

Factors that Influence the High Staff Turnover of the Millennial Generation of Medical Technologists in a Private Pathology Laboratory Setting

By

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DECLARATION

I, Michelle Pillay, declare that:

1. The research reported in this dissertation, except where otherwise indicated, is my original research.
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I, Michelle Pillay, declare that this dissertation is representative of my own work in both conception and execution (except where acknowledgements indicate to the contrary)

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Approved for Final Submission

-----	18 January 2024
-Supervisor: Dr J. N. Mbatha	----- Date

-----	18 January 2024
-Co-Supervisor: Dr P. Orton	----- Date

DEDICATION

This dissertation is dedicated to my husband, Christopher Pillay, and my son, Christian Joel Pillay.

To my devoted husband, thank you for your love, kindness, patience, and the joy and happiness you bring to my life. I appreciate all that you do for me and am so blessed to have you. I love you so much! I could have not accomplished this without you.

To my precious son, your love for me has been my source of motivation and inspiration to succeed. Thank you for being at my side through the late study nights with heartening cups of tea and endless reassurances. Children are a gift from the Lord, they are a reward from Him (Psalm 127: 3). You are indeed my greatest blessing! I love you beyond measure!

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I am most grateful to my Lord, Christ Jesus. I can do all things through Him who strengthens me (Philippians 4: 13). I give thanks to the Lord because he is good, because his faithful love endures forever (1 Chronicles 16: 34).

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To Lancet Laboratories, thank you for the provision of data, and for supporting this qualification.

To my wonderful parents, Dochand and Pingla Bedessy, thank you for instilling the value of education and implanting my passion for knowledge, for empowering me, and for believing in me.

To my sister, Rochelle Bedessy, thank you for constantly encouraging me throughout this journey.

To my family and friends, thank you for praying over me and for cheering me on.

ABSTRACT

Introduction

This study was motivated by the fact that Lancet Laboratories has recorded a high staff turnover of millennial medical technologists in recent years. It is crucial to retain suitably trained and competent medical technologists to provide quality patient care, and lower recruitment and training of new employees. It has been estimated that by the year 2025, millennials will comprise 75% of the workforce hence emphasis should be placed on millennial retention for organisations to remain profitable and reduce further operating expenses (Hamilton 2020).

Aim

The aim of this study was to investigate factors of job satisfaction which have an influence on high employee turnover of millennial medical technologists, with the objective of recommending a solution in the form of retention strategies.

The objectives of the study were:

1. To investigate the factors of the high staff turnover rate of millennial medical technologists.
2. To determine the job satisfaction needs and expectations of medical technologists belonging to the millennial generation.
3. To formulate and recommend retention strategies based on the study finding which will be made available to Lancet Laboratories Human Resources Department to implement and review.

Methodology

An exploratory descriptive qualitative approach was used for this study because of the desire to understand millennial employee experience which have led to turnover or retention and to explore the high turnover of millennials from the millennials' perspective. Semi-structured interviews were conducted by the researcher to gather information from the participants. This study's population was limited to HPCSA registered medical technologists between the ages of 19-39 years (millennial

generation), currently or previously employed at Lancet Laboratories in KwaZulu-Natal. Content was analysed using Nvivo 11 qualitative analysis software.

Findings

The overall findings of this study supported the motivation and hygiene constructs of Herzberg's (1964) two factor theory. The motivation factors derived from this study included career advancement, significant work contribution, opportunities for growth, positions of responsibility, job recognition, and positive achievements in the workplace. The hygiene factors derived from this study included poor interpersonal relationships, low salary, inappropriate company policies, inept supervision, and undesirable working conditions.

Conclusion

This research study revealed the factors influencing millennial medical technologist turnover and job satisfaction, and recommended possible retention strategies. Additionally, the findings may benefit organisations and managers in understanding the needs and expectations of the millennial generation in an effort to improve job satisfaction, reduce turnover, and increase retention in the workplace.

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LIST OF ACRONYMS

HPCSA - Health Professions Council of South Africa

NPG - National Pathology Group

KEY DEFINITIONS

Medical Technologist – Medical technologists analyse human tissue, as well as body fluids or excretions; laboratory findings are then utilised by the medical practitioner to make a clinical diagnosis or institute medical treatment (Ellapen, Ellapen and Paul 2021).

Baby boomers – People born between 1943 and 1960 (Howe and Strauss 2000).

Generation X – People born between 1961 and 1981 (Howe and Strauss 2000).

Millennials – Also known as generation Y, are people born between 1982 and 2002 (Howe and Strauss 2000).

Generation Z – People born between 2005 and 2020 (Howe and Strauss 2000).

Job satisfaction – Locke (1969) defined job satisfaction as the positive or negative appraisal of job experiences in relation to an emotional state. Smith (1969) stated that job satisfaction is the extent to which an employee expresses positive orientation towards his or her job.

Employee turnover – The number of employees who have left the organisation (Phillips and Connell 2003).

Employee retention – The fraction or number of employees remaining in the organisation (Phillips and Connell 2003).

CHAPTER 1: INTRODUCTION

This chapter introduces the reader to the medical technologists of the millennial generation, discusses the background and identifies the problem of high staff turnover impacting private pathology laboratory organisations. Furthermore, this chapter will provide the objectives of the study, the reasons why the topic should be examined further, as well as the relevance of the study.

1.1 BACKGROUND TO THE STUDY

The individuals of the millennial generation have entered the workforce with requirements and beliefs that are altering the method in which organisations carry out business (Hobart and Sendek 2009; Sujansky and Ferri-Reed 2009). This generation, the millennials (or Generation Y) are the ones born between 1982 to 2002. They follow Generation X, born between 1961 to 1981, who in turn follow the post-world war baby boomers (born 1943 to 1960). Generation Z, born between 2005 to 2020, is the generation after the millennials (Howe and Strauss 2000).

Raina and Chauhan (2016) affirm that the millennial generation seem to be very content with changing their jobs and careers more frequently and are different with respect to job retention in comparison to previous generations. Raina and Chauhan (2016) also suggest that repeated changes in employment lead to greater career accomplishment for millennials and the fulfilment of their personal and financial goals. Millennials, on average, resign from their jobs within the first three years of employment (US Bureau of Labor Statistics 2012) which impacts organisations negatively (Phillips and Connell 2003) and influences certain public perceptions of them. These perceptions convey the view that millennials have a poor work ethic, lack loyalty, are extremely confident in their skills (Howe and Strauss 2000), and possess high expectations such as flexibility and rapid career growth (Sujansky and Ferri-Reed 2009).

Employee turnover has harmful effects on various areas of an organisation's operating structure, including employees, managers, and customers. This has costly implications for the employer who is challenged to retain such employees. Turnover negatively effects productivity, profitability and operating costs as seen in financial measures such as revenue, expense, and operating margin (Vitale 2018). It is therefore important for organisations to understand millennial retention and reduce millennial job turnover.

Certain organisations such as Google have created work environments suitable to millennials by altering their organisational procedures to the requirements and desires of this generation of employees, therefore retaining them for longer periods (Bannon, Ford and Meltzer 2011). While certain companies are successful in alluring and retaining millennials (Bannon, Ford and Meltzer 2011), most businesses are losing billions of dollars due to the increased turnover of millennial employees (Sujansky and Ferri-Reed 2009).

Organisations have experienced greater employee turnover ever since the first set of millennials arrived in the workplace (Sujansky and Ferri-Reed 2009), indicating that millennials are not as loyal as the generations before them (Bannon, Ford and Meltzer 2011). Millennials are loyal to organisations that are loyal to them therefore companies can lower millennial turnover by making them feel respected, cared for, and appreciated (Hershatte and Epstein 2010). Organisations are challenged on how to evolve the millennial generation into long-tenured employees (Hobart and Sendek 2009; Sujansky and Ferri-Reed 2009), seeing that they will monopolise the labour force for the next 2 decades or further (Hobart and Sendek 2009). The pool of talented workers is limited (Michaels, Handfield-Jones and Axelrod 2001), therefore organisations can increase their competitive edge by developing as employers of choice (Herman and Gioia 2000) to attract and retain talented employees.

Since employees cannot be replicated in the same manner as ideas and products, the focus on employees has become a priority of the competitive society (Sexton *et al.* 2015). Consequently, investing in employees will lead to high short-term performance but can also be a long-term investment if organisations are successful in retaining the employees (Sexton *et al.* 2005). Previously, emphasis was placed on the attraction of

new employees but this is no longer the most significant facet. Retaining employees within the organisation for an extended period is equally as important for the success of a business (Sexton *et al.* 2005). However, Mandhanya (2015) advises that employee retention has become more problematic than before because the culture has evolved such that it is now easier for people to change jobs more often.

The employees of an organisation are the ones delivering value and satisfaction to the customers so they are the most important asset without doubt, and should therefore always be treated well (Hartline and Bejou 2004). The importance of employees is emphasised further by Hvide and Kristiansen (2012) and Sexton *et al.* (2005), who state that the knowledge which employees possess and the investment put into the employees will not be lost or transferred to a competitor if the organisation succeeds in retaining their employees. Additionally, Tymon, Strumpf and Smith (2011) explained that retention of employees results in decreased costs since there is less need for recruitment of new employees.

The number of employees that are leaving an organisation is referred to as employee turnover, and there are mainly two categories: voluntary turnover and involuntary turnover (Jaramillo, Mulki, and Boles 2013). Voluntary turnover refers to the employees that leave the employ of the organisation of their own will due to better job offerings and opportunities (Wallace and Gaylor 2012). Involuntary turnover refers to the employees who are dismissed by the organisation, due to, for example, poor performance or unproductive work behaviour which is unfavourable to the organisation (Cohen, Panter and Turan 2013).

One of the leading reasons for voluntary employee turnover could be due to employees' lack of satisfaction regarding the organisation – an employee's salary is not as significant as previously thought when it comes to reducing employee turnover (Allen, 2008). Employee job satisfaction, as per Kumar and Pansari (2015), is the reaction employees have toward their job situations, their supervisors, and their co-workers. Employee satisfaction has positive influences on both product and service delivery, and satisfied employees tend to consider themselves as a member of the organisation, and they connect with the organisational values and goals (Kumar and Pansari 2015).

Since voluntary turnover of millennial medical technologists is expensive (Hobart and Sendek 2009) and expected to climb, the increase in millennial voluntary turnover is a phenomenon that must be studied. The researcher therefore decided to limit the research to voluntary turnover and exclude involuntary turnover, in order to match the purpose of the study.

