 3 presents the mean score and their corresponding verbal interpretation regarding the level of influence of each of the environmental factors involved in taking up Medical technology as the students' Bachelor's degree.

The environmental factor "Academic Qualification" presents the highest mean distribution of 4.59 with an interpretation of "Strongly Agree." This shows that students who took up the course strongly believe in the opportunities that the course offers regarding achieving higher academic qualifications related to the health-allied field, such as that of medical school, master's degree, and doctorate degree. The obtained results are

congruent with studies exploring that opportunities for career development were determined to be major influences in students' career decision-making process (Cheung & Arnold, 2014; Guan et al., 2015).

"Job Opportunity" gained a mean score of 3.40, showing that most respondents agree with its influence on their decision-making. With this, it can be inferred that students consider their career opportunities seriously before taking their undergraduate program. According to Beggs et al. (2008), job opportunities are considered by students based on salary, benefits, work-life balance, and advancement opportunities available.

On the other hand, the environmental factors "Peers," "Mentor/Counsellor," and "Media" gained an interpretation of "Neutral" and obtained a mean score distribution of 2.25, 1.82, and 2.53, respectively. With this, we can infer that most respondents disagreed that the said factors played a key role in their choice of Medical Technology as an undergraduate program. According to Howard et al. (2009), after parents and teachers, peers ranked third as the most potent force in the career decisions of youth. In connection to this, mentors or counselors are strong key figures in students' decisions. Cheung et al. (2013) argue that in some cases, their influence is even higher than that of the students' parents due to their achieved level of education, work efficacy, and years of experience; thus, a stronger dependence on teachers/mentors is formed. The mentioned studies, however, did not support the results obtained from the respondents. According to Cooper (2009), students may have found inspiration from media consumption at one point. Still, their decision is not directly shaped based on such exposure. Rather, they were more likely to report more personal factors such as family and friends as strong influences. At the same time, the media did not play a significant factor in their decision about their career choice.

With an interpretation of "Neutral," the environmental factors, "Family and Relatives," as well as "Public Image" gained the mean score of 3.05 and 3.13, respectively, showing that most of the respondents did not have either a positive or a negative influence from the said factors. In a surprising result, "Family and Relatives" contrasts with the study of career choice conducted by Bojuwoye and Mbanjwa (2006), reporting that parents played a very significant role in the decision-making of students. McQuerrey (2017) argues that parental influence, whether positive or negative, significantly impacts and shapes their career choice. As for the public image, it contrasts with

what Beggs et al. (2008) discussed in their study: students consider prestige as one of the top job characteristics they look into when choosing a major. In connection to this, the profession's reputation is also an important attribute considered by students (Pringle et al., 2010).

Table.4. Level of Influence of Personal Factors towards taking up B.S. in Medical Technology

Personal Factors	Mean Score	Interpretation
Interest	4.03	Agree
Desire	4.45	Strongly Agree
Contribution to Society	4.53	Strongly Agree
Academic Excellence	3.39	Neutral
Suits Personality	3.48	Agree
Quality of Life	3.61	Agree

Interpretation: 1.00-1.79 = Strongly Disagree; 1.80-2.59 = Disagree; 2.60-3.39 = Neutral; 3.40-4.19 = Agree; 4.20-5.00 = Strongly Agree

Table 4 shows the personal factors with their corresponding mean score and verbal interpretation connected with their level of influence when taking up B.S in Medical Technology. The results show that third-year Medical Technology students show keen importance on “Desire” and “Contribution to Society” in choosing their career path.

The factors with the highest mean distribution are “Contribution to Society” and “Desire,” emphasizing that students are greatly influenced by their desire to provide patient care and contribute to society when taking up Medical Technology as their course. Obtaining a mean score of 4.52 and 4.45, respectively, with an interpretation of “Strongly Agree” in both items. According to the results, the majority of the students are more likely to pursue Medical Technology as their bachelor’s degree because they are more inclined in providing utmost care to the patient as well as to facilitate the physician’s diagnosis on the patient by running a sample test and giving an analysis. The obtained results may now explain how Gati and Saka (2001) describe how individuals choose their career paths in the future. As children grow older, the complexity of their decision-making increases. When adults question children about what they want to be in the future (e.g., doctor, engineer), children tend to answer about their ideal career, which may represent their envisioned utopia and astonishing perceptions about what they want to do when they grow up (Howard & Walsh, 2011). But as children mature, they often describe their chosen career path as a dynamic interplay of their developmental stages and the existing environmental circumstances (Howard & Walsh, 2011). With this, students are more inclined to pursue what they want to achieve that satisfies their professional goal and help in society.

