The Motivation of Filipino Registered Medical Technologists Working In the Clinical Laboratory amidst the Emergence of the COVID-19 Pandemic

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Abstract: In the fight against COVID-19, healthcare workers experience the fear of the unpredictable and unknown. Motivation is the person's drive and the amount of energy he exerts toward his actions to achieve his goals**.** Several theories and models have been used to determine one's source of motivation. The main purpose of this phenomenological study is to determine the motivation of Filipino registered medical technologists to work amidst the pandemic. The respondents were 13 Filipino registered medical technologists currently working during the pandemic who have at least 3 years of working experience. The content of each interview was transcribed and subjected to phenomenological reduction which revealed 4 values that contributed most to their motivation. The Value for Experience deals with their desire for achievement, advancement, and growth. The Value for Relationship helps them bear the struggles they face as a unit. The Value for Family gives them support even if they are away from home. Lastly, the Value for Profession as they took an oath to serve and help the community. The findings of the study may have a contribution in the creation of policies and guidelines to maintain or increase the motivation of Filipino healthcare workers.

Key Words— ***Motivation, Medical technology, Filipino healthcare workers, COVID-19 pandemic, Colaizzi's phenomenological method.***

I. INTRODUCTION

An emerging disease was looming from Wuhan, China at the genesis of the year, 2020. It started at the local seafood market and later spread like a wildfire, and people were experiencing pneumonia-like sickness. It was established that though this new disease was similar to SARS and MERS, it is caused by something novel [1]. The disease is now known as COVID-19; its etiological agent—the novel virus now goes by the name, SARS-CoV-2 [2].

The pandemic has unearthed several things usually looked passed at. One of these is the importance of having a proper healthcare system and the importance of the people who make sure that it will keep on functioning. Across the globe, many hospitals have been converted into COVID-19 hospitals or have at least opened new COVID-19 wards [3]. With the uninterrupted and continuous work of healthcare workers in the critical situation of an ongoing pandemic, they have the highest risk of being infected with COVID-19. Therefore, they are considered as one of the most vulnerable groups to develop psychological stress or other mental health symptoms [4]. The physical and psychological health of front-line healthcare workers are at risk while treating infected patients. High levels of stress can represent an important factor that can directly affect the work environment and the work performance, which can have dire effects in emergency situations. Although a certain degree of stress can lead to peak task performance, it becomes a problem when it reaches higher levels and outweighs the perceived resources to cope [5]. Workplace stress, anxiety, and tension lead to lower morale which, in turn, can lower patient satisfaction and consequently, the quality of healthcare that professionals can provide [6]. These mental health problems do not only affect their attention,

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understanding, and decision-making but can also have a lasting effect on their wellbeing [7].

Some countries, such as Taiwan, have been successful at combating the virus through aggressive testing and containment measures [8]. South Korea, while initially inundated with patients from a rapidly spreading cluster, has successfully mitigated spread—at least temporarily—with minimal associated mortality. These examples provide encouragement that a well-executed public health response can minimize the potential for operational crises [9]. Although the effects of the pandemic can be mitigated, the Philippines' public health response is somewhat lacking in this department. Numbers continue to grow in regions because of the evident lack of capability for laboratory testing, limited number of equipment and medical supplies, and lack of personal protective equipment for health workers in both primary care units and hospitals. At this rate, the one most affected is not just the population itself, but health care workers are as much at risk for being the front liners in this pandemic [10].

The essential components of a well-developed health care system are sufficient, highly motivated, and skillful employees [11,12]. For medical professionals to be able to provide the quality care and service to COVID-19 patients and others, they need the motivation to do their work despite the numerous challenges they face. Motivation is defined as the willingness of a person to exert a high level of effort to meet and satisfy a human person's needs, desires, and wants [13]. It is the willingness to exert high efforts towards organizational goals, in which these goals can also satisfy individual needs [14]. The level of motivation affects the performance of employees, and motivation decides their work competency and workplace behavior [15].

There are two types of motivation—intrinsic and extrinsic. Intrinsic motivation is the motivation from within. It is the motivation wherein a person does something because he or she wants to, not necessarily because that person needs to [16]. In contrast, extrinsic motivation is dependent on external factors outside the control of the individual [17]. Employees should have both intrinsic and extrinsic motivation because both can increase the performance level of workers in an organization [18].

There are a lot of factors that can influence and motivate people to choose a career in the field of medicine. With healthcare being a highly labor-intensive industry [19], "personal calling", exhortation, experiences, chance, desire for social status, the high respect for health professionals, and economic factors are important to build a resilient workforce [20]. Apart from financial incentives, non-financial human tools such as staffing, work schedule, promotion, performance, ease of communication, and availability of resources are also considered to be the strongest drive for motivation [21].