One of the key problems with voluntary employee turnover is that it mostly comprises high performing employees of an organisation, because they have a larger capacity for acting on dissatisfaction since they are more marketable externally (Trevor 2001). This then leads to the organisation having a less qualified workforce, which can hamper the organisation from remaining competitive (Hausknecht, Rodda and Howard 2009). The investment into an employee will not only be lost if they leave, but may also be transferred into an opponent's organisation (Sexton *et al.* 2005).

Given the ambitious nature and capacity of top performers, private pathology laboratories need to remain competitive in their human resource strategy to remain relevant. While it is easier to overlook the growing needs and requirements of this millennial generation, leading companies understand that if they do not customise their remuneration packages, someone else will do so and attract their employees as a result. As stated by Tymon, Strumpf and Smith (2011), the importance of employee retention is strengthened further because recruitment and replacement costs are minimised and the provision of expertise and good knowledge is sustained throughout the organisation. Organisations which have a high level of stability perform significantly better than those with a low level of stability (Pitts, Marvel, and Fernandez 2011). Furthermore, organisations with low stability and high turnover are at a high risk of losing organisational memory about knowledge and the set of experiences pertaining to the manner in which the organisation operates (Mustapha *et al.* 2011).

This study was motivated by the high employee turnover rate of millennial medical technologists at many of the Lancet Laboratories' sites in KwaZulu-Natal in recent years. This was informed by the researcher's observation that there were many more requests for training of new staff and an increased number of vacancies advertised in recent years. The private pathology laboratory practice has approximately 41 laboratories within the KwaZulu-Natal region, all of which provide a 24-hour service to

hospitals and other healthcare facilities. These laboratories offer diagnostic support essential for a wide range of diseases and testing purposes. The total number of medical technologist resignations at Lancet Laboratories in the KwaZulu-Natal region for the period January 2016 to December 2020 was recorded as 154 medical technologists. The average duration of employment was less than three years in 102 (66%) of the resignations, as illustrated in the Table 1.1.

Table 1.1: Number of medical technologist resignations at Lancet Laboratories KwaZulu-Natal for the period 1 Jan 2016 to 31 Dec 2020

Period	Number of Medical Technologist resignations	Number of resignations less than 12 months of service	Number of resignations 12-23 months of service	Number of resignations 24-35 months of service	Number of resignations 36-47 months of service
1 Jan to 31 Dec 2020	57	9	12	14	3
1 Jan to 31 Dec 2019	40	12	10	11	1
1 Jan to 31 Dec 2018	17	2	8	2	1
1 Jan to 31 Dec 2017	20	4	5	2	1
1 Jan to 31 Dec 2016	20	5	6	0	2

In South Africa, the diagnostic pathology services are provided by both public and private pathological laboratories including several medical technologist run laboratories (Ellapen, Ellapen and Paul 2021).. The public laboratories fall under the National Health Laboratory Service (NHLS) (Ellapen, Ellapen and Paul 2021). The National Pathology Group (NPG) is a specialist subgroup of the South African Medical Association (SAMA) that represents pathologists (Ellapen, Ellapen and Paul 2021). The three main private pathology practices within the NPG are Pathcare, Lancet Laboratories, and Ampath followed by smaller practices (Ellapen, Ellapen and Paul 2021).

Diagnostic laboratories play an integral role in the healthcare system (Ellapen, Ellapen and Paul 2021). The researcher observed that these laboratories require a variety of employee designations with different levels of education and qualifications to provide an efficient service. Employees belong either to technical departments or support

departments based on their expertise and qualifications. Technical departments include the laboratories which deliver the core function of the organisation by providing diagnostic testing services for physicians to help identify the cause of disease and changes produced in the body by disease conditions. The staff of the technical departments include the pathologists, medical technologists, medical laboratory scientists, medical technicians, laboratory assistants, nurses, and phlebotomists each with a specific qualification, technical skill set and scope of practice. Support departments provide an administrative function and include human resources, training, information technology, finance, quality assurance, data capturing, procurement, transport, maintenance, marketing, client services, and safety, health, environment, and quality (SHEQ) departments.

The Health Professions Council of South Africa (HPCSA) and the Health Professions Act (Act no. 56 of 1974) refer to medical technologists as workers that analyse human tissue, as well as body fluids or excretions; these laboratory findings are then utilised by the medical practitioner or dentist to make a clinical diagnosis or institute medical or dental treatment. Medical technologists play a vital role in the laboratory (HPCSA 2019). Their responsibilities include performing laboratory tests using established lab protocols through the examination of different biological samples like urine, stool, blood, tissue, and spinal fluid, determining specimen integrity, maintaining laboratory equipment and stock, applying quality control procedures, verifying all test results, and ensuring that the results are correctly matched with the specimen, and correctly entering and reporting the results of their findings (HPCSA 2019).

Medical technologists must meet the following qualification requirements: National diploma: Biomedical Technology and current HPCSA certification as a medical technologist (HPCSA 2019). Demands of the job include excellent attention to detail, exceptional problem-solving and critical-thinking skills, research and analysis skills, ability to multitask, ability to follow health and safety guidelines, excellent verbal and written communication, and ability to closely read instructions. It is mandatory for a student medical technologist to gain clinical laboratory experience through an internship and thereafter pass the national HPCSA board examination in order to practice and register with the HPCSA as a qualified medical technologist (HPCSA 2019).

As per Mullah (2018), medical technologists report to a senior medical technologist or laboratory manager. The researcher observed that medical technologists may be employed to work in a wide variety of different laboratory settings. Some of them may work in laboratories conducting basic or routine tests on patients, others may work in a hospital-based laboratory, which is a more fast-paced environment where the medical technologist must quickly run tests on patients who are experiencing extreme health issues and need a diagnosis and treatment plan urgently. Most diagnostic laboratories provide a 24-hour service, consequently various shifts are worked to fulfil the service offered.

Medical technologists' expertise includes performing laboratory tests in order to assist in the detection, diagnosis, and treatment of disease (HPCSA 2019). Great emphasis is placed on the training and competency of medical technologists due to the complexity of the processes conducted and the direct impact on patients' lives. The World Health Organisation (WHO) emphasised that the advancement of interventions against HIV/AIDS, tuberculosis (TB) and malaria, has increased the demand for diagnostic and laboratory services compared to previous years (Cheesbrough 2005: 1). It is therefore crucial to retain suitably trained and competent medical technologists in order to provide quality patient care and reduce recruiting and training of new employees.

High employee turnover makes introducing new diagnostics and techniques, research protocols, quality improvement systems and policies difficult to implement, as new staff lack the necessary expertise and competency (Marinucci *et al.* 2013). The various challenges faced in a private pathology laboratory that cause high staff turnover of the millennial generation should be explored in an attempt to retain valued employees. By endorsing strategies that aptly target these causes, a successful retention programme can be guaranteed (Fried and Fottler 2011).

When an employee resigns from an organisation there are direct and indirect costs such as recruitment, selection, and placement costs, on the job training costs, and productivity costs (McConnell 1999). Employee turnover uses resources that could have contributed to achieving the organisation's goals (McConnell 1999). The high turnover of medical technologists is a financial burden to the organisation because

more time and resources are required to advertise, interview, hire, and train new staff (McConnell 1999). As observed by the researcher, employees who are new to an organisation do not possess the prerequisite training and the fundamental knowledge on which to build. It is therefore challenging to continue with the existing workload, and to introduce and implement new diagnostic procedures, protocols, techniques, testing, and quality management systems when there is a high turnover of medical technologists in a laboratory. Technical skills, quality management systems and human resource management determine the quality of pathology laboratory operations. The technical training and competency of medical technologists is integral in ensuring strict adherence to the numerous procedures of the total testing process as defined by the quality management system. High turnover rates also lead to periods of understaffing in the laboratory, creating increased workloads for the remaining staff.

In order to meet the staffing needs and demands of experienced and competent medical technologists, this study explored the high voluntary employee turnover, described job satisfaction needs and recommended retention strategies of the millennial medical technologists. Furthermore, the study looked for methods for employers to encourage these employees to remain within their organisations for longer. By using an exploratory descriptive qualitative approach to understand the voluntary turnover of these employees, individual perceptions, sentiments, lived experiences, and intuitions of millennial medical technologists specifically were researched. The intention was to reveal tendencies that have not been extensively explored and intends to fill the void in the literature, which has not observed the experience of such personnel.

This study further describes the job satisfaction needs, and recommendations of retention strategies by applying Herzberg's two factor theory to the motivation and hygiene factors identified by the millennial medical technologist participants of this study and as understood by the researcher. It explores the underlying reasons for why employees leave and why they remain at an organisation, factors which contribute to low and high job satisfaction, and factors which attract and retain such employees. The methods supporting the study included participant recruitment through purposeful sampling, data collection by means of semi-structured qualitative interviews, thematic

data analysis, and determination of the trustworthiness of the data, interpretation, and methods to ensure the quality of the study.

Assessing the factors responsible for job satisfaction and retention is key for tailoring specific interventions aiming at reducing turnover in private pathology practice (Marinucci *et al.* 2013). This study also provides recommendations to transform the image of organisations from an uninspiring workplace to an organisation of preference for this category of employee (Sujansky and Ferri-Reed 2009).

The ultimate goal of retaining medical technologists is to improve their competency through continuous improvement in their routine work. Highly motivated staff adhere more stringently to standard operating procedures defined by the laboratory quality management system with the final outcome of improving the quality of medical laboratory services. Strict adherence to diagnostic protocols supports clinical management of patients and reduces waste of resources. Medical technologists who comply with standard operating procedures make fewer errors with lower volumes of invalid and repeated tests also improving productivity and profitability (Marinucci *et al.* 2013).

1.2 PROBLEM STATEMENT

The private pathology laboratory industry is currently experiencing the problem of a high employee turnover of medical technologists who are members of the millennial generation. The principal challenge is that millennials have a proclivity to leave their positions soon after being employed (Sujansky and Ferri-Reed 2009). The workforce by 2025 is expected to consist of 75% millennials (Johnson 2015). Over time organisations are likely to be increasingly affected by greater costs (Vitale 2018), lower profitability (Park and Shaw 2013; Vitale 2018), reduced employee self-esteem (Ton 2014; Wang and Ma 2013), greater supervisory involvement (Johansen and Hawes 2016), and decreased customer satisfaction (Park and Shaw 2013; Ton 2014; Wang and Ma 2013) if the retention of the millennial generation is not adequately supported. Overworked medical technologists are more likely to deviate from protocols governing good laboratory practice and the quality management system resulting in an increased

number of errors and mishaps. Therefore, the direct consequence of high turnover is below optimal service provided to patients and increased financial costs to the organisation. Knowledge of the factors and reasons associated with millennial medical technologist turnover in private practice in KwaZulu-Natal is lacking. This study intends to contribute to the solution of the problem through the recommendation of appropriate employee retention strategies. The findings can be used for developing more structured strategies for human resources management, particularly those related to targeting millennial medical technologists in private practice.