In connection to this, personal factors such as “Interest,” “Suits Personality,” and “Quality of Life” obtained a mean score of 4.03, 3.48, 3.61, respectively, with a verbal interpretation of “Agree.” With this, we can infer that these three factors are also greatly considered by most students but not as significant as “Desire” and “Contribution to Society.” Studies have shown that the main intrinsic factors responsible for influencing career choice decisions are an individual’s personality, interests, self-concept, attitudes, and cultural identity (Kerka, 2000; Bandura, Barbaranelli, Caprara & Pastorelli, 2001; McQuaid & Bond, 2004). This could also be traced back to how Gokuladas describe students from urban areas who consider their personal interests before societal interests when making career decisions (Gokuladas, 2010). Lent et al. (2010) reported that personal interest predicts the expected outcome of their chosen career. According to the study conducted by Nyamwange (2016), most respondents (92.5%) indicated that individuals attach a lot of importance to their careers, thus demonstrating the importance of a career in leading a good quality of life. Deciding which or what career path to pursue is essential and crucial for it entirely affects your well-being and quality of life. Careers are important in several ways, such as: authenticating oneself in terms of interests, it suits your personality, values, temperament, skills, talents, hopes, and dreams; it can influence any kind of activities, situations you involved in, as well as, people with which one is one is interested, and is comfortable, happy, and satisfied; influences the type of subjects that an individual learns, their most effective and learning style with which they are comfortable; influences the type of extracurricular activities, hobbies, break times one may be engaged in, even sports; influences the types of work either paid or unpaid, one might do which align with his or her talents, preferences, aspirations and which, are congruent with his or her values, sense of meaning, and purpose; and influences the type of knowledge to develop to achieve the set goals and objectives and to adjust them with changing circumstances and emerging opportunities. The studies mentioned above support the results obtained from the respondents defining these personal factors (“Interest,” “Suits Personality,” “Quality of Life”) as the second essential factor to be considered in making career decisions.

While the item with the lowest mean, “Academic Excellence,” has a neutral verbal interpretation. This entails that even though students excel in a specific field, having an advantage in knowledge and skills does not significantly affect their decision on which career to pursue. This shows that a student's academic

excellence in his or her lower years may or may not be an advantage when taking up a B.S. Medical Technology course. According to Abiola (2012), the best indicator of the potential for success in life is academic performance. It reflects one's abilities and qualities to overcome obstacles and achieve what one aspires to be. Factors such as grades, attendance, standardized tests, and extracurricular activities may determine the level and quality of a student's academic performance (Sharm, 2012). Still, good grades do not necessarily correlate with a student's intelligence (Sutherland, 2017).

Table.5. Total Mean Score of Environmental and Personal Factors

Factor Group	Total Mean Score
Environmental Factors	2.97
Personal Factors	3.92

Table 5 presents the summary of the total mean score of each factor group. Environmental factors got a mean score of 2.97, while personal factors got a mean score of 3.92. Through this, we could infer that most respondents are driven by their personal preferences when it comes to choosing their career path. Similar findings to a study conducted by Akosah-Twumasi et al. (2018) demonstrated that personal interests are the major factor influencing career choice in individualistic cultures or settings wherein youth are independent in career decision-making.

Factors Influencing the Student's Choice Regarding Their Career Path

Table.6. Desired Career Path of Third Year Medical Technology Students

Career Path	Frequency	Percentage (%)
Licensed Medical Technologist	26	9.63
Medical school	190	70.37
Postgraduate studies	2	0.74
Profession in the Field of Academe	0	0.00
Non-Health-Allied Job	1	0.37
Undecided	51	18.89
Total	270	100

Table 6 presents the frequency and percentage distribution of the desired career path of third-year Medical Technology students after graduating.

Among the 270 respondents, 26 or 9.63% of them would choose to work as a licensed medical technologist, 190 or 70.37% of them are planning to apply to a medical school, 2 or 0.74% of them are foreseeing to take postgraduate studies, 1 or 0.37% intend to work in a non-health-allied job, 51 or 18.89% of them are still undecided. In contrast, none chose to have a profession

in the field of academe. Based on the table above, most respondents are planning to apply to medical school. At the same time, none would pursue a profession in the field of academe.

Table.7. Frequency of Different Environmental Factors from Different Career Path

Career Path	Environmental Factors (Frequency)						
	Family and Relatives	Peers	Mentor/ Counsellor	Media	Career Advancement	Compensation	Benefits
Licensed Medical Technologist	13	5	4	8	22	14	16
Medical School	108	39	31	92	169	123	138
Post Graduate Studies	2	1	1	1	1	2	2
Field of Academe	0	0	0	0	0	0	0
Non-Health Allied Jobs	0	0	0	0	0	0	0
Undecided	20	10	1	20	41	30	30

Table 7 presents the frequency of different environmental factors among six career paths. Among the respondents who have chosen to become licensed medical technologists as their career path, 85% (f=22) of the respondents selected the opportunity for "Career Advancement" as an environmental factor that influenced their decision, thus gaining the highest frequency among the respondents six factors. According to McClure (2009), students perceive clinical laboratory science or medical technology as a profession with diverse opportunities in job advancement. On the other hand, only 15% (f=4) of the respondents selected "Mentor/Counselor" influence as a factor in their chosen career path, thereby having the lowest frequency. Ibrahim et al. (2017) infer the low influence of mentors/counselors on teachers' limited methods to educate medical technology as a profession. After "Career Advancement," the provision of "Benefits" was chosen as an influencing environmental factor by 62% (f=16) of the respondents followed by "Compensation" with 54% (f=14); "Family and Relatives" with 50% (f=13); "Media" with 31% (f=8); and "Peers" with 19% (f=5) of the respondents.