The healthcare workforce has specific features that cannot be ignored, and motivation can play a critical role in many of the challenges that healthcare systems face today. In this area, the task of motivation is heightened by the nature of the relationship between those using the system and the healthcare system itself. The diversity of the workforce to be managed is also another factor that affects the system. Health organizations are faced with external pressures that cannot be effectively met without appropriate adjustments to the workforce, and the development of the workforce thus appears to be a crucial part of the health policy development process [22]. There is the compelling need to study the motivation of Filipino registered medical technologists—to be able to have a deeper comprehension of their experiences as they present an edifying account to continue working amidst the emergence of the COVID-19 pandemic.

A. Motivation of Healthcare Professionals

Motivation is the person's drive and the amount of energy he exerts towards his actions to achieve his goals. All motivation starts with the individual's recognition of his desires and his willingness to achieve them by doing something about these desires [23]. Working during the pandemic or when a problem arises which affects the wellbeing and health of an employee becomes a significant concern, as people work and perform their duties in the society to provide for their everyday needs. Such is important for healthcare workers especially during health crises such as the COVID-19 pandemic. Employee motivation is helpful in the assessment of work performance to be able to commit oneself to the tasks required and as a responsibility in the society as well [24].

A study on the review of numerous publications was done by Afolabi *et al*. (2018) which focuses on organizational factors as related to motivation. When it comes to management and leadership, having poor management and lack of teamwork and support are sourced out as strong demotivating factors. On the

other hand, Franco *et al*. (2004) stated that management openness, however, has a positive effect on motivation. All publications reviewed in the study considered salary as a motivating factor, in which developing countries see it as important because of poverty. When it comes to developed countries, they do not see it as a motivation by itself but rather, an incentive. Another motivating factor is the development in the field through training and seminars, as these helped health professionals gain more knowledge to perform optimally. This, in turn, boosts their self-esteem. Being recognized and appreciated in their work motivates healthcare workers in the field they choose. This also includes promotions as they feel they are growing and achieving their goals [25]. It is considered as a factor to meet the needs of self-esteem and self-actualization according to Alderfer, Herzberg, and Maslow's theories [26]. Achievements and responsibilities are also considered as motivating factors because they increase the confidence of healthcare workers.

Healthcare workers are vital for the society during public health crises, natural disasters, and catastrophes. A study by Nichols and Valdez (2013) reported that not every professional is willing to risk working during said crises which could be attributed to various reasons. In the same study, motivational tools were reviewed, and suggestions were made on how to improve the state healthcare workers' motivation to report for duty during health crises when they are most needed. We cannot solely rely on the "sense of duty" or obligations to motivate healthcare workers to continue working despite the risks of these crises. The absenteeism of healthcare workers can pose a challenge in preparing for disasters. On the question of how we can continue to motivate the healthcare sector during these circumstances, answers can be found from the past by learning and focusing on what was needed by the healthcare workers during that time and applying it to wherever it is relevant in the present crisis [27]. According to the Expectancy Theory, motivation is achieved when the task at hand is surmountable with the present resources and rewarding when done.

On the other hand, Asadi *et al*. (2019) mentioned that motivation is not an easily observable phenomenon, as studies have focused on identifying its evident factors and possible outcomes. Some studies have proven the importance of motivation in healthcare workers and job satisfaction. The process of developing motivational solutions to these problems can be made easier by determining said factors through the study of empirical evidence and applying the information on the motivation to care and on the forces working to enhance or suppress caring motivation [28]. Draper *et al*. (2008) did a multi-method study which stated that there are higher than normal risks for some healthcare workers working during a pandemic, and these have caused them concerns about infecting family members' friends which is a factor in the demotivation of healthcare workers. Through proper management of these factors and concerns, it is possible that solutions can be attained to alleviate these demotivational factors [29].

A study by Imai *et al*. (2010) stated that there are certain barriers that can increase the healthcare workers' hesitation to work, that by reducing the factors can reduce the impact of demotivation to work in high-risk situations. Stress factors include the possible lack of knowledge about prevention and protection, the burden of an increased quantity of work, the feeling of being avoided by others, and the burden of childcare without childcare facilities [30]. The study made by Leigh *et al.* (2020) concluded that proper implementation of preventive measures for healthcare workers can motivate them to provide care because of the lower risk of infection. And thus, targeting the specific factors that can demotivate healthcare workers, effective solutions can be made [31]. The study presented by Saleem *et al*. (2015) concluded that the motivation level is affected negatively by perceiving stress. The high level of stress has been shown to decrease the employee's performance and efficiency, whereas a moderate level of stress maintained the performance at maximum. The high stress at work can cause low levels of motivation in the workplace. According to the study, if hospital management wants to enhance the healthcare worker's motivation, provide them with a less stressful environment so that their innovative behavior might remain optimum [32].