1.3 STATEMENT OF PURPOSE

The purpose of this study is to explore and describe the factors which influence employee turnover of millennial medical technologists, through the identification of job satisfaction requirements and with the intention of recommending retention strategies. This study will benefit the profession of medical technology by assisting human resource managers as they develop policies that reduce employee turnover, which will improve pathology service delivery, improve the quality of patient care, lower cost and increase the profit margin of the organisation.

1.4 OBJECTIVES OF THE STUDY

The objectives of the study are:

1. To explore the high staff turnover rate of millennial medical technologists in private pathology laboratory practice in KwaZulu-Natal.
2. To describe the job satisfaction needs and expectations of medical technologists belonging to the millennial generation in private pathology laboratory practice in KwaZulu-Natal.
3. To recommend retention strategies based on the study finding which will be made available to Lancet Laboratories Human Resources Department to review and implement.

1.5 RESEARCH QUESTIONS

1. Why is there a high employee turnover of millennial medical technologists?
2. What are the factors that influence the high employee turnover?
3. How can the high employee turnover be prevented?

1.6 SIGNIFICANCE OF THE STUDY

The study aimed to explore and describe job satisfaction, which influences high employee turnover of millennial medical technologists, with the objective of recommending possible solutions in the form of retention strategies. The study is significant and appropriate because exploring turnover of millennials will contribute to the field of empirical research in the workplace, an extremely popular topic in literature and the press (Myers and Sadaghiani 2010). Furthermore, employers will understand why millennials leave their employment and what employers can implement to improve retention consequently decreasing the expenses of appointing and training new personnel because of turnover. Such cognition will influence transformation within the organisation as an alternative to being afflicted by change (Hobart and Sendek 2009).

1.7 CONCLUSION

Chapter 1 revealed that the increased rate of staff turnover among millennial medical technologists is a problem in private pathology laboratories, however little is known about the reasons for this and the factors associated with this phenomenon. High turnover is harmful to both the pathology laboratory organisation as a business entity, and to the health care system due to the vital diagnostic service provided by this profession. The job of a medical technologist is also extremely challenging, and requires a great degree of competence and skill. Furthermore, the work ethic, career choices and job satisfaction needs of millennials seem to be very different from that of prior generations. It is therefore important for organisations to understand and explore the perceptions of millennials to transform the work environment such that it will lead to improved retention and reduced voluntary employee turnover. Chapter 2 will provide an understanding and further exploration of the above by means of an in-depth

literature review of turnover, job satisfaction, and employee retention of millennial medical technologists.

CHAPTER 2: LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter, the researcher reviews the existing literature related to the field of this research study. This literature review examines the characteristics of the millennial traits, millennial turnover, and its impact on organisations, as well as the job satisfaction needs of millennials, and employee retention. The Herzberg motivation-hygiene theory is presented and discussed in this chapter.

Millennials in South Africa have sometimes been referred to as 'Afrilennials' (South African Pharmaceutical and Cosmetic Review 2019); they now account for more than a third of the country's population (Scherrer 2019). The elevated turnover of millennial employees is a concerning matter for employers, particularly their tendency to leave within a short period of being employed (Sujansky and Ferri-Reed 2009). Millennials are individuals born between approximately 1982 and 2002 (Howe and Strauss 2000) and, typically quit their posts in a company within three years (US Bureau of Labor Statistics 2012). In the United States, millennials devoted less than three years in a job before moving on to the next (McCarney 2014) and in South Africa, less than two years (Patel 2017).

The brief work phase of millennials is harmful to organisations (Phillips and Connell 2003), affecting direct and indirect costs associated with turnover as well as many hidden costs such as separation, learning, and acquisition costs, and the impact on operations (Mobley *et al.* 1979). There are established cost implications associated with turnover (Park and Shaw 2013; Vitale 2018), along with an impact on the performance of a department (Vitale 2018). Turnover uses up resources which could rather support the organisation's mission (McConnell 1999). Employee morale is affected (Wang and Ma 2013) as those left have to take on more tasks which lead to procedural shortcuts, mistakes, poor performance, increased problems, and customer complaints (Ton 2014).

2.2 MILLENNIAL TRAITS

Currently, most organisations have four different generations within their employ. These generations include the baby boomers, Generation X, Generation Y (millennials), and Generation Z. The millennial generation is expanding quickly and will dominate the workplace momentarily. Millennials carry imagination (Kadakia 2017), modernisation (Collins 2018), charm (Smith 2018), and opposition (Aruna and Anitha 2015) into the present-day workplace. Amongst these, their most prominent characteristic is their technical savviness (Aruna and Anitha 2015; Merisalo 2018).

2.2.1 Social media and communication

The millennial generation depends greatly on online platforms and text messaging for communication with their relatives and friends (Smith 2018). This dependence on social media platforms seems to indicate that millennials are poor at one-on-one interaction and the competence to connect efficiently. Yet, the millennial generation is assertive and composed in understanding and communicating in a social manner. Smith (2018) pointed out that millennials are poised, expressive, and emit a strong knowledgeable aura that cannot go unnoticed. Moreover, millennials demonstrate deep communication through thought-provoking questions and a need for honest answers (Aruna and Anitha 2015). Furthermore, a study between digital interactions and in-person communications by Delbosc and Mokhtarian (2018) revealed that more frequent virtual interactions related to a rise and not a fall in the rate of one-on-one communications, for the millennial participants.

2.2.2 Education

Schooling (Kadakia 2017; Milligan 2018) and the acquisition of new knowledge (Aruna and Anitha 2015; Smith 2018) are vital to millennials. Visual learning is distinctive for millennials (Pinzaru *et al.* 2016) with an affinity for internet-based training (Aruna and Anitha 2015). When compared with all cohorts in the workplace, the millennials are deemed the most learned age group (Kadakia 2017; Smith 2018). This data was

endorsed in a 2010 Pew report which estimated that the individuals of the millennial generation would be the most schooled American generation (DeVaney 2015).

Millennials have been provided with prospects and means that were not offered to the age group before them – their parents often worked unsociable shifts and family members assisted with childcare (Howe and Strauss 2000). Parents revolved their lives around their children's busy schedules, making millennials the focus of the family (McClellan 2008). Schools changed their education system to provide child minding programmes to assist single parents with their employment rosters (Howe and Strauss 2000). Schools concentrated on success and disposition, and millennials thought it fashionable to be smart leading to a large sum of millennials taking Advance Placement classes/tests and attending university (Howe and Strauss 2000). Thus, millennials are deemed to have a greater desire, and greater opportunity, to achieve higher education than previous generations (Coomes and DeBard 2004).

2.2.3 Diversity

Millennials are the generation recognised as not only the most educated but also the most diverse (Becton, Walker and Jones-Farmer 2014; DeVaney 2015; Johnson 2015; Kadakia 2017; Milligan 2018). Millennials exhibit primary qualities of an acceptance of all race groups (Johnson 2015) and an openness to diversification (Murray 2015). Because millennials also exhibit opinions about diversity, they frequently introduce innovative concepts to the workplace which sometimes dispute regulations, guidelines, and systems (Rosa and Hastings 2016).

2.2.4 Societal characteristics

Millennials grew up in an era of facts and intelligence which was actively transforming as well as in a world that encouraged ambitions, desires, and behaviours (Pinzaru *et al.* 2016). Technology became antiquated almost immediately after it was offered to consumers (Smith 2018). Firstly, the family model and dwelling conditions transformed compared to that of former generations. In 2013, forty-six percent of youngsters resided with two parents in their first marriage, as opposed to 61% in 1980 and 73%

in 1960 (Kadakia 2017). The millennial generation lived longer with their parents than previous generations and they returned post university to dwell with their parents (Blumenberg *et al.* 2016). Secondly, unlike the generations before them, millennials were met with a high underemployment and unemployment economy (Blumenberg *et al.* 2016; Kadakia 2017; Milliron 2008). Thirdly, the application of scientific knowledge revolutionised the working world combined with the direction of worldwide knowledge. The extensive use of information and computer technology dictated the nature and speed of work changing the way workers communicated and networked, more so when compared to previous generations (Blumenberg *et al.* 2016; Bull 2010; Kadakia 2017; Milliron 2008). The Internet, for instance, converted newspapers into instantaneous chronicles (Bull 2010). Finally, organisations have modified their traditional advertising systems to pursue the permanently connected and technologically advanced millennials (French and Morse 2015) more effectively.

2.2.5 Attitude

Millennials are sociable, broad-minded, intelligent, responsible, socially minded, knowledgeable, civic minded, technologically advanced and can grasp new concepts quickly (Aruna and Anitha 2015). This generation has the tendency to postpone the acquisition of real estate, multi-task, wed at an older age, and be impatient (DeVaney 2015). In comparison to other age-groups, millennials are the most frugal (Pinzaru *et al.* 2016), and the most enterprising (Collins 2018) with a desire to make lots of money (Kadakia 2017). The millennial generation is comfortable with change (Becton, Walker and Jones-Farmer 2014), feels entitled, and is emotionally fragile (Pinzaru *et al.* 2016), as demonstrated by their urge to express themselves through tattooing their bodies (Strübel and Jones 2017).

2.2.6 Work ethic

Former cohorts may interpret millennials as individuals with a poor professional conduct (Culiberg and Mihelic, 2016), but Jobe (2014) found millennials to be hardworking individuals, and DeVaney (2015) observes that millennials see themselves as capable of performing jobs with superior positions and elevated

salaries, without having to conform to corporate hierarchy. Aruna and Anitha (2015) described millennials as being loyal to a job but not to the organisation, being distrustful of organisations (Becton, Walker and Jones-Farmer 2014), and would choose relatives and colleagues instead of employment (Aruna and Anitha 2015; Becton, Walker and Jones-Farmer 2014). In the eyes of this generation, their supervisor is a friend (Barbuto and Gottfredson 2016), and want to participate in the managerial process (Aruna and Anitha 2015).

2.2.7 Personal values and principles

There are various factors which are considered vital by millennials in the workplace. Firstly, millennials are obedient to rules of morality and are mindful of good and honourable choices (Culiberg and Mihelic 2016). Secondly, allowances and bonuses are desired, such as accommodating working hours (Collins 2018; Pinzaru *et al.* 2016; Smith 2018). Examples mentioned by researchers are working from home, a gym membership allowance, and paid leave for participating in charitable activities (Smith 2018).

Thirdly, millennials value a good office environment as found by Cowan and Joseph (2018) in their survey at a new Toyota plant in Plano, Texas. According to their analysis, 81% of millennial employees ranked facilities as one of the top three most valuable benefits. (Cowan and Joseph, 2018). Additionally, communal workplace activities are significant, such as an open environment (Aruna and Anitha 2015), complimentary refreshments in the break-room (Smith 2018), and an enjoyable ambiance (Aruna and Anitha 2015; Smith 2018).