Similar to the previous career path, "Career Advancement" received the highest frequency, with 89% (f=169) of the respondents choosing it as an environmental factor contributing to their decision to attend medical school as a career path. Attending medical school enables the student to pursue a specialty in a medical field of choice (Ock et al., 2020). Achieving a medical specialty opens more career opportunities and advancements. On the other hand, "Mentor/Counselor" also received the lowest frequency with only 16% (f=31) of the responses. Holly (2005) associates science teachers' influence on students' interest in a career in science and medicine. Many science teachers view their own careers in science as

uninteresting and not desirable, thus discouraging students from seeking a career in this field (Holly, 2005). This can infer that students that still chose medical school as a career path were influenced by factors other than their mentors. Similarly, “Benefits” obtained the second-highest frequency with 73% (f=138) of the respondents identifying it as an influencing factor to their career path. This is followed by “Compensation” with 65% (f=123) of the respondents; “Family and Relatives” with 57% (f=108); “Media” with 48% (f=92); and “Peers” with 21% (f=39) of the respondents, respectively.

Among those that chose post graduate studies as a “Career Path,” “Family and Relatives,” “Compensation,” and “Benefits” were selected as contributing environmental factors by all respondents (f=2). On the other hand, only half of the respondents (f=1) selected the remaining factors. According to Erameh et al. (2018), parental influence can be a big factor in determining which specialty or postgraduate degree a student will undertake after graduation. Moreover, students' role in the family, funding, and support from the institution is considered by students before undertaking postgraduate studies (Shellhouse et al., 2020).

The field of academe received a frequency of 0 in all factors because none of the respondents chose academe as a career path. Similarly, despite having one respondent, Non-health allied jobs as a career path also received a frequency of 0 in all environmental factors.

For those undecided with their career path, 80% (f=41) of the respondents selected “Career Advancement” as an environmental factor influencing their career decisions, thus having the highest frequency under this category. Career advancement can refer to one’s keenness to take on new opportunities. One of the most frequent reasons is improved earnings as work advances to higher positions (Nyamwange, 2016). In contrast, “Mentor/Counselor” remains as the environmental factor with the least influence as it is selected by only 2% (f=1) of the respondents. Ibrahim et al. (2017) mentioned in their study that mentors and counselors are expected to give support to students that already have a career in mind. This can address how those that are yet to decide on a career path are less influenced by their mentors.

Furthermore, teachers would usually advise a general profession rather than a specific career, thereby leaving them to decide on their own career path (Abe & Chikoko, 2020). After

“Career Advancement”, “Compensation” and “Benefits” obtained the same frequency by being chosen by 59% (f=30) of the respondents, while “Family and Relatives” and “Media” were each selected by 39% (f=20) of the respondents. Following this, 20% (f=10) of the respondents chose their “Peers” to influence environmental factors in their career decisions.

Table.8. Frequency of Different Environmental Factors from Different Career Path

Career Path	Personal Factors (Frequency)						
	Dream	Desire	Contribution to Society	Career Excellence	Suits Personality	Quality of Life	Job Interest
Licensed Medical Technologist	14	24	25	17	16	20	16
Medical School	157	184	187	127	156	165	148
Post Graduate Studies	0	2	2	1	1	1	1
Field of Academe	0	0	0	0	0	0	0
Non-Health Allied Jobs	0	0	0	0	0	0	0
Undecided	31	46	48	26	29	38	34

Table 8 displays the frequency of personal factors from different career paths. For those who have chosen licensed medical technologists as their career path, 96% (f=25) of the respondents answered “Contribution to Society”, thereby considered the highest frequency among all the personal factors. According to the study conducted by Mkala (2013), social contribution is one factor that pushes students to pursue their career path of choice. However, “Dream” obtained the lowest frequency with 54% (f=14) of the respondents selecting this personal factor. Hasan et al. (2010) found that interest in healthcare is one of the most minor contributing factors in choosing a career path. “Desire” obtained the second-highest frequency, which was selected by 92% (f=24) of the respondents. This is followed by “Quality of Life” with 77% (f=20) and “Career Excellence” with 65% (f=17) responses. Both “Job Interest” and “Suits Personality” were selected by 62% (f=16) of the respondents.

Among the personal factors under the medical school category, 98% (f=187) of the respondents selected the “Contribution to Society”, thus having the highest frequency amongst the seven factors. According to Mchugh et al. (2011), contribution to society is the most influential factor in choosing medicine. However, “Career Excellence” obtained the lowest frequency with 67% (f=127) of the responses. This result contrasts with the study by Edmonds (2012), mentioning that the more success one has in a specific field, the more likely they pursue that career path. Furthermore, the “Desire” gained the second-highest frequency with 97% (f=184) responses. This is followed by “Quality of Life” with 86% (f=165) of the

respondents; “Dream” with 83% (f=157); “Suits personality” with 82% (f=156); and “Job Interest” with one 78% (f=148) of the respondents, respectively.