B. Challenges Encountered by Medical Technologists

The developing nations have limited capital and technical means to mitigate the pandemic or ensure preparedness. As Chandra and Vanjare (2020) stated, there is a present uncertainty about the ultimate magnitude, duration, and the effects of the crisis. Not only that, but there are also pressing concerns about the level of preparedness within individual healthcare organizations and the public sector. Admittedly, there is an inadequate supply of personal

protective equipment (PPE) and other resources needed to minimize the risk of infection [33].

It was stated in the study of Jafri *et al.* (2020) that in a developing country such as Pakistan, 90% of clinical laboratories are small and with inadequate manpower as well as equipment. Laboratory professionals also experience a low level of compensation which is evident to various laboratories and employees being laid-off because laboratories are now automated. Due to the increase of automated instruments inside the laboratories, it is vital that medical technologists maintain up-to-date working knowledge on these automated machines and information technology which includes the principles of specimen handling when using these machines, as well as the transferring of data electronically. A laboratory information system is now utilized in the healthcare system where they can input all the data needed inside their laboratory and can be used in healthcare research [34]. Only medical technologists have the knowledge on how to operate, receive, and collect data coming from these machines [35].

A medical technologist is responsible for performing clinical laboratory tests which aid physicians to diagnose and monitor patients' condition [35]. Specifically, during the pandemic, according to Lippi and Plebani (2020), medical technologists are the ones responsible for the diagnosis of the COVID-19 infection in patients. It was also stated that the etiological diagnosis of COVID-19 will not be possible if there are no laboratory scientists, also known as medical technologists. A medical technologist can also contribute various things aside from diagnosing a patient. They can also help in the prognosis, knowing the stage of the disease, monitoring the effectiveness of the drug, and with epidemiological surveillance studies [36].

Amidst this pandemic, this sector, as well as other parts of a medical institution, are experiencing many difficulties and challenges that are related to insufficient manpower, transportation availability, inadequate personal protective equipment (PPE), delayed shipments of essential materials and supplies. In addition, they are also experiencing loss of motivation which affects their efficiency and productivity. In the study of Jafri *et al.* (2020), 39 out of 50 professionals working in the Clinical Chemistry section are experiencing struggles financially and 48 state that their social working environment suffers as well. These factors presented can also affect both their physical and mental health [34]. However, according to Lippi and Plebani (2020), despite these challenges presented by the virus, medical technologists are showing suppleness and resilience when performing their duties 24/7 [36].

Not much information can be derived regarding the motivation and experiences of Filipino healthcare workers, specifically registered medical technologists during the COVID-19 pandemic. Hence, the literature reviews presented were utilized to come up with a significant study which will be important in the assessment of healthcare workers here in the Philippines addressing the pandemic.

II. METHODOLOGY

A. Framework

The framework that is of importance in the study of motivation is the Two-factor Theory, also known as the Motivator-Hygiene Theory. It is a method by Frederick Herzberg derived from Abraham Maslow's Hierarchy of Needs.

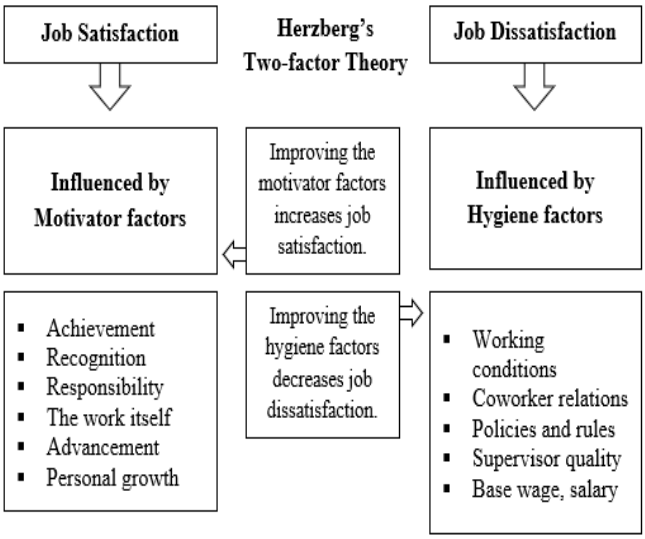

Fig.1. Frederick Herzberg's Two-factor (Motivator-Hygiene) Theory

The theory states that if an employee is satisfied in his or her work, eventually, it will result in motivation [23]. There are two motivating factors according to this theory—motivator and hygiene factors [23,37,38,39].

Motivator factors, also known as job satisfiers, are the main driving force towards job satisfaction but the absence of these does not necessarily affect the level of dissatisfaction of

employees [38]. On the other hand, hygiene factors, also known as job dissatisfiers, are caused by environmental factors [23,37]. Hygiene factors are considered less important to job satisfaction than motivator factors. Hygiene factors can be related to or expressed as '*the need to avoid unpleasantness*' which, to put simply, is to avoid conflict in the workplace. Motivator factors lead to job satisfaction because of "*the need of the individual for self-growth and self-actualization*" [40].