Development is the fourth factor appreciated (Aruna and Anitha 2015; Smith 2018). Millennials prefer teamwork as opposed to working unaccompanied (DeVaney 2015; Murray 2015; Smith 2018). They appreciate training which is paid for by their employer and training which eventually culminates in a qualification (Smith 2018). They value regular, truthful, and constructive feedback to support their development (Douglas *et al.* 2015; Kadakia 2017; Smith 2018). Ernst and Young revealed that 85% of the millennials in their survey required consistent and honest performance feedback from

their managers (Barbuto and Gottfredson 2016). Additionally, the opportunity of an assigned mentor is appealing to prospective employees of the millennial generation (Aruna and Anitha 2015).

The fifth element revered by the millennial generation is residing in a city and Milligan (2018) proclaimed they aspire to work for organisations in urban areas. The sixth condition regarded as vital is leisure time (Becton, Walker and Jones-Farmer 2014; Lu and Gursoy 2016) with the demands of work and personal life prioritised equally (Aruna and Anitha 2015; DeVaney 2015; Johnson 2015; Lu and Gursoy 2016; Murray 2015). Millennials value leisure time (Brown, Thomas and Bosselman 2015) and a workplace which adjusts to accommodate unexpected circumstances, which reinforces how essential a healthy work-life balance is to them (Merisalo 2018). Likewise, regular training and workouts are necessary (Kadakia 2017). The seventh characteristic millennials crave is instant acclaim and reward, including high pay (Aruna and Anitha 2015).

Finally, millennials desire to make a difference in society and the workplace (Johnson 2015) by contributing to societal well-being through voluntary work and other humanitarian efforts (Aruna and Anitha 2015; DeVaney 2015).

2.2.8 Motivation

Skabelund (2008) found that millenium employees are not motivated by money alone. The researcher found the following motivational factors in literature relating to the millennial generation. Firstly, millennials thrive on recognition, especially finding public recognition highly motivating (Pinzaru *et al.* 2016). The second motivational factor is their desire for training and development (Mametsaitova 2017), which is related to the third factor of prompt, repeated useful feedback and approval (Pinzaru *et al.* 2016). Lastly, a nonconformist setting with minimal restrictions and guidelines fuels this generation (Pinzaru *et al.* 2016).

Motivation is a significant variable that should be addressed for each employee independently (Malik and Singh 2014). Park (2014) recommended the use of

gamification as a great tool to motivate young talent and simultaneously solve business problems. The author found that gamification applications promoted millennial motivation through enjoyable and interactive learning opportunities (Park 2014). Each member of staff behaves according to their level of proficiency, ambition, and capability (Vom Brocke and Rosemann 2015) and possess unique occupational preferences and requirements (Malik and Singh 2014).

2.2.9 Technology

The express technological development that millennials experienced as children allowed them to live their complete lives using computer technology. Because millennials are so familiar with technology they often progress instantly with new devices through trial and error without reading the operator's manual (Durocher, Bujaki and Brouard 2016). This generation is constantly connected through technology and are known as digital natives because they have grown up in a technologically advanced world (Aruna and Anitha 2015; DeVaney 2015; Durocher, Bujaki and Brouard 2016). However, being constantly connected in this manner obscures the distinction of work and play creating an atmosphere of being on duty at all times, both day and night (Johnson 2015).

Millennials generally do not choose or wish to use paper. This generation have encouraged organisations towards digital and paperless platforms (Durocher, Bujaki and Brouard 2016). The business and scientific mentality of millennial business owners over the last 10 to 12 years has been extraordinary and has influenced and generated technological advancements such as You-Tube, Facebook, Twitter, Groupon, Instagram, and Tumblr (DeVaney 2015). Just as valuable have been the innovations of the Apple iPhone and Google Android mobile devices that have enhanced remote internet access (Kloss 2018).

Durocher, Bujaki and Brouard (2016) state that one of the theories regarding the mindset of millennials is that because information is so readily available on demand from the internet, they therefore have a mindset which requires instant feedback in the workplace. Durocher, Bujaki and Brouard (2016) additionally recognised that

millennials have embraced technology well and value using ear pieces at work and at home. Some researchers have observed that, due to the explosive use of technology in their lifetime millennials are less engaged in formal social interactions and have been dependent on their parents to resolve conflicts (Christensen, Wilson and Edelman 2018). Duchscher and Cowin (2004) indicated that some millennials lacked social skills because of their high dependency and reliance on technology. The millennial group prefer casual forms of communication like texting, instant messaging (IM), and email. (Durocher, Bujaki and Brouard 2016).

Additionally, millennials are highly advanced in navigating technology and multitasking using multiple application screens simultaneously during the workday due to their experience and comfort with technology which implies that millennials and technology are inseparable (Pinzaru *et al.* 2016). Johnson (2015) observes that whenever a problem or query with technology arises in the workplace, everyone goes to the millennials for assistance. Furthermore, Johnson's (2015) survey found that 50% of the millennial participants felt through the use of technology, acquaintances and relatives could become closer, and 25% rated technology as a defining generational trait.

2.2.10 Millennial myths and stereotypes

Kuhl (2016) encouraged organisations to see potential beyond millennial stereotypes and perceptions with regards to investments in the development of employees of the millennial generation. Millennials are thought of being self-centred, egoistical, devoted to personal goals over institutional goals, suspicious of companies, lazy, unmotivated, and unreasonable, to name some of the negative stereotypes. (Becton, Walker and Jones-Farmer 2014; Hayes *et al.* 2018; Tréhu 2017). These ideas and sentiments are largely founded on characteristics common to the millennial generation. Even though these characteristics describe the generation, several of the behaviours and qualities are seen as flaws and given uniformly to all members of the generation, which is not justifiable (Kuhl 2016).

A study by Becton, Walker and Jones-Farmer (2014) suggested that generational differences in behaviour were evident in the workplace, however the prevalent generational social assumptions were occasionally accurate. For instance, 29% of millennials lived with their parents, but this may be due to outstanding university fees, unemployment, a business endeavour, or the financing of a non-profit organisation as opposed to negligence or tardiness (Kuhl 2016). Another suggested perspective is that millennials are simply redefining output (Kadakia 2017). Millennials can cope with their children's after-school engagements, personal lives, and health examinations, interaction with customers or working at home on the weekends and during the evenings through perpetual web-based connection with electronic devices (Goh and Lee 2018; Cambra-Fierro *et al.* 2019).

In reality, most millennials are not the rude, entitled, lazy, and job-hopping individuals who are driven by feedback as they are frequently portrayed to be (Kadakia 2017). In this segment, the following five myths are explored including laziness, entitlement, hand holding, disloyalty, and issues with authority. Firstly, regarding the myth of laziness, millennials use time very carefully hence time wastage is avoided and undesirable (Merisalo 2018). This generation takes into consideration the entire workday when evaluating productivity, take breaks, reduce distractions and stress, exercise, have at least eight hours of sleep at night, and maintain a wholesome diet (Kadakia 2017).

Secondly, concerning the myth of entitlement, millennials, unlike the generations before them, enter with greater business savvy and professional expertise in the field (Culiberg and Mihelic 2016). Kadakia (2017) observes that this experience nurtures an entrepreneurial mindset. Additionally, millennials have begun working at a considerably younger time of life and a large number were employed throughout university (Culiberg and Mihelic 2016). Hence, when millennials request challenging work or promotions, it is to fulfil their desire to provide a similar type of involvement as experienced in another professional setting, and because this generation views job growth and rewards differently than previous generations (Kadakia 2017).

Thirdly, the myth around handholding; when millennials ask questions this indicates that they desire feedback and wanting to be flexible, rather than requiring handholding (Douglas *et al.* 2015; Kadakia 2017; Smith 2018). Millennials prefer to know sooner rather than later if they have performed a task inaccurately or with an unacceptable output because they do not want to waste time (Merisalo 2018).

Regarding the fourth myth, loyalty, findings are that individuals of the millennial generation are not disloyal, but instead are seeking a purpose (Kadakia 2017). Certain human resource companies regard repeated employment changes related to success as a sign of imminent resignation (Sajjadiani *et al.* 2019). Nevertheless, many companies are not providing a suitable vision and purpose for this generation, and therefore, companies could help to build loyalty by providing a vision for the millennial generation to believe in and a purpose for their job (Kadakia 2017; Skabelund 2008). The millennial generation values job switching; by the time they reach the age of 32, a millennial is anticipated to have held ten jobs and had six distinct careers (Kadakia 2017; Lavoie-Tremblay *et al.* 2010; Raina and Chauhan 2016). Millennials consider job hopping as an appropriate method of career progression (Lavoie-Tremblay *et al.* 2010). Furthermore, millennials aspire to have a positive influence on society, and switching jobs at various organisations provides a way to do that. (Aruna and Anitha 2015; DeVaney 2015; Johnson 2015; Kadakia 2017).

The fifth myth involves authority; millennials do not oppose authority instead the age group is revolutionising the term "respect" (Kadakia 2017). Numerous people are offended by the forthright communication and approach which millennials have so easily adopted. Previous generations, on the other hand, were not given the opportunity to benefit from the internet revolution and technology (Merisalo 2018). Previous generations are deeply uncomfortable about the openness that comes with worldwide interaction via social media (Kadakia 2017) but managers have to engage with millennials in a transparent manner (Kadakia 2017; Prokopeak 2013).

2.3 MILLENNIAL TURNOVER

Research indicates that working conditions influence the high turnover rate of clinical laboratory employees (Small 2013). Employees are expected to complete more tasks with lesser resources due to staff shortages and decreasing hospital revenues (Small 2013). Employees in a study conducted by Beck and Doig (2005) mentioned salary, poor benefits, lack of recognition, and reduced advancement opportunities as reasons for dissatisfaction and for why they would leave the profession.

The many causes of voluntary turnover of millennials have been explored and discussed in this section. These causes were sorted into six types: inherent millennial qualities, leadership and organisational conduct, economic influences, societal factors, personality differences, and differences in values. The impact of voluntary millennial turnover to organisations and society was also reviewed in this section, with respect to profitability, cost, employee morale, manager, customer, globalisation, and information transfer.

2.3.1 Causes of millennial turnover

2.3.1.1 Inherent millennial qualities

The millennial generation has a feeble emotional attachment with organisations hence demonstrate an inferior level of loyalty to the organisation which results in increased resignations (Blomme, van Rheede and Tromp 2010; Lancaster and Stillman 2003). Raina and Chauhan (2016) indicated that millennials constantly search for job satisfaction and therefore continuously jump to the next good job which allows for satisfaction. As a result, individuals of the millennial generation are eager to change their employment status for their personal benefit when an appropriate opportunity presents itself (Brown, Thomas and Bosselman 2015).