Among those that chose postgraduate studies as their career path, both “Desire” and “Contribution to Society” obtained the highest frequency by 100% (f=2) of the respondents selected this factor. According to Bailey et al. (2012), medical students tend to pursue postgraduate studies to provide quality care for patients. Additionally, Dal et al. (2009) mentioned that desire to help others or altruism was a critical influencing factor in choosing an individual’s career. On the contrary, only 50% (f=1) selected the factors: “Career Excellence”; “Suits Personality”; “Quality of life”; and “Job Interest.” The field of academe received a frequency of zero (0) response since none have chosen this as their career path. However, only one (1) respondent chose a non-health-allied job as their career path but obtained a frequency of zero (0) in all personal factors.

Those still undecided about their career path, 94% (f=48) of the respondents’ selected “Contribution to Society”, thereby having the highest frequency under this category. Hurst and Good (2009) stated that doing important work to make the world a better place was one of the influential factors in choosing a career. On the other hand, “Career Excellence” obtained the lowest frequency, with 51% (f=26) of the respondents selecting this factor. According to Pringle et al. (2010), some students may be influenced to choose a path that will be an intellectual challenge for them. Moreover, “Desire” was answered by 90% (f=46) of the respondents. This is followed by “Quality of life” with 75% (f=38); “Job Interest” with 67% (f=34); “Dream” with 61% (f=31); and “Suits Personality” with 57% (f=29) respectively.

Association of Environmental and Personal Factors with Choice of Career Path

Table.9. Association of Environmental Factors with Choice of Career Path

Environmental Factors	Cramer’s V	p-value	Interpretation
Family and Relatives	0.172	0.091	There is an insignificant very weak positive association between the two variables.
Peers	0.071	0.848	There is an insignificant very weak positive associated between the two variables.
Mentor/Counsellor	0.187	0.05	There is an insignificant positive association between the two variables.
Media	0.130	0.336	There is an insignificant very weak positive association between the two variables.
Career Advancement	0.204	0.024*	There is a significant weak positive association between the two variables.
Compensation	0.133	0.312	There is an insignificant very weak positive association between the two variables.
Benefits	0.166	0.115	There is an insignificant very weak positive association between the two variables.

*p-value must be <0.05 to be significant

Table 9 presents the data regarding the association between environmental factors with the choice of the student's career path (refer to Table 6). Each environmental factor has its own corresponding Cramer’s V scores and p-values obtained from the study’s data.

Among the environmental factors, the majority have a very weak positive association with the choice of the career path of the student respondents. These include “Family and Relatives,” “Peers,” “Mentor/Counsellor,” “Media,” “Compensation,” and “Benefits” with Cramer’s V scores of 0.172, 0.071, 0.187, 0.130, 0.133, and 0.166, respectively. Among the factors with a very weak positive association, “Peers” has a Cramer’s V finding ($\phi_c=0.07$) that does not pose a substantive result, with a score lower than 0.10, which acts as the minimum threshold to consider a variable relatively good for this type of statistical measure.

In addition, “Family and Relatives,” “Peers,” “Mentor/Counsellor,” “Media,” “Compensation,” and “Benefits” all have an insignificant association with the choice of the career path of the student, with p-values of 0.091, 0.848, 0.050, 0.336, 0.312, and 0.115, respectively. With “Peers” having the lowest Cramer’s V and highest p-value scores, it can be inferred that the students do not heavily rely on the opinions of their peers when deciding their career paths as they do not wish to give in to peer pressure (Jones & Kofoed, 2020). In this manner, students tend to avoid negative insinuations from their peers that would discourage them from pursuing the career they have in mind. While students are least likely to be swayed by their friends, their age group, or their classmates or batchmates to decide on a certain career for themselves, their peers' support nonetheless contributes to what drives them to pursue their chosen career paths (Amelink & Creamer, 2010).

The remaining environmental factor, “Career Advancement,” reveals a significant moderate positive association with the choice of the career path of the respondents, with the highest score of Cramer’s V ($\phi_c=0.204$) as well as the lowest p-value ($P=0.024$). Given this, it can be inferred that students consider the opportunities they may obtain in their chosen career paths that will help them flourish further in their lives. Their bachelor’s degree offers many professions to select from after graduating, as seen in Table 6. According to Noden et al. (2015), students saw potential in this program regarding job satisfaction and job opportunities to work abroad or in different

clinic sectors, thus taking up B.S. Medical Technology as their undergraduate program.

Table.10. Association of Personal Factors with Choice of Career Path

Personal Factors	Cramer's V	p-value	Interpretation
Dream	0.313	0.000*	There is a significant weak positive association between the two variables
Desire	0.289	0.000*	There is a significant weak positive association between the two variables
Contribution to Society	0.363	0.000*	There is a significant weak positive association between the two variables
Career Excellence	0.153	0.179	There is an insignificant very weak positive association between the two variables
Suits Personality	0.273	0.000*	There is a significant weak positive association between the two variables
Quality of Life	0.208	0.020*	There is a significant weak positive association between the two variables
Job Interest	0.176	0.078	There is an insignificant very weak positive association between the two variables

*p-value must be <0.05 to be significant

Table 10 determines the association between personal factors and the career path chosen by the respondents. Compared to environmental factors, the majority of the personal factors associated with a career path are significant. These include "Dream," "Desire," "Contribution to Society," "Suits Personality," and "Quality of Life" with a p-value of 0.000, 0.000, 0.000, 0.000, and 0.020, respectively. On the other hand, "Career Excellence" and "Job Interest" have an insignificant association with their career path with a p-value of 0.179 and 0.078.