B. Selection

Amidst the global pandemic caused by the novel coronavirus or SARS-CoV-2, motivation of Filipino registered medical technologists was studied using the phenomenological method. Thirteen (13) Filipino registered medical technologists participated in the study from various hospitals and clinical laboratories in the Philippines. In selecting the participants, their gender was not taken into consideration as it would not affect the outcome of the study; however, was only included for profiling purposes. By the time of the interview, they were in the age range of 25 to 60 years old with at least 3 years of working experience as a registered medical technologist. They were working as such during the time of the pandemic.

Participants were given the option to withdraw from the study and interview if they needed to do so, may it be for personal or professional reasons; if they felt that their privacy was not ensured because of the platform used, which was limited to Zoom or Google Meet. The researchers could also terminate the participation of the individual if he or she did not want to undergo the interview with their camera and/or voice, the contacted participant was not able to respond on time within the given time frame of the data collection, or if the participant was not able to give substantial answers and were irrelevant to the study questions. The withdrawal or termination of participation was without penalty and removal of benefits.

C. Data Collection and Data Measure Procedures

The information and the data gathered for the study included a *robotfoto*—which contained the participants' personal and professional information—for the purpose of gathering demographic data and for profiling, and an *aide memoire*, wherein all the participants were interviewed in a one-on-one, semi-structured setting.

All questions were asked in an open-ended manner, and the succeeding or follow-up questions were built on the participants' answers. The central question was focused on identifying the motivation of the medical technologists in their profession amidst the COVID-19 pandemic, specifically, "What motivates you (the registered medical technologist) to continue your practice despite the pandemic?"

Rapport and understanding were established between the researchers and participants and the interviews were done in accordance with their willingness. The availability of the participants was considered and was within the time frame he or she was able to give. Due to the current lockdown restrictions and the concern for safety, as well as for the participants, all the interviews were conducted via video call. The participants were asked for their consent both in print—as they fill up the personal data sheet—and orally before the commencement of the interview if they were willing to answer the questions and be recorded.

D. Data Explication

The content of each interview with the respondents was transcribed into text and subjected to phenomenological reduction using a repertory grid.

To capture the essence and originality of the respondents' answers, Colaizzi's phenomenological method was utilized which consists of seven steps: (1) reading of the field text several times for the researchers to familiarize themselves with the data; (2) identification of significant statements which are in direct relevance to the phenomenon; (3) formulation of meanings from the careful consideration of the identified statements without the researchers' bias (bracketing); (4) clustering of the meanings in themes common across all statements; (5) development of a complete and inclusive description of the phenomenon based on the themes generated; (6) condensation of the description into a brief but comprehensive statement; and (7) verification of the fundamental structure by asking the respondents if it captures the essence of their answers. Modification of the structures was done after their feedback [41].

Moreover, the researchers carefully observed reflexivity during the processing and interpretation of data to avoid bias and moving away from the purpose of the study.

In this manner, readers were assured that the study was made with honesty, rigor, and well-grounded observation.

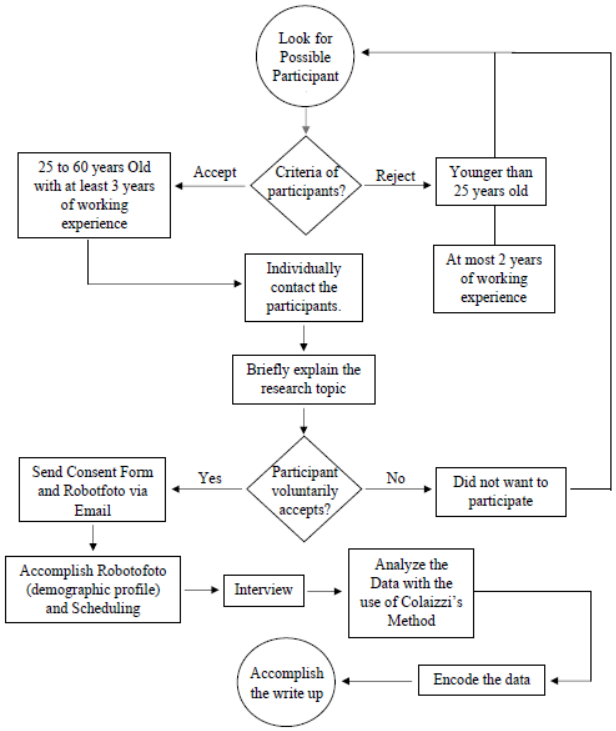

Fig.2. Workflow of Data Collection

E. Ethical Considerations

The participants were informed about the purpose of the study and asked to sign an informed consent form to prove voluntary participation in the study. They were given the choice not to participate and were not forced to take part in the study, providing the researchers time to look for other eligible participants that were willing to participate. The participants were assured that their privacy would be upheld by withholding the publishing of their identity only, disclosing their answers to the individual respondent only. They were briefed on all details and aspects of the study, and any subsequent questions were answered. Any conclusion or result established by the study were reported in an honest and accurate way to the participants. The study was done without influence or affiliation of any kind ensuring there was no conflict of interest.