2.3.1.2 Leadership and organisational conduct

Lawson (2018) suggests that turnover within the initial six months of employment is specifically associated with hiring and onboarding, and turnover after six months is associated with the immediate supervisor. Millennials are often aggravated because managers and organisations are unaware of factors which lead to turnover or may lead to possible turnover (Hamilton 2020). Consequently, millennials are often exhausted and disengaged because leaders do not fully understand the concept of productivity in the virtual and calculated 21st-century industry (Kadakia 2017; Lu and Gursoy 2016).

Moreover, millennials become uninterested, unsatisfied, and then resign because the significance of the position and vision of the organisation are often not communicated by managers and organisations (Skabelund 2008). Finally, millennials have an increased desire to resign from their job or leave the organisation when confined to trivial positions and tasks (Brafford 2018). The deficiency of innovation and creativity in organisations leads to millennials becoming frustrated due to the evolution of technology during their existence (Kadakia 2017).

Voluntary turnover is the consequence of a poor manager who demonstrates characteristics of unprofessional behaviour, poor leadership skill, unethical conduct, operational and technological deficiencies, or bad judgement and delegation abilities (Hight, Gajjar, and Okumus 2019; Johansen 2013). Additionally, enforcement of strict rules and strict or antiquated policies and procedures can contribute to staff turnover (Hayes *et al.* 2018; Brown, Thomas, and Bosselman 2015; Pinzaru *et al.* 2016).

2.3.1.3 Economic influences

Historically, one of the leading factors influencing turnover has been the status of the economy (Lawson 2018). Throughout the world, because of the great recession, millennial attrition was not completely supported in the work environment (Kadakia 2017). People from the millennial generation now have the chance to quickly showcase their talents thanks to the opportunity created by the increased use of digital

technology in the workplace (Gubler, Coombs and Arnold 2018). Due to expertise scarcities and raised attrition rates in the computer technology industry, millennials rapidly changed employment for better compensation in other organisations (Hamilton 2020).

2.3.1.4 Societal factors

The extensive advancement and expansion of technology has helped millennials in their job hunt (Lawson 2018). Technologically improved networking and browsing options and increased knowledge about career alternatives to increase remuneration has fuelled turnover (Kadakia 2017; Koppel, Deline, and Virkstis 2017). The composition of workers and the millennial generation's quick rise is an additional factor (Lawson 2018). Lack of reliability among the millennial group as a whole is a result of the rise in the millennial population. (Kadakia 2017). Hence, the potential of this generation of millennials has not been completely realised, and these highly educated, aspirational, enthusiastic, and business-minded people have not reached their full potential (Kuhl 2016).

2.3.1.5 Personality differences

Although stereotypes based on generation are frequently perceived negatively, research by Hayes *et al.* (2018) discovered that millennials understood baby boomers to be a generation that was resistant to change, unsavvy about technology, and devoted to their positions and employers. Additionally, millennials believed that Generation X was autonomous, at ease with organisational and employment changes, and committed to their own interests over corporate objectives (Hayes *et al.* 2018). Millennials appeared to appreciate working with people their own age. Millennials feel that there is not much in common when there are large variations in age at the workplace and choose to look for new employment possibilities (Brown, Thomas, and Bosselman 2015).

2.3.1.6 Differences in values

Personal and leisure time is of great value to millennials, unlike the baby boomer generation (Jobe 2014; Lu and Gursoy 2016). The moment supervisors and companies compromise personal and family time, millennials are unsatisfied and search for alternative employment (Aruna and Anitha 2015). Of the primary explanations for resignation, one was due to domestic and private obligations, according to a millennial poll of employee attrition rate in New Zealand (Lawson 2018).

Hayes *et al.* (2018) found that baby boomer respondents viewed millennials as egocentric, requiring constant feedback or positive reinforcement, and technically accomplished. Another contributing factor to voluntary turnover is the opportunities available for external promotion (Lawson 2018). In addition, the millennial generation differs from other generations because they wish to understand the justifications for their supervisor's demands (Christensen, Wilson and Edelman 2018). Furthermore, millennials like baby boomers, are optimistic in their behaviour, unlike individuals of Generation X, who are sceptical and Generation Z who are realistic in their approach (Christensen, Wilson and Edelman 2018).

2.3.2 The impact of voluntary millennial turnover

Voluntary turnover affects organisations and society differently (Hamilton 2020). For organisations, turnover and profitability are usually negatively affected, as are other employees, managers, and the customer (Hamilton 2020). However, turnover usually has advantageous effects on people and has an influence on globalisation and skill transfer (Hamilton 2020).

2.3.2.1 The impact of voluntary millennial turnover on the organisation

Hamilton (2020) found that most organisations do not realise or understand the impact of an employee's resignation on a division, role, employee group, client, or vendor, or subordinates (Hamilton 2020). Massingham (2018) indicated that for a long time, organisations merely replaced talent who had resigned from the organisation with

newer talent who had comparable skills and saw turnover as a normal part of doing business. Additionally, Massingham (2018) metaphorically described turnover to that of a domino effect. Massingham (2018) pointed out that certain staff members leave a company with large splashes owing to their valuable skillset and expertise, while others leave with small ripples that clear within a few of days. Hamilton (2020) found that the impact of millennial turnover on business and the organisation was dependent on the individual and the environment in which it occurred (Hamilton 2020). Furthermore, the adverse effects that voluntary turnover had on organisational costs associated with employment and training, as well as conflict on networking sites, was confirmed by Park and Shaw (2013).

2.3.2.2 Profitability

Park and Shaw (2013) discovered that turnover had an impact on profits for shareholders, efficiency, sales, and client happiness. Furthermore, according to a meta-analysis, voluntary turnover rates and an organisation's success are significantly negatively correlated in the service sector compared to the manufacturing sector (Park and Shaw 2013). Udechukwu (2009) furthered the argument that turnover had a detrimental effect on output, and that sudden employee departures and acquisition expenses had an impact on organisational budgets. There were expenditures related to recruiting and advertising to locate replacement employees when personnel left the organisation. It is hard to predict turnover therefore the full recruitment expense may be not budgeted for ultimately affecting profitability (Hamilton 2020).

2.3.2.3 Cost

There are immediate and secondary expenses associated with turnover (Mobley *et al.* 1979). Many organisations do not realise the unaccounted for expenses of turnover, such as severance, education, and acquisition fees, as well as how such expenses affect processes (Mobley *et al.* 1979). Boss (2018) estimated that organisations incur yearly turnover costs of about \$160 billion. Nevertheless, the effect on businesses varies and is not always the same (Park and Shaw 2013). In addition, there are documented financial consequences associated with turnover (Park and Shaw 2013;

Vitale 2018), this includes effects on a department's functioning (Vitale 2018). A further absence of diversification is a hidden expense. Allen Bryant and Vardaman (2010) note that lack of diversity among employees is an intangible expense of separation.

2.3.2.4 Employee morale

The morale of the staff members can be affected if they are left to carry out the work in an organisation (Wang and Ma 2013). Frequently, employees are told to do more, complete duties faster, more thoroughly, and for longer periods of time (Hamilton 2020). Therefore, employees take shortcuts to processes and make errors (Ton 2014). Eventually, this raises the number of issues that must be examined, as well as the number of complaints processed by the team that provides customer support (Ton 2014).

2.3.2.5 Manager

Whenever employee turnover occurs, the direct manager and human resource personnel are obliged to devote time to attracting and interviewing prospective replacements for the worker who has left the organisation. As a result of employee turnover, more effort on recruitment is needed (Onnis 2019). Additionally, the actual hiring of a candidate requires complicated decision-making during the recruitment process, and this decision process has been regarded as one of the most difficult human activities (Brusovansky, Glickman and Usher 2018). A minimum of 97.5% of job seekers employ some sort of perception-management strategy to attempt to sway hiring managers (Bourdage, Roulin and Tarraf 2018). Therefore, the hiring manager requires a lot of time to source individuals who are a proper match for the position (Onnis 2019). Bourdage, Roulin and Tarraf (2018) suggest that in order to make accurate assessments of applicants, managers have to strive hard to see through their impression management strategies. Moreover, there is frequently a delay between the exiting of one employee and the start of the replacement employee. As a result, when staff shortages arise, managers must assist in filling the vacancy as soon as possible (Onnis 2019).

2.3.2.6 Customer

When a staff member leaves an organisation, clients are frequently impacted. Particularly, when an employee leaves the organisation, his or her knowledge of the job and the market is lost (Wang and Ma 2013). Wang and Ma (2013) indicated customers often established acquaintances with certain employees, resulting in confidence and respect, and when these employees departed from the organisation, relationships with consumers were also affected.

2.3.2.7 The impact of voluntary millennial turnover on society

Society views the impact of voluntary turnover as both good and negative (Hamilton 2020). Voluntary turnover contributes to industrial globalisation through the transfer of expertise between organisations (Hamilton 2020). In addition, the sharing of information occurs naturally with employees that enter and exit organisations whenever voluntary turnover occurs (Hamilton 2020).

2.3.2.8 Globalisation

There is a global benefit when individuals transfer to organisations which are spread internationally (Hamilton 2020). The globalisation of organisations leads to transparency and greater interdependence among communities and economies (Srivastava 2016). The availability of local and international goods for customers has increased as a result of globalisation and will continue to do so. (Srivastava 2016). As a result of voluntary turnover, employees possess the ability to work in different organisations as their experience increases on an employee, organisational, and global scale. Transnational businesses demand national and global efficiency, and the use of global innovation (Bartlett and Beamish 2011). Consequently, global knowledge exchange and fresh recruits are advantageous to transnational businesses.

2.3.2.9 Information transfer

Information transfer is an important factor for organisations in search of industry-leading techniques (Reychav and Weisberg 2009). The management of international organisations is difficult due to the numerous complexities of such businesses. Therefore, the recruitment and movement of workers with pertinent and applicable expertise from other countries fosters the exchange of information, and this is highly significant (Bartlett and Beamish 2011). Global information exchange harnesses creativity and speeds up the generation of fresh concepts. Furthermore, the dissemination of knowledge and knowledge sharing have grown with the widespread development of technology and information available via the internet (Zhang *et al.* 2019).

Voluntary transfer also impacts organisations adversely due to the loss of a valuable employee. When an employee departs, knowledge of the organisation leaves with the employee and is then available to the recipient organisation (Zhang *et al.* 2019). Nonetheless, on the whole, the exchange of information benefits the industry by benefiting businesses and workers (Reychav and Weisberg 2009).