In terms of their association with one another, "Dream," "Desire," "Contribution to Society," "Suits Personality," and "Quality of Life" have a weak positive association with the respondent's chosen career path. The association is determined using Cramer's V. These factors have a value of 0.313, 0.289, 0.363, 0.273, and 0.208, respectively, while "Job Interest" has a very weak positive association with the respondent's chosen career path. Cramer's V value 0.176. In another study (Mkala, 2013) states that personal abilities influence their career choice. However, it is contradictory with the results wherein there is an insignificant, very weak positive association with the career path wherein "Career Excellence" has a Cramer's V value of 0.153. "Contribution to Society" has the highest Cramer's V value mainly due to altruism (Gati and Saka, 2001) and its influence on the student's desire to pursue medicine (Mchugh et al., 2011).

4.2 Discussion

The purpose of this study was to explore the environmental and personal factors that influence third-year Medical Technology students and its effect on their career path aspirations. The

relationship of the identified environmental and personal factors with the student's choice of career path was also examined. To delve deeper into the findings of this study, each significant subfactor is evaluated according to its relative importance to a student's career decision-making and is further assessed with previous studies containing similar findings. The researcher-made questionnaire covered the identified environmental and personal factors that would influence the students to pursue B.S. Medical Technology.

For the obtained results found in Tables 3 to 5, it has been established that personal factors have a higher level of influence compared to environmental factors. The personal subfactors generally have a positive connotation towards taking medical technology as their bachelor's degree. In contrast, environmental subfactors generally have a neutral or negative stance on the matter except for "Academic Qualification" and "Job Opportunity," which received responses of "strongly agree" and "agree," respectively. Tables 6 to 8 enumerate each career path and determine the subfactors that influence them to choose that career path. For environmental factors, a common trend observed between the subfactors is a high response rate for "Career Advancement," "Compensation," "Benefits," and "Family and Relatives" influences. For personal factors, a trend is observed in the responses of the students wherein they choose their career path mainly due to their "Desire," "Contribution to Society," and "Quality of Life."

Overall, the association between environmental factors and their career path is generally insignificant. In contrast, the association between personal factors and their career path is generally significant. Additionally, these factors have a very weak to weak positive association with their career path.

Based on the quantitative nature of this study, there is evidence that shows that students' decision-making process about choosing medical technology and their future career path is influenced by environmental and personal factors. Though such influence comes in various levels, there is a degree to which each factor influences a student's career path. This can be traced back to the assumptions made by Bandura (1988), to which he claimed that internal factors (cognitive biases, psychological determinants, moral and social belief) and external factors (environmental determinants, observational learning, etc.) are crucial in the molding of an individual's behavior and decision-making. Putting this into the perspective

of Lent et al. (1994), a unique synergy between these internal and external factors is developed within an individual, which in turn will help set their mind on their goals and interests and ultimately guide them through career planning. The claims of Bandura's and Lent's social theories were proven to be true to a certain degree by the researchers in career decision-making. Though no absolute conclusions are to be made from the results, the respondents' perspective showed high regard for the personal and environmental factors in their decision to take up medical technology and their aspired career path.

According to the results, two subfactors of environmental factors, "Academic Qualification" and "Job Opportunity," attained the highest mean scores, implying that they have the highest influence among other environmental factors. It has been said by Cheung & Arnold (2014) and Guan et al. (2015) that in the pursuit of career development, the exploration and determination of the necessary and important skills to pursue a particular career plays a huge role in the decision-making process of students. Thus, for an individual to pursue a particular career, preparations such as studying, acquiring experience, and applying skills are an important part of how students perceive the directions in their career.

Moreover, the implication that these results bring upon the study shows evidence as to why students generally choose a course of study closely related to the career path they plan on taking. Theoretically, Bandura (1988) states in his Social Cognitive Theory that individuals take a position in establishing their goal systems according to self-efficiency and aspirations. Through the dynamics formulated in Bandura's theory, an individual sets their ideologies and intentions so that their decision would benefit them and bring upon success in their chosen career paths (Lent et al., 1994). This implies that individuals usually take action in line with their goal system, thus consolidating and integrating all resources and methods to fulfill their goals. Such goals are then accompanied by efficiency, self-satisfaction, and ultimately, career advancement.

Additionally, by looking further at the subfactors, "Academic Qualification" and "Job Opportunity," it can be deduced that the two may be related in one way or another. Though the study did not include the determination of intra-relationship for subfactors in one particular group, an argument can be made that the subfactors mentioned above are linked. According to Salwa et al. (2019), academic qualifications are a determinant

of job performance, directly correlated to a job opportunity. However, such conclusions from their study did not disregard the fact that individuals usually take on training, courses, and studies that are helpful to their aspired professions. This is with regards to the beliefs in self-efficiency that was referred to in both the Social Cognitive Theory and Social Cognitive Career Theory to which Bandura (1988) and Lent et al. (1994) puts out the idea that before any undertaking, individuals usually decide on utilizing the direction that would help them attain their goals with efficiency and satisfaction, along with their cognitive processing. Therefore to a certain degree, individuals conduct their set goals in a deductive manner. They establish general goals and gradually work to formulate specific goals wherein each step is directly linked to each other.