As they were the only allowable and available resources considering the pandemic, the interviews were carried out through either of the following online platforms: Zoom and Google Meet, which could pose a risk of interference from third parties. The security of the interview and its recordings were limited to the security that the online platform could provide. After the completion of the study, the transcripts and video recordings of the interviews were permanently deleted. Should the participants require proof of the deletion, the researchers sent screenshots of the "trash bin" application to serve as proof that the source of the data has been deleted. The researchers also did not store any transcripts nor recordings in external hard drives nor in any applications.

III. RESULTS AND DISCUSSION

The participants of the study consisted of 13 Filipino registered medical technologists with an age range of 26 to 30 years old. They have been working as medical technologists for 3 to 5 years in hospitals and laboratories located at the northern part of Luzon, specifically, Pampanga, Metro Manila, and Aurora. All the participants of the study have experiences working in the different departments of the laboratory and are still working in such during the COVID-19 pandemic.

To capture the essence of Filipino registered medical technologists' motivation in continuing to work as front liners despite the pandemic, an interesting model known as the Filipino registered medical technologists' Wheel of Motivation was generated. It describes the driving forces that inspire the selected group of Filipino registered medical technologists to go to work and report for duty as front liners. These include the: (a) Value for Experience; (b) Value for Relationship; (c) Value for Family; and (d) Value for Profession. The said model typifies their motivational beliefs and values as they move along and continue to work amidst the fear of acquiring COVID-19. The extent to which these driving forces motivate the participants in this study enables the lives of Filipino registered medical technologists as front liners during the COVID-19 pandemic possible.

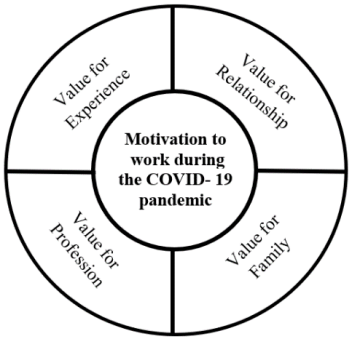

Fig.3. the Wheel of Motivation of Filipino Registered Medical Technologists

A. Value for Experience

The journey of Filipino registered medical technologists working as front liners amidst the COVID-19 pandemic was difficult and challenging. Motivated by the desire to improve one's situation and to experience as well as to keep pace with advances in technology, they were driven by the need to transcend their practices by gaining experiences in the Philippines as laboratory practitioners in preparation for their plans to work in another country, as verbalized:

"My main motivation is to get as much experience as possible so I can move forward in my career… go abroad, and that has been the same all throughout the pandemic—even before the pandemic." (R6)

"I plan to go abroad. I am applying for it, but still in the med tech profession if ever I go abroad… It is for growth because it is a different environment. You would live in a first world country because as I said, the challenge is in the underprivileged. If I work there, I would be able to work with technological advancement." (R12)

The pandemic has also challenged them to adjust to the new guidelines implemented by hospitals or clinics and finding excitement to these new provisions, as well as the experience of finding laboratory results that are rare in conjunction with the COVID-19 pandemic. As verbalized by the respondents:

"You would not realize that it is going to be normal, like it is going to be a part of your routine work to poke someone's nose which is a very rare thing to do. That is where I got excited like—I am not just going to extract blood, but I am also going to poke a patient's nose, as well as the throat, so that is one of my motivations, actually. I was a bit excited with that part." (R2)

"What inspires me are the lab results that are rare finds which are considered as a breakthrough moment for us." (R11)

These have contributed to their motivation of seeing the pandemic as a valuable work experience, either for progress in their line of work or for the continuity of the Philippine healthcare system to address global emergencies like the COVID-19 pandemic, as healthcare professionals gain much more knowledge.