2.4 JOB SATISFACTION NEEDS OF MILLENNIALS

Organisations experience much difficulty in retaining millennials (Sujansky and Ferri-Reed 2009). It has been shown that employee retention is directly dependent on job satisfaction (Phipps 2016). Mullah (2018) recommended additional work satisfaction and retention studies of staff in medical diagnostic laboratories.

Millennials prefer to work for organisations that provide a variety of employment and organisational characteristics: a healthy balance between work and life, revolutionary technological advances, a sense of community, teamwork, solid communication, career advancement and training, and purposeful rewarding career experience (Bateman 2014; Behrens 2009; Carless and Wintle 2007; Ehrhart, Mayer and Ziegert 2012; de Hauw and de Vos 2010; Hershatter and Epstein 2010; Hewlett, Sherbin and

Sumberg 2009; Ng, Schweitzer and Lyons 2010; Smola and Sutton 2002), and management style (Hamilton 2020).

2.4.1 Work-life balance

This factor of work-life balance was found by many researchers to be attractive to millennials (Behrens 2009; Carless and Wintle 2007; Ehrhart, Mayer and Ziegert 2012; de Hauw and de Vos 2010; Hershatter and Epstein 2010; Hewlett, Sherbin and Sumberg 2009; Ng, Schweitzer and Lyons 2010; Smola and Sutton 2002). Millennials spent long days in day care (Howe and Strauss 2000) and witnessed their baby boomer parents being dismissed from work, hence millennials found work-life balance to be an important factor (Deloitte 2011). Employees of the millennial generation are attracted to worker benefits such as onsite day care facilities, scholarships for their children, adequate annual or vacation leave, maternity, and parental leave, as well as assistance with adoption (Bannon, Ford and Meltzer 2011). Organisations such as Google attracted millennials because they extended the above-mentioned employee benefits as well as nursing rooms, domestic assistance plans, and transgender and transitioning workplace support (Bannon, Ford and Meltzer 2011).

Millennials do not regard work as their life but rather as a way to subsidise their lifestyles (Deloitte 2011). Therefore, they do not consider work as an item to do rather than a location to go (Thompson and Gregory 2012). Millennials frequently change their job hours to meet their active lifestyles (Deloitte 2011). Organisations such as Orbitz, Morningstar, and Google were the frontrunners in luring millennials since their company policies proved their dedication to granting workers with time for themselves (Bannon, Ford and Meltzer 2011).

Although millennials do not want their professional lives to infiltrate their home lives (Sujansky and Ferri-Reed 2009), the generation's oldest members are fairly dedicated to work, with 34.5% working 45 hours or more per week (Deloitte 2011). However, research by Hewlett, Sherbin and Sumberg (2009) found that 89% of approximately 5000 millennials polled preferred work schedules that were flexible. Providing millennials with the opportunity to work online one day per week is encouraging since

it allows them to work at a time and location that is suitable for them (Hershatte and Epstein 2010; Hewlett, Sherbin and Sumberg 2009).

2.4.2 Revolutionary technology

Millennials expect revolutionary innovations in their work environments (de Hauw and de Vos 2010; Hershatte and Epstein 2010; Ng, Schweitzer and Lyons 2010; Shaw and Fairhurst 2008; Terjesen, Vinnicombe and Freeman 2007). As a result, organisations with a solid digital presence across all main communication platforms such as Facebook, Twitter, Instagram, and LinkedIn are significant for millennials (Smith 2018; Hamilton 2020). Organisations with cutting-edge technology that is not out of date show that they are growing and changing with the times, which is crucial for the millennial group (Frere Enterprises 2018; Hamilton 2020). Furthermore, utilising recent images is essential because out-of-date images and an obsolete appearance deter future millennial hires, while incorporating media that amplifies the company and offers a glimpse into an ordinary day at work helps recruitment drives (Smith 2018).

Millennials are also known as “digital natives” (Hershatte and Epstein 2010) because they grew up with technology in their hands (Howe and Strauss 2000). Individuals of the millennial generation are competent with technology and likely to consume this technology 365 days a year, seven days a week, and around-the-clock (Hershatte and Epstein 2010). Particularly, if millennials are required to study a subject, they are likely to turn to the internet before consulting any other sources and to accept browser results at face value without doing more research (Hershatte and Epstein 2010). Hershatte and Epstein (2010) criticised the individuals of the millennial generation for they depend entirely on technology for all facets of their existence, yet other researchers considered their proficiency with technology as beneficial to organisations (Myers and Sadaghiani 2010). In addition to using cloud computing and virtualisation to analyse and unravel issues, millennials are also more likely to use social and information applications like instant messaging to communicate with their co-workers (Bannon, Ford and Meltzer 2011), however, they have an inclination to train their more senior co-workers, specifically the baby boomers, on how to use the newest technology (Myers and Sadaghiani 2010). Finally, organisations should have a

modern and effective online presence if they want to draw in millennials (Sujansky and Ferri-Reed 2009).

2.4.3 Social environment, teamwork, and solid communication

Millennials do not wish to work in isolation (Behrens 2009; Bell and Griffin, 2010; de Hauw and de Vos 2010; Hershatter and Epstein 2010; Shaw and Fairhurst 2008). Millennials look forward to human interaction when they start work, whether it be in person, via text, email, instant messaging, or social media (Sujansky and Ferri-Reed 2009); because they were raised with a permanent link to electronics and online communities, uninterrupted interaction is vital to them (Smith 2018). Millennials believe that data exchange (Frere Enterprises 2018) and openness (DeVaney 2015; Pinzaru *et al.* 2016) is significant throughout the method of interaction.

Companies believe that millennials prefer to communicate exclusively online during work hours due to their strong need for socialisation (Sujansky and Ferri-Reed 2009). While millennials believe that telecommunication is the ideal method of communication as it allows for easier and faster communication with others, they are profoundly engaged in face-to-face interactions, just like previous generations (Luscombe, Lewis and Biggs 2013; Sujansky and Ferri-Reed 2009). Thus, organisations construct settings that encourage and foster social connections and collaboration, to attract millennials (Gursoy *et al.* 2008; Hershatter and Epstein 2010; Martin 2005; Shaw and Fairhurst 2008).

Companies should consider organising informal gatherings because millennials appreciate networking and relationship building with co-workers (Sujansky and Ferri-Reed 2009). Although millennials feel that preserving strong relationships with their co-workers are important, various researchers have declared that the strategy to drawing in, inspiring, and keeping them as workers is their relationship with their direct supervisors (Hershatter and Epstein 2010; Lancaster and Stillman 2002; Martin 2005). The millennials crave mentorship (Aruna and Anitha 2015), priority (Frere Enterprises 2018), as well as everyday leadership involvement and assistance with the initial orientation procedure (Pinzaru *et al.* 2016).

Since people of the millennial generation are accustomed to getting praise, admiration, and support from their family members, they demand honest, continuous, and prompt input from the ones they report to in the workplace (Gursoy *et al.* 2008; Hershatter and Epstein 2010; Martin 2005; Shaw and Fairhurst 2008; Sujansky and Ferri-Reed 2009). Those in management positions must provide millennial employees with comments monthly at minimum, based on well-known literature (Zeiger 2011). Additionally, if managers interpret the millennials' need for feedback as a positive trait, such as a willingness to learn, they may increase their chances of attracting and retaining millennials (Thompson and Gregory 2012). In essence, managers will discover that those unfavourable perceptions about millennials being needy, unproductive, untrustworthy, and privileged are false if they set clear standards, encourage relationships, and cater to each person's demands (Thompson and Gregory 2012).

2.4.4 Career promotions and training

Career progression as well as possibilities for education and advancement are appealing employment and organisational qualities for the millennial group (Behrens 2009; Bell and Griffin 2010; Ng, Schweitzer and Lyons 2010; Shaw and Fairhurst 2008; Terjesen, Vinnicombe and Freeman 2007). Based on stigmas, millennials unlike the generations before them, need quick job advancement and don't intend to follow the corporate chain of command (Ng, Schweitzer and Lyons 2010). According to studies, millennials want to advance to a new role by the end of their sixth month of employment (Terjesen, Vinnicombe and Freeman 2007). Besides the millennial group need to work for a company where their earnings are determined by their success rather than by their age, length of duty, or rank (Sujansky and Ferri-Reed 2009). The availability of promotion avenues for millennials is a sign that their director values their work (Luscombe, Lewis and Biggs 2013).

Millennials are greatly attacked for their expectations of employment (Thompson and Gregory 2012), but Luscombe, Lewis and Biggs (2013) perceive their thirst for quick progress as an advantage and not a drawback. Executives tend to focus on the image of millennials as needy and high upkeep individuals (Thompson and Gregory 2012). If executives intend to attract and retain these individuals, they should rather focus on

the millennial need for rapid career growth as a chance to re-assess and reinvent training and development programmes to explicitly target these millennials (Luscombe, Lewis and Biggs 2013). A study conducted by Terjesen, Vinnicombe and Freeman (2007) found that three of the top five organisational qualities preferred by millennials were that employers greatly invest in the training and development of their employees, show concern for their employees as individuals, and establish clear opportunities for long-term career advancement. The authors reported that these job and organisational qualities were not to be undervalued by employers due to the fact that millennials have an affinity for organisations which instantly offer higher positions and chances of further education (Terjesen, Vinnicombe and Freeman 2007), and reported that they were prone to leave a job if better opportunities were available elsewhere (Ng, Schweitzer and Lyons 2010).

2.4.5 Purposeful and challenging work experience

Millennials hope to have the possibility for employment at an organisation that offers worthy and/or demanding job environments (de Hauw and de Vos 2010; Ng, Schweitzer and Lyons 2010; Terjesen, Vinnicombe and Freeman 2007). Millennials are always evaluating an organisation's values and purpose to decide if an organisation tries to achieve a greater goal than just generating wealth (Ng, Schweitzer and Lyons 2010). This is because meaningful work gives them the chance to contribute to society (Ng, Schweitzer and Lyons 2010). Millennials believe that corporate responsibility is important as revealed by a study conducted by Pew Research (Kohut *et al.* 2010). Likewise, millennials long to participate in more significant community initiatives that are both rewarding and difficult at work (Kohut *et al.* 2010; Ng, Schweitzer and Lyons 2010). Seeing that those individuals of the millennial generation regard professional growth with high importance, they look for noteworthy initiatives to work on (Behrens 2009; Bell and Griffin, 2010; Ng, Schweitzer and Lyons 2010; Shaw and Fairhurst 2008; Terjesen, Vinnicombe and Freeman 2007). Millennials think managers ought to compensate them with time off or give them a sabbatical for volunteering or performing charity work on the company's behalf to validate their dedication to social change (Kohut *et al.* 2010).