The following environmental factors - "Family and Relatives," "Peers," "Mentor or Counselor," and "Public Image" - showed a low mean score on their level of influence. A notable aspect among the list of environmental factors - "Family and Relatives," "Peers," "Mentor or Counselor," "Public Image," "Academic Qualification," and "Job Opportunity" - is that the nature of the first four mentioned factors is different to that of the last two. The following factors - "Family and Relatives," "Peers," "Mentor or Counselor," "Public Image" - are all extrinsic stimuli but possess a personified feature. Although academic qualifications and job opportunities are still extrinsic stimuli, they possess intrinsic nature concerning the career path. Deducing such arguments, the extrinsic-personified factors exist outside the realm of the career path but still influence the latter, whereas "Academic Qualification" and "Job Opportunity" are extrinsic factors that exist under the umbrella of the variable career path.

Though this does not provide evidence that the extrinsic-personified factors do not influence students' decisions, it provides evidence that there are factors that are much more important than others. This can also be observed in the study conducted by Ock et al. (2020), which indicates that academic qualifications are a huge determinant of the feasibility of the careers, therefore including its advancement. According to Larkin (2020), career feasibility is mainly determined by requirements, knowledge, experience, and employment outlook. Given this, Larkin's study excluded influence outside of the requirements of a career comprising family, peers, public image, etc. These extrinsic-personified environmental subfactors exist outside the cognitive processes of an individual, wherein they only influence the career decision-

making process to a certain degree, but they do not determine the outcome. For instance, the influence of social circles (e.g., family, peers, mentors) are inputted into an individual's psychological-cognitive process and will serve as the peripheral layer of the core process of an individual.

Nonetheless, it is the cognitive process that ultimately determines the decision or the outcome. According to Tucker-Drob et al. (2013), an individual's perspective of the learning process and the environment that they exist in predict their academic performance. Such performance predicts their future dispositions toward future endeavors in learning or working. This implies that the values associated with extrinsic-personified features are only part of such a process and do not determine the entirety of any processes but only influences the process to the degree that it becomes a part of it.

Additionally, the reason why the "Mentors or Counselors" attained the lowest mean score can be attributed to the concept of familiarity and its effect on the individual. Between the subfactors, "Family and Relatives," "Peers," and "Mentors or Counselors," – the proximity of the student in terms of their relationship is lesser to that of their mentors as compared to their family and peers. It may not make sense because the mentor is usually the extrinsic-personified factor that posits the actual knowledge necessary for ones' aspirations on a technical level. It has been established previously in this discussion that academic qualification is a huge determinant of their decisions. Even so, the innate importance of the mentor is different from how the students generally perceive them. Despite having a major role, students may perceive mentors or counselors as a minor influence in decision making. According to Baugh and Sullivan (2005), mentoring can take many forms, such as immediate superiors, peers within one's organization, or individuals they deem close to them. Furthermore, it comes not only in a dyadic form but also in a group or family form. In this sense, it can also be recognized as a general value that family and peers can be considered mentors.

For the personal factors, results showed that 5 out of 6 subfactors of the latter attained high mean scores. These factors were "Interest," "Desire," "Contribution to Society," "Suits Personality", and "Quality of Life." Such subfactors mentioned above played a major role in determining their decisions in taking medical technology and, eventually, their future career path. In an evident fashion, it was evident that altruism and self-determination are factors that play a crucial

role in choosing to be a medical technologist (Gati & Saka, 2001). For one, altruism and the medical profession have always been popular examples of social responsibility relationships, where the professionals care for the sick and contribute to their community and their cause (Harris et al., 2007).

Moreover, self-determination that comes in the form of desire to pursue what they want, for the reason they might be of relevance to their community, is also a determinant of why students chose to take up medical technology and their aspirations in the future. This can be attributed to the development of the students from when they were much younger, to which that dynamic interplay of developmental stages and progression of thought processes determines the desire of an individual concerning the existing environmental circumstances or their aspirations (Howard & Walsh, 2011).

As to the remaining personal factors – "Academic Excellence," "Suits Personality," and "Quality of Life" – which attained the lower mean scores relative to the higher mean scores of the previously discussed personal factors, showed that those subfactors are also important in the decision-making process of students in taking up medical technology and their future career path. For one, the respondents' regard for excellence showed that personal achievements and determination in the academe would affect their future performance and the advancement of their learnings (Sharm, 2012). The subfactors "Suits Personality" and "Quality of Life" also play a role in the decision-making process. Finding a career that suits someone's personality and academic background is necessary to establish a career path that is both healthy and progressive. This implies that if a career path is not in line with one's values, competence, and vision, it will lead to an unhealthy choice for career development (Nyamwange, 2016).