"Yes. Actually, it is good. Because I experienced being a med tech before and during the pandemic, so it is good that I can share with the next generation what I experience." (R8)

Another motivating factor for Filipino registered medical technologists was their personal financial gains despite the ongoing struggle of seeking employment. This hardship that was being experienced by other people has made them more motivated as they saw their financial gains as a sign of growth, to be able to provide for oneself, as well as to pay for their future endeavors, as verbalized:

"Because in the past, my parents were still giving me money. So, now, I can support myself in a way that is motivating to even work harder." (R8)

"To be honest, I am taking up medicine. My motivation is for financial purposes. Mainly financial, as well as it is to serve by any means possible." (R11)

Based on these findings, Filipino registered medical technologists found their work experience during the COVID-19 pandemic in the Philippines a motivating factor for them to continue their profession abroad. With the ongoing struggle of facing the pandemic, they saw this opportunity to broaden and enhance their knowledge regarding their profession, which could ultimately lead to their success. These experiences, according to the respondents, would help them move forward in their career, have an edge on employers, as well as for personal growth. Just like gaining experiences to be able to work abroad they have also experienced other things such as provision of personal protective equipment (PPE), the implementation of new guidelines to address COVID-19-infected patients and the general population, and laboratory procedures to address and tackle the situation to be able to provide quality care to patients. These factors included the excitement of being able to learn and apply patient procedures such as nasopharyngeal and oropharyngeal swabs to collect specimens for COVID-19 [42]. Another was they considered laboratory results as breakthroughs since these were novel findings associated with COVID-19.

These factors under the Value for Experience have helped them to be motivated in their work as they focused on their growth and thus, found satisfaction in their work despite the threat of the pandemic. Experiences were being valued by Filipino registered medical technologists in their practice of their work,

in which other studies have discussed the value of experience as a motivating factor in different ways. According to the study of Bishay (1996), teachers share what motivated them to work as they went on about their experiences of working as one. The level of stress teachers feel as they work could also have been decreased because of their ability to deal with a variety of situations which stems from their experiences [43]. The knowledge gained by individuals due to their past experiences not only allow them to understand the needs of their customers—in the case of medical technologists, their patients—but as well as the evaluation of innovation or their outlook in life [44]. As cited in this study, Tesluk and Jacobs (1998) mentioned that past and current experiences continuously affect the knowledge and skills of individuals. This is especially true to Filipino registered medical technologists as they gained experience in working in the Philippines during the COVID-19 pandemic to progress abroad, to still work as such. Their experiences shaped them to gain more knowledge and skills about medical technology that will place them on an advantage to foreign employers. Not only do these experiences give them an edge over others, but they became a source for improvement as they became exposed to different situations [44]. This was mentioned in the work of Bishay (1996), as well.

B. Value for Relationship

The pandemic has caused Filipino registered medical technologists to have longer hours of work shifts which led them to spend time with their coworkers more than their respective families and loved ones. Having a good working relationship with one's colleagues is important as this became one of their sources of motivation. The good rapport that they developed towards one another led them to treat each other as family, lessen the stress that they were experiencing, to have each other's backs, and be there to comfort one another. As a result, they created a comfort zone and became each other's source of motivation, as verbalized:

"They do not leave you behind. We stick together. We do not just treat each other as coworkers, but as a family." (R1)

"Now, my job is my comfort zone. My job is ok, as well as my relationship with my coworkers. So, we get our motivation towards one another... to continue working, to continue doing our job inside the hospital." (R4)

Aside from having a good relationship with their coworkers, they also valued the short time they spent with their patients. A simple interaction with one's patients can ruin or make a person's day. A patient that was cooperative and who showed willingness to help him or her was important to a Filipino registered medical technologist to make his or her job easier.

"Their willingness and cooperation by letting us know who they are, and also helping by directing us to where the patient we are looking for is—really warms my heart.... Truly, truly, it really is like, together we stand, together we get exhausted, we sweat and all. That is what motivates us." (R10)

Filipino registered medical technologists are also employees of a healthcare institution. During the pandemic, as their work became very stressful due to the increasing number of patients, it was very helpful if their institutions aided them with their mental health and had leaders who were passionate and compassionate. The aid of government agencies such as the Department of Health (DOH) was very much needed since there was a shortage in the PPEs used in hospitals. As there was the increased risk, some received an increase in their salary and received additional benefits (hazard pay) as these became one of their motivating factors, as verbalized:

"Better leadership, appreciation… It is different if your leader can pacify a problem that their subordinates have. So, it is good if the leader is passionate. Our leaders are usually direct. At some point, I was a bit motivated in a way." (R8)

"You will not always feel your best, right? So, once you log that in the tracker, they will give you the attention you need right away. We have a safe haven despite everything. We are really thankful because they thought of a strategy to help." (R10)

Because of the threat of COVID-19, healthcare workers were the most vulnerable at developing psychological stress and other mental health problems because of the highest risk of being exposed and infected with the virus [4]. Workload has also become an issue that affected their job performance. This, in turn, led to more work being done by Filipino registered medical technologists which contributed to the stress they felt, alongside the additional working hours from 8-hour to 12-hour shifts. With these problems that have arisen in the COVID-19 setting, they found that their coworkers have given them happiness and less anxiety associated with the pandemic.