2.4.6 Management style

A leader who is completely inclusive is an extra thing millennials anticipate and want (Hamilton 2020). All workers, not just those who excel or possess outstanding ability, are the focus of inclusive management (Malik and Singh 2014); establishes a culture that appreciates and respects all individuals (Aruna and Anitha 2015; Durocher, Bujaki and Brouard 2016); interacts with workers of different grades and age groups (Duchscher and Cowin 2004); creating team spirit and integration in the organisation (Kuhl 2016). Micromanaging employees' assignments and everyday responsibilities is despised by the millennial cohort (Frere added Enterprises 2018). Furthermore, Millennials value leaders with inclusive methods of leadership who are ready to listen and have a willingness to engage (Aruna and Anitha 2015).

Aruna and Anitha (2015) describe participative leadership as an ideal management approach that is favourable to millennials and in which managers and leaders are confident in engaging staff in choices that are made. Workers at more junior levels are granted access in the formulation of plans and decisions under a participative management approach (Johansen and Hawes 2016; Stefanovska-Petkovska, Bojadzijeve and Mucunski 2015). Stefanovska-Petkovska, Bojadzijeve and Mucunski (2015) have presented data which demonstrates that organisations believe that participatory administration is a prerequisite for happier and more effective workers. Consequently, a reduced turnover is also anticipated. Johansen and Hawes (2016) endorsed a participative approach to management as it improves employee motivation and job satisfaction, which has a favourable impact on performance. Jung and Lee (2015) posited that organisations who deprive millennials the chance to work in an ethical manner, with imagination, and efficiently due to a lack of participatory management eventually result in an increased turnover rate.

Human resources managers must use innovative employment strategies to attract millennials because this generation is drawn to organisations with a *cool factor* (Kovary and Buahene 2005; Sujansky and Ferri-Reed 2009). Since defining the characteristics that render an organisation cool is a difficult job (Sujansky and Ferri-Reed 2009), various researchers have recommended consideration of the work and organisational attributes that millennials considered appealing and essential for job satisfaction. As

stated above, these are a healthy balance between work and life, advanced equipment, a friendly atmosphere, working together, solid communication, career advancement and coaching, a purposeful and demanding job experience, and management style. Among the qualities are a pleasant work atmosphere, compensation and perks, and remodelled workspaces (Sujansky and Ferri-Reed 2009).

Bearing in mind that the generation of millennials will predominate in job sectors for no less than the next two decades (Behrens 2009; Hobart and Sendek 2009), employers will benefit if they change their workplaces to support millennials' needs (Bannon, Ford and Meltzer 2011). Businesses run the threat of sacrificing prospective talent to organisations that are creating millennial-friendly office space if they are unable to deliver the essential organisational and work qualities that millennials seek in the workplace (Sujansky and Ferri-Reed 2009).

2.5 EMPLOYEE RETENTION

Reduced training programmes, retiring baby boomers, and lower budgets, have forced laboratory executives to develop innovative strategies to retain employees (Small 2013). The retention of remaining employees is as critical as recruitment of new ones (Small 2013). The attraction of a good employee is one part of the equation, and their retention is the other part (Small 2013). There is a need to study the retention plans of clinical laboratories (Malone 2011).

There have been many studies of retention strategies and plenty of theories as to what factors are most significant (Small 2013). Beck and Doig (2005) discovered that several employees resigned for a new laboratory job or moved for family purposes; however, the most significant retention factor recorded by the laboratory managers was salary. If the problem of salary was not addressed, laboratory employees would continue to resign from their jobs (Beck and Doig 2005). Malone (2011) identified employer-employee relationship as another retention factor of value. In another study, scholars found that while salary was significant, employees desired respect and recognition of their skills and their contributions to the organisation. Satisfaction was

a key factor in an employee's choice to stay or leave the organisation, and the work environment was also related to job satisfaction (McGuire *et al.* 2003).

Health care organisations are required to address retention strategies (McGuire *et al.* 2003). Anderson and Pulich (2000) argue that the retention of remaining employees in the clinical laboratory is as significant if not more so than recruitment of new employees. Health care organisations should be highly committed to retaining valued employees (Small 2013). An awareness must be demonstrated that human capital is truly the most valuable of assets, at all levels of the health care organisation (Anderson and Pulich 2000). Additionally, Anderson and Pulich (2000) specified that human capital must be carefully selected, nurtured, developed, accommodated, and most importantly, retained.

Further research and study of the retention strategies used by laboratory employers will prove to be a valuable tool in exploring the dilemma encountered by clinical laboratories (Small 2013). The focus has to be moved away from the baby boomers who are preparing for retirement. Instead, the focus should be moved to the millennial generation and methods of retaining them as well as advancing them (Malone 2011).

2.5.1 Cost of retention

While studies did not identify any particular retention charges, there is information which indicates a decrease in operating expenses when businesses invest in retention (Hamilton 2020). As an illustration, Al Jazeera International Catering Company financially committed to enabling their staff that oversaw the practice of excellence throughout the company which lowered business expenses by 10% over the previous twelve months (Thommy and Murthy 2016). Various organisations recognise the value of a powerful team of leaders, robust staff involvement, greater contentment in their work, and higher staff retention on affordable and successful teams (Straw 2018). Straw (2018) mentioned that employee involvement and job happiness investments increased tenure, fulfilment, collaborative behaviour, and delivery. Furthermore, Cruz (2018) urged organisations to develop skilled workers in house given that it is more lucrative than covering the expenses of losing workers. Cruz (2018) also advised that

employers should see their employees as an investment and not as expense to their business. Consequently, this involves the compensation of their employees with higher salaries and company sponsored benefits compared to the opposing organisations (Lancaster 2018). Effective attrition drivers for organisations are achieved by investing in workers through educational initiatives, higher salaries, growth, and profitable rewards (Hamilton 2020).

2.5.2 Retention strategies and approaches

Even though millennials are frequently identified as demanding, needy, requiring close leadership and mentorship (Kadakia 2017), they add benefit to an organisation through their creativity, innovation, technical proficiency, and the capacity to question an existing situation. Nevertheless, literature advocates that the outlook of leaders and organisations require transformation to successfully manage and retain this essential and emerging millennial employee generation of the workforce. This section identifies retention strategies recorded in the literature as including: cultivate loyalty and relationships, clearly define expectations, organisational socialisation, compensation, training programs, career growth, and other possible solutions.

2.5.3 Cultivate loyalty and relationships

Koppel, Deline and Virkstis (2017) found that if a manager and an organisation retained a worker of the millennial generation for more than three years, the worker was more inclined to commit to an organisation. Gellman (2015) proposed that employers should assist their millennial employees with relationship building, through mentorship programmes between junior and senior level workers, to improve employee loyalty to remain at the organisation. Supporting employees to become rooted in an organisation and cultivate social media facilities boosts loyalty (Onnis, 2019). Gellman (2015) recommended the participation of millennials in recruitment assignments to assist in selecting top performing employees as a reward and a means to build faithfulness to an organisation.

In the opinion of Bennett (2017), millennials can become more dedicated to a position and organisation in comparison to generations before them because they are concerned about risk and financial crisis. Nevertheless, the managerial point of view about millennials requires change and adjustment, to realise that this age group needs an atypical collection of methods to retain them (Paton 2009). This involves recognising important talent and determining what drives them so that targeted retention tactics can be identified (Lawson 2018).

2.5.4 Clearly define expectations

Prokopeak (2013) observed that establishing suitable expectations and effectively conveying expectations during the interview process, and during the induction process, are necessary for the retention of millennials. Bond (2014) proposed that mentioning a few specific challenges of the job rather than the numerous expectations of the job would entice and excite a potential recruit about a new employment opportunity even before they were appointed. Employers should share a career path and career opportunities because millennials are motivated more by extrinsic factors such as remuneration and promotions (Anderson et al. 2017). Finally, Durocher, Bujaki and Brouard (2016) suggest that employers should emphasise a work environment that millennials desire, by describing the meaningful work experience, the opportunity to contribute to customers and society, in addition to a warm place of employment empowered by solid working relationships (Durocher, Bujaki and Brouard 2016).

2.5.5 Organisational socialisation

Raina and Chauhan (2016) suggest the use of organisational socialisation since this method is positively associated with improving attitudes toward commitment to the organisation, the likelihood of leaving a company, and work contentment. Wang and Ma (2013) recommend that employers should promote a lifestyle and work environment that is state-of-the-art, and nurture a teaching atmosphere to retain the millennial cohort of workers. According to the Centre for Talent Innovation, 89% of millennials describe themselves as being very driven, therefore organisations are required to adjust in order to recognise and take advantage of the generation's special

abilities, capacity, and skills (Kuhl 2016). Furthermore, Kuhl (2016) suggests companies must nurture enthusiasm by taking advantage of millennials' entrepreneurial mentality, create a welcoming atmosphere, promote a culture of teamwork, cultivate intimacy, and create a setting that relishes involvement and exceptional management. Finally, Derville-Gallicano (2015) proposed six fundamentals of millennial retention: (a) grooming for long term success at the organisation, (b) constantly learning, (c) communication of commitment to long-term growth—both verbally and non-verbally, (d) cultivation of personal relationships, (e) accommodation for interests and preferences, when possible, (f) strong working environment with an open culture that supports participation in decision-making and policies.

2.5.6 Compensation

The relationship between the worker and the organisation is influenced by compensation (Sarkar 2018). Salary has not been demonstrated to be the most significant element of retention despite the fact that it is significant. (Sarkar 2018; Smyth and Zimba 2019). Smyth and Zimba (2019) identified that salary was normally observed in addition to other elements like rewarding work, professional advancement, or incentives, when employees decided to remain or leave an organisation. Nevertheless, there is agreement that individuals will leave an organisation for more salary therefore to retain staff a market related salary is imperative (Brown *et al.* 2018).

Gerakos, Ittner and Moers (2018) advocate for a strategy that takes into account attractive salary, both stable and varying remuneration immediate and future rewards, and monetary or non-cash compensation. Variable compensation gives personnel extra reward and inspiration to accomplish organisational objectives (Gerakos, Ittner and Moers 2018). Researchers declare that compensation fosters commitment by employees and decreases their intention to depart from an organisation (Sarkar 2018). Sarkar (2018) states that an organisation's devotion is exhibited through remuneration for workers and communication regarding the vital role of the staff member to the organisation.