Overall, environmental and personal factors could affect a medical technology student's decision in choosing their future career path based on the level of influence that these factors have, which varies from one student to another. Astonishingly, 70% percent of the respondents wanted to pursue medical school after having accomplished B.S. Medical Technology. However, it is still in the form of a plan and has not yet materialized. But if the assumption is taken into account, then it would be safe to assume that both Bandura's and Lent's assumptions about the goal system when deciding on a career path were indeed correct.

According to De Miranda et al. (2005), Medical Technology has become a massive precursor for aspiring physicians alongside biology and human physiology. It has become one of the better choices for aspiring physicians who are oriented to career advancement. Going back to Bandura's and Lent's assumption about the goal system, the results show that the students have shown regard for their future career path by preparing for the latter. They deduce their goals and choose the appropriate prerequisites based on its relevance and future career paths.

As for the "Field of Academe," it attained the lowest score among all listed future career paths. The respondents were limited to two hundred seventy (270) third-year Medical Technology students. The results did not reflect or imply that the rest of the third-year Medical Technology students do not prefer to pursue a career in the academe. According to Molnár et al. (2008), it was indicative that the aspirations and motivations of most health-allied students, including medical technology students, are mostly inclined with "patient care" and "relationship with patients." This can be connected to the previous discussion in this chapter regarding altruism and desire. Most respondents took high regard for "contribution to community" and their aspirations in their future careers. Students can associate these with "patient care" and "relationship with patients" for health-allied programs such as medical technology." While teaching in the field of academe is still an altruistic path that mainly intends to share a systematic body of knowledge, it does not necessarily provide medical technology students a direct application of the skills, knowledge, and services they acquired from taking the course. With this, a career in medicine, in contrast to academe, has a direct line of healthcare principles that involve "patient care" and "relationship with patients." Knowing with full discretion that it is in the academe where future professionals are molded and shaped with the values, skills, knowledge required for a successful career.

Lastly, the subfactors (a) "Career Advancement" (environmental) and; (b) "Dream," "Desire," "Contribution to Society," "Suits Personality," and "Quality of Life" (personal) – concerning their choice of career paths, showed a significant weak positive association, which only affirms the theoretical perspective of this paper. Though there are intrinsic and extrinsic influences in the decision-making process, the degree to which they are individually associated with the students' decision for their career path is minimal. Instead, it is the

integration of all those factors and their dynamics that makes the difference. This means that one factor alone cannot be the deciding matter. It would be safe to assume that how one factor interacts and integrates with another and how it mirrors the goal system of an individual remains to be the ultimate process of how students tend to choose their career path.

There is no absolute in this argument. It is still within the goal system of an individual and the interaction of environmental and personal factors where the decision-making process lies. However, one can argue that by looking at how the process operates, one could predict what decision a student would make, in this case, their career path. The only problem with this argument is that each individual has unique sets of goal systems and different elements of aspirations. The individualization of goal systems is what makes it unique from one individual to another, thus making the concept of generalization in this context and framework challenging to prove (Bandura, 1988; Lent et al., 1994).

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

5.1 Summary

In this study, the researchers determined how the factors affect the career path aspirations of Medical Technology students. Specifically, the researchers developed a survey and collected the responses of two hundred seventy (270) third-year Medical Technology students on their career path aspirations to determine the pre-established factors that most likely affect their decision-making. From the analyzed data, it was found that of the two main factors, personal factors garnered a higher level of influence than environmental factors when it comes to the decision-making process of career development.

The participants of this study were third-year students who are currently enrolled for A.Y. 2020-2021 in the B.S. Medical Technology program of the University of Santo Tomas. The quantitative survey questionnaire involved a Likert Scale of 1 to 5 to rate how much the identified environmental and personal factors influenced the respondents to pursue B.S. Medical Technology. The questionnaire also included a multiple-answer question to determine the career path they are planning to pursue after graduation. While on the latter part of the questionnaire, binary questions were employed to determine the influence of the identified environmental and personal factors on the student's choice of career path after graduation.

The data gathered were analyzed using a quantitative descriptive method to determine the degree of influence of the predetermined environmental and personal factors and their relationship to the student's chosen future career path.

Results of the study show that personal factors, as compared to environmental factors, have a higher level of influence on students' decision-making process in terms of their choice of Medical Technology as their undergraduate degree. Under environmental factors, the respondents strongly agreed that the possible opportunities in terms of higher "Academic Qualification" influenced them to take up the course, whereas "Job Opportunity" followed suit as the respondents agreed that it has influenced them to pursue B.S. Medical Technology. It was noted, however, that the respondents disagreed on the influence posed by "Peers," "Mentor/Counsellor," and "Media." Moreover, the respondents neither agreed nor disagreed that "Family and Relatives" and "Public Image" played a role in choosing their degree. Thus, aside from "Academic Qualification" and "Job Opportunity," responses on the environmental factors were leaning more towards a neutral or negative stance. As for the personal factors, the students strongly agreed that their "Contribution to Society" and "Desire" highly influenced them to take the course as their undergraduate program. In connection to this, they also agreed that subfactors such as "Interest," "Suits Personality," and "Quality of Life" have a significant impact on their decision making but not as significant as "Desire" and "Contribution to Society." However, respondents neither agreed nor disagreed that "Academic Excellence" played a huge role in their choice in taking up their degree.