Relating well with coworkers as a source of motivation was also supported by the work of Birgisdótti in 2019. It was stated in the study of Fernet *et al.* (2010) that employees who enjoy their jobs and have good relationships with their coworkers are less likely to feel burnout symptoms [45]. Good coworker relations can also help with an individual's personal growth and development in their line of work [46]. These factors have motivated them to continue working which, according to Kram and Isabella (1985) good working relationships can be done through sharing of information, giving out feedbacks related to the job, career-strategizing—which can also include covering shifts for other coworkers—emotional support, and the friendships that form [47]. It is also worth mentioning the studies of Lin and Lin (2011), Lin and Lin (2006), and Ducharme and Martin (2000), which showed that coworker relations increase job satisfaction [48,49,50].

Reviews of numerous publications were done by Afolabi *et al*. in 2018 which focused on organizational factors as contributors to motivation. Having good management, teamwork, and support helped employees become motivated in their work [19]. Together with their coworkers Filipino registered medical technologists also found appreciation toward their leaders, thus having a sense of motivation to continue working because problems were being addressed. It was cited by Birgisdótti (2019) the study of Anderson and Martin (1995) that superior and subordinate relationships have positive outcomes on job satisfaction [46]. It was further supported by the work of Tsao (1990), cited by Lin and Lin (2011), that good communication and coordination between both parties increase job satisfaction [48].

C. Value for Family

The pandemic has both tested and strengthened the relationships between the Filipino registered medical technologists working amidst the pandemic, and their family and loved ones. Despite the dangers that come along with the profession, they took refuge in their families to give them the emotional and mental support they needed to push through. The care and support they felt from family members had been crucial factors in their motivation to work during the pandemic.

"Yes! Ma'am, of course. They are especially there to support me emotionally." (R1)

"I think it is really motivating when everyday they ask about how your day is. Because at first, when COVID started it was really scary. So, you can feel that they really care about you because they also feel scared for you. What you will do now, is take necessary precautions for their safety as well." (R4)

Words of motivation coming from family members drove them to persevere in their profession. Words are powerful instruments of motivation because of the power to express emotions and convey messages. The understanding and the ability of loved ones to lift their mood and push them to work amidst the pandemic shone through in the following statements.

"For example, there are LSI and there are patients who are suspected COVID patients. Sometimes, I will tell them that information and they tell me to be careful and wear my mask. They say that I should take care and stay safe. It became one of my motivations, especially in the hospital setting." (R5)

They also highlighted the motivation that roots from value for family. They were motivated to do more and work more to give their family a good life. Despite the hazards that come along with the pandemic, they understood that their profession came with these risks and that they had to push through and continue working, despite the risks of acquiring COVID-19 in the workplace, all because of family.

"The only thing that keeps me motivated during this pandemic is the sole reason that I am the only one working for my family. I am the only healthcare worker, so I am the only person who earns and provides for all the things that my family needs." (R9)

Most of the respondents lived far from their families to protect them from being infected by the virus. A study by Chandra *et al.* (2020) mentioned the psychological dilemma between healthcare workers balancing their commitment in helping patients affected by COVID-19 and the desire to protect their family and themselves, as they might carry the infection back to the safety of their homes [33]. Thus, despite being away from their family, Filipino registered medical technologists found it motivating knowing their families were safe from the virus; reducing the risk of acquiring the infection from their loved ones who work alongside COVID-19 patients. Another study conducted by Temsah *et al.* (2020) mentioned that the main concern of healthcare workers is not being infected with

the virus but the possibility of transmitting it to family members [51].

The Value for Family as a source of motivation was also supported by several articles. According to Greenspan *et al.* (2013), among other motivating factors, Tanzanian community health workers find motivation in their families even with the low salary pay. Gaining their moral support has made them work harder because it is not just for the money, but for the contributions they give to the community. Because of familial encouragement it also made them work harder to earn more and gain more training [52]. Fulfilling their responsibilities to their families also resulted in them reaching their full capabilities [53].

D. Value for Profession

The importance of the field of medical technology has further been highlighted ever since the pandemic started. Their very specific role to aid in the diagnosis and treatment of patients is fundamental especially amidst the COVID-19 pandemic. Those who are members and who practice in the field of medical technology know the importance of their role and their value when it comes to helping the community through the pandemic—which is ultimately the cornerstone of the oath they took when they became professionals. This has become a source of motivation for Filipino registered medical technologists amidst the trials and tribulations brought by the pandemic.

"Your motivation should be that I chose to be a med tech so that I could help people." (R10)

"I'm really passionate about my work and I studied medicine as a symbol for growth... to help people even more, and that is my main role of motivation." (R11)

Their continued service amidst the pandemic brought about appreciation. Not only from their patients, but also for the field of medical technology itself. This appreciation stems from the foundational support that the field of medical technology and those who practice it brings to the health allied field. This appreciation from patients, and from the professionals themselves for the field of medical technology has become one of the motivating factors and source of fulfillment for Filipino registered medical technologists amidst the pandemic.