In determining the students' career path choices in relation to the predetermined environmental and personal factors, the data gathered revealed that most respondents plan to enroll in medical school to pursue a career in medicine after taking up B.S. Medical Technology. Most of the remaining respondents were either undecided or will pursue a career as a licensed medical technologist. This is except for two respondents who plan to take up postgraduate studies and one respondent that chose to pursue a non-health allied job. Among the predetermined environmental and personal factors, "Career Advancement" and "Contribution to Society" had the most influence in their decisions, respectively. The personal subfactor, "Desire," also had the most influence among the respondents planning to take up postgraduate studies.

In contrast, "Mentor/Counsellor" had the least influence among the environmental factors. The personal subfactor, "Dream," had the least influence on students pursuing a career as a licensed medical technologist. In contrast, "Career Excellence" had the least influence on students planning to pursue medical school and postgraduate studies as well as those that are undecided with their career path.

Responses were analyzed using Cramer's V to determine if there is an association between the student's choice of career path and the factors' degree of influence. Based on the data gathered, there is a significant weak positive association between the respondents' career path choice and the subfactor "Career Advancement" under environmental factors, and "Dream," "Desire," "Contribution to Society," "Suits Personality," and "Quality of Life" under personal factors. All other remaining factors had a recurring theme of insignificant weak to very weak positive associations with the variable of career path choice.

5.2 Conclusion

Based on the results and the discussion of this study, the following are the conclusions extracted by the researchers:

The researchers concluded that among all the environmental factors included in the study, the subfactor "Academic Qualification" and "Job Opportunity" are the primary environmental factors that influence and guide students' decision in taking up Medical Technology. The researchers conclude that the aforementioned environmental subfactors were highly influential to the students' decision-making process because "Academic Qualification" and "Job Opportunity" are innately connected with career development and employment. Moreover, among the listed environmental factors concerning the determination of future career path, only "Career Advancement" has a significant association with the latter, which is directly related to "Academic Qualification" and "Job Opportunity," further affirming the first conclusion regarding environmental factors.

The researchers conclude that the personal factors mentioned in the study – "Interest," "Dream," "Desire," "Contribution to Society," "Academic Excellence," "Suits Personality," "Quality of Life" – are the primary influential subfactors in the decision-making process of students whether concerning taking medical technology or in their career path aspirations. Moreover, the personal factors are highly influential because

the students' motivations in taking up a particular course or career are personal and altruistic. Particularly, in its overall association, personal factors have a significant association with their career path aspirations. This is primarily because most personal factors involved in the study can be attributed to individual goal systems.

Of the total number of respondents, 70% of them want to pursue medical school after graduating from B.S. Medical Technology. In support of the literature and theory of the study, the predetermined environmental and personal factors are mostly aligned with the goal systems of the respondents, which are inclined to altruism and motivations.

Regarding the comparison of the level of influence of environmental and personal factors, the researchers conclude that personal factors have a significantly higher influence than environmental factors on the students' decision to take up Medical Technology and pursue a particular career path. The findings for the association of both factors from choosing a career path, however, are weak. Thus, the researchers concluded that the integration of both personal and environmental factors, as well as an individual's goal system, are the primary components in understanding the decision-making process of the respondents to take up Medical Technology as an undergraduate program and to choose a career path based on their aspirations.

5.3 Recommendations

Given the preceding data, findings, and analysis, the researchers propose the following recommendations:

The data gathered to determine the level of influence of environmental and personal factors towards students' choice in taking up Medical Technology as an undergraduate degree and its influence in their future career path is only limited to third-year Medical Technology students from the University of Santo Tomas. They were enrolled for A.Y. 2020-2021. To further reflect the general student population, the researchers recommend using a broader sample size and scope by including Medical Technology students from other universities and that of other year levels in subsequent studies. The researchers also recommend that the data gathered from this study regarding environmental and personal factors are applied in the context of other academic degree programs. This is to evaluate if the data only reflects the influence of these factors on Medical Technology students or whether it is also relevant to students

taking up different courses. Furthermore, a comparison can be made to determine whether students from other courses are also influenced by the same environmental and personal factors as Medical Technology students.

While this study employed a non-probability convenience sampling technique and a quantitative descriptive approach to gather and analyze data, the proponents of this study recommend using different sampling methods and a qualitative type of approach to conducting similar research. There are multiple sampling techniques available that can be used to sort the population of participants, which can vary from study to study depending on what the most suitable sampling method is for different sample sizes. The use of other means to gather and distribute data can also promote the study on a larger scale as well as attract more respondents to participate. Moreover, by applying a qualitative analytical process to a study similar to this paper, open-ended questions may be included. The obtained data may be sorted according to recurring major and minor themes of factors that affect a student's decision-making process.

The researchers also recommend determining the intra-relationship of subfactors in one particular group (e.g., cause and effect of interest and desire in personal factors). Through this, the student's decision-making may be more understood to help reach an absolute conclusion about how one subfactor affects another, leading to their chosen career path. Exploring this relationship may also lead to the discovery of other influential factors that could help deepen one's level of understanding of how a student's choice is influenced with regards to their future career path and take up Medical Technology as an undergraduate degree.

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