"Those simple gestures from our patients… it really showed how much they appreciated us… It is because the term 'heroes,' right, was used for front liners. So, the patients really showed how thankful they were to us." (R2)

"You feel like your job is vital and if you do it right, many people will be affected. So, as a healthcare worker, I saw my value as a whole. Now, I feel more important compared to the past. Our government paid us no heed, but now they see our importance." (R8)

The recognition of the important role they had during the pandemic has motivated them as they have felt that their direct and active role as healthcare front liners in the diagnosis of diseases such as COVID-19 did not go unnoticed by their patients. With the field of medical technology gaining more recognition for its importance in pandemics, it has motivated the professionals as they saw their hard work be recognized by those they aim to protect.

"The fact that we get to be in the front lines and somehow, people started noticing us in the field. There are med techs and that we exist. So, I guess that is motivating, too. The recognition." (R9)

"What else is your motivation other than just being in love with your work? The impact you make is immeasurable. You may not get rich, but you become a hero for life." (R12)

As a healthcare professional, the role of a medical technologist is to help the people and the community. Such motivation helped them be committed to their task as a medical technologist as well as having a sense of responsibility to the community as a healthcare professional, which was supported by the study conducted by Mangkunegara (2005), as cited by Muin *et al.* (2019) [24]. In line with helping patients and the community as their motivation and goal in their work, a study by Stevenson *et al.* in 2011 on Australian general practitioners also found out that GPs were motivated to work because they knew it was the "right thing" to do. This was supported by their personal reasons or beliefs, and they wanted to do good for their patients [54]. It was also the same case with Filipino registered medical technologists who found it motivating to help as they found their job to be vital in which they help doctors diagnose certain diseases, as well as to help in other fields [36].

According to the study of Armstrong (2012), being appreciated and recognized in one's line of work motivates employees and helps them grow and achieve their goals [26]. As they become more appreciated and recognized in their field of work—as well as considering their oath and role as Filipino registered medical technologists—these factors in turn have made them much more motivated as they found appreciation in their own work. Such appreciation came with finding fulfillment knowing they have a purpose by helping others, and the impact they bring to the lives of their patients as being immeasurable and significant throughout life.

IV. CONCLUSION

The COVID-19 pandemic has drastically affected the entire world to the point where it seems as though it has stopped in its axis. Its effects are not only felt in the physical aspect, but as well as in the mental aspect of the human person. The findings of the study have revealed that the Filipino registered medical technologists' value for experience, relationship, family, and profession are the factors that contribute most to what motivates them.

The Value for Experience deals with their desire for achievement, advancement, and growth; to gain new knowledge and skills, and to be able to open up new opportunities for their career and person to grow and progress towards their desire to work abroad. The Value for Relationship with their coworkers, leaders, patients, as well as the Value for Family have been a source of motivation in a way that their support for one another and cooperation throughout the hardships made it easier for them to bear the struggles they faced. Lastly, the fact that they are medical technologists and took an oath to serve and help also motivates them as this is where they find their purpose and Value for their Profession.

While the study focused on the motivational factors of Filipino registered medical technologists, it recommends the addition of baseline data about the motivation of Filipino registered medical technologists, and this study has provided that foundation for further research and on plans on how to improve motivation and support for these healthcare professionals. Additional studies on other groups of medical technologists, which may be more specific, such as in a certain province or region can give a more precise view on the motivational factors in a local area. This hopes to inspire further studies and formulation of theories about the motivation of Filipino registered medical technologists who are working in the clinical laboratory. It is also recommended that studies about the motivational factors of other medical professionals be done to give a more complete view on what drives the Philippine healthcare system to work during a crisis like the COVID-19 pandemic.

The selected Filipino registered medical technologists have found these motivating values to be deep, personal, exclusive, and meaningful in attaining their motivation as the COVID-19 pandemic threatens healthcare workers; their physical, mental, and overall wellbeing. The end of the pandemic may be far from over as more cases, lockdowns, and quarantine become implemented, but Filipino registered medical technologists share profound reasons why they have been continuously motivated. Despite front liners having the highest risk of acquiring the SARS-CoV-2 virus, they are prepared and equipped to come to the aid of the community and contribute more to the field of medical technology. The light at the end of the tunnel may seem out of sight as with each new case every single day. Despite that, Filipino registered medical technologists know that the light at the end exists and that with each step towards it, they grow in their knowledge about themselves and realize their abilities to tackle the challenges they face. With this, their relationships within their circle and the community, as well as the field of medical technology itself continue to grow. This is what motivates them to continue to get up and rise each day.

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