2.5.7 Training and development

Millennials have a great need to grow and improve their skillset early in their career hence they have a high expectation of training and education programmes (Aruna and Anitha 2015; Durocher, Bujaki and Brouard 2016; Rogowski 2017). The international expenditure on training in 2014 was \$340 billion (Kuhl 2016). The literature recognises that an investment in employee training and development is one of the best retention strategies to decrease turnover and guarantee high performance at the organisation (Allen and Bryant, 2012; Allen Bryant and Vardaman, 2010; Aruna and Anitha 2015; Cruz 2018; Das and Baruah 2013; Jobe 2014; Johansen 2013; Kuhl 2016). It is also more cost effective to develop talent from within the organisation than the cost of employee turnover (Cruz 2018). Additionally, when training and development is provided to employees it improves employee awareness of organisational support and as a result enhances employee commitment to the organisation (Allen and Bryant 2012; Cruz 2018; Malik and Singh 2014; Rogowski 2017). Furthermore, education improves contentment in work functions for both skilled and new personnel (Davis 2018).

Kuhl (2016) suggests that opportunities for training should be offered to all employees as some organisations have the tendency to focus on the top performing and high potential employees only. This uniform method satisfies the millennial need for individual growth (Barbutto and Gottfredson 2016; Heyns and Kerr 2018; Kislik 2018). Park (2014) advises that instead of traditional formal training, employers can provide challenging and meaningful temporary training tasks. Young talent regard onsite training as a highly valuable instrument of occupational growth (Gubler, Coombs and Arnold 2018). In addition, giving millennials the freedom to create their personal training schedule is an innovative strategy for autonomy into an individualised progression plan (Cruz 2018; Durocher, Bujaki and Brouard 2016).

Hight, Gajjar and Okumus (2019) found that an absence of formal education led to inadequate leadership which increased the employee resignation rate in the organisation. Education and coaching were undeniably crucial to enabling supervisors to mentor and train junior staff (Hight, Gajjar and Okumus, 2019). Yet, a few researchers view development and learning as a two-edged weapon that could benefit

the competition (Allen and Bryant, 2012). Experts recommended reducing the risks associated with staff training and development through work related and career advancement learning options, as well as tie-in study agreements to improve employee commitment to the organisation (Allen and Bryant, 2012). Heavy, Holwerda and Hausknecht (2013) discovered that company specific training lowered turnover rates.

Millennials require their workplaces to be a daily teaching setting with abundant chances to gain knowledge (Aruna and Anitha 2015). The millennial group diligently pursue avenues to develop their finances and careers (Barbuto and Gottfredson 2016). Organisations should offer frequent coaching and mentorship with regular feedback to facilitate occupational progression (Durocher, Bujaki and Brouard 2016).

2.5.8 Alternative strategies

Some researchers think too much value and attention has been placed on retaining workers of the millennial cohort. When recruiting individuals of talented millennials, organisations are advised to not assume that employees will devote their entire career and existence to an organisation because this age group preferred diverse experiences and duties (Kuhl 2016). Furthermore, organisations are urged to willingly adopt the transition as well as dedicate a period to generate practices for millennial engagement (Park, 2014). If millennials utilise the training and development provided, they are further tempted to remain with the company and refine their performance (Kuhl 2016). Likewise, several organisations are adjusting the conventional three to five year coaching programmes and professional frameworks to benefit from the one to two years employment period of most millennial workers (Kadakia 2017). Satisfaction with one's job is secured by being appreciated by supervisors, being afforded the experience to work in different divisions of the organisation, and to offered benefits to grow (Smith 2017).

2.6 HERZBERG MOTIVATION-HYGIENE THEORY

Frederick Herzberg's two-factor theory, also referred to as the motivation-hygiene theory, stems from a study of 200 engineers in 1959 (House and Wigdor 1967; Perry 2013; Viljoen 2019). The two-factor theory suggests that the level of job satisfaction is based on two factors, namely, motivation (intrinsic) factors and hygiene (extrinsic) factors (Perry 2013, Nisar *et al.* 2016, Johnson *et al.* 2018; Viljoen 2019). This model further suggests that the presence of motivation factors increases satisfaction, but the absence of such factors does not necessarily cause dissatisfaction (Theron 2014; Viljoen 2019). The same condition pertains to the presence of hygiene factors which prevent employees from feeling dissatisfied but do not automatically increase their satisfaction (Theron 2014).

The motivation factors, or intrinsic factors (nature of job) refer to the attributes that satisfy employees when they are present while they do not necessarily dissatisfy them when they are not present, such as: (a) challenging work, (b) recognition, (c) achievement, (d) growth (personal and work related), (e) increasing responsibility, and (f) opportunities for advancement or promotion (Tennison 1996; Viljoen 2019). The hygiene factors, or extrinsic factors (environment), refer to attributes when present which prevent employees from being dissatisfied but do not necessarily increase the level of satisfaction, such as: (a) company policy, (b) relationships with others, (c) salary, (d) working conditions, (e) supervisory practices and administration (Perry 2013; Theron 2014; Nisar *et al.* 2016; Viljoen 2019).

2.6.1 Motivation factors

Saeed *et al.* (2018) suggest that motivation generates the internal energy that incites employee performance and behaviour, and to motivate a staff member, their wishes, necessities, and demands must be met. As indicated by Martinez and Martinez (2019), factors that motivate are generally connected to intrinsic elements of the job, and those which foster staff development eventually lead to job satisfaction. The desire and pleasure of conducting a project is mostly related to motivation which is intrinsic (Hee and Rhung 2019). Furthermore, Hee and Rhung (2019) recognise that millennials'

intrinsic motivation is impacted by a feeling of significance, challenging job, independence to make decisions, and appreciation.

These elements promote motivation, and their lack demotivates workers (Akintola and Chikoko, 2016). Additionally, in prior studies, four particular motivational elements which promote millennial retention were recognised: employment security, raises in earnings, accountability, and favourable workplace surroundings (Saeed *et al.* 2018).

2.6.2 Hygiene factors

When considering an employee's fundamental job requirements, for instance, hygiene factors are those which are environmental and occur outside of the employee (Martinez and Martinez 2019). Martinez and Martinez (2019) state that although they may not always support and encourage work satisfaction, hygiene factors can help avoid job dissatisfaction. Furthermore, any factors that give rise to unfavourable emotions in a worker are regarded as hygiene factors (Biegger *et al.* 2016). Hence, for retention of workers, it is vital to comprehend hygiene aspects (Marais, Barnard and Mensele 2017).

2.6.3 Millennials and motivation-hygiene factors

There are several studies which concern millennials and motivation-hygiene factors. Using Herzberg's motivation-hygiene theory (two-factor theory), Guha (2010) studied the motivation and hygiene variables of Generations X and Y. Guha (2010) discovered that millennials' needs and ideals were different from those of Generation X. Bristow *et al.* (2011) identified that the millennial cohort are not as interested with job growth and more interested with basic job-related necessities. Furthermore, millennial university alumni are not drawn to positions with lucrative salaries and perks (Bristow, Roulin and Tarraf 2011). With six Generation Y engineers, Marais, Barnard and Mensele (2017) used a hermeneutic phenomenological method and found that hygiene elements were essential to the engagement of staff. Additionally, the authors found that job engagement had a significant impact on the long-term sustainability of millennial engineers. Hee and Rhung (2019) analysed the link between both intrinsic

and extrinsic factors of motivation which influenced millennial employee retention using a quantitative approach. It was determined that it was critical for leaders and organisations to comprehend how motivation, both intrinsic and extrinsic, influenced the long-term employment of millennials. Saeed *et al.* (2018) encourages organisations to manage the millennial population differently and focus on the capital of human beings.

2.7 CONCLUSION

The literature review confirmed that when compared to earlier generations, the millennial generation is different in terms of interaction, schooling, diversity, sociocultural characteristics, attitude, professional conduct, personal beliefs and principles, drive, technology, and organisational standards. The literature lacks an in-depth discussion on in the area on medical technologist turnover, job satisfaction factors, and retention strategies, as it pertains to the millennial generation. Mullah (2018) recommended additional research on job satisfaction and retention of staff in medical diagnostic laboratories. Furthermore, the literature made a point of identifying the millennial generation's motivators and demotivators. The long-term survival and achievement of present-day organisations depend on their ability to recognise the millennial generation and implement a retention plan that works.

According to research, unrealistic job previews influence millennials' job choice and they are drawn to and opt to work at, organisations that they feel have similar qualities/standards to their own (Terjesen, Vinnicombe and Freeman 2007). Millennials will leave their current employment to seek advantages at other organisations in which they can find greater compatibility, if they discover that their current employer does not satisfy the qualities listed during hiring process. (Terjesen, Vinnicombe and Freeman 2007). Retaining young workers has grown to be incredibly challenging for companies (Barrick and Zimmerman 2009). Therefore, post-recruitment consequences like poor staff retention (Breaugh and Starke, 2000) and high turnover rate of workers (Barrick and Zimmerman 2009; Moser 2005) are significant organisational issues (Barrick and Zimmerman 2009).

Seeing that by 2025, millennials will comprise up 75% of the job market, leaders of all types must adopt an organisational plan that makes use of millennial expertise to make them feel appreciated and inspired to remain (Hamilton 2020). In order to attract and keep the best workers, organisations are urged by the literature to modify and create effective attraction and retention initiatives that satisfy the interests and aspirations of individuals of the millennial age (Hamilton 2020). This study explores these areas further in the subsequent chapters. Chapter 3 discusses the research methodology of the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

This chapter describes the processes of the study's research methodology including selecting a research approach, determining a population and sample, crafting the interview schedule, collecting data, outlining ethical concerns, analysing the data, and addressing trustworthiness. The purpose of this study was to explore factors of job satisfaction which influence high employee turnover of millennial medical technologists, with the objective of recommending retention strategies.

3.2 STUDY DESIGN

Methodology refers to the strategy or plan of action. It shapes the researcher's choice and use of specific methods and links them to the desired outcomes (Crotty 1998). The methodology and methods for this study were chosen using Crotty's knowledge framework to explore the research objectives. Crotty (1998) distinguished between different frameworks of research based on epistemology which provides the foundation for research and upon which is built the theoretical perspective. After this the methodology is selected and finally the method. Each provides the basis for the next.

Epistemology is described as the theory of knowledge underlying a research study (Crotty 1998). Epistemology or knowledge can be acquired through objectivism, constructionism, or subjectivism (Crotty 1998). Objectivism proposes that truth and meaning exist in objects or objectively (Crotty 1998). Subjectivism proposes that truth and meaning is created out of nothing but is imposed by the subject on the object (Crotty 1998). Constructionism proposes that humans construct reality by interacting and interpreting their environments. The epistemology of constructionism suggests that although the nature of things exists outside of the person, the meaning of it does not, so reality is constructed by the meaning one ascribes to it (Crotty 1998). The

researcher examined these different epistemologies and recognised that constructionism was the most appropriate match for the research design.

The epistemology of constructionism aligns with the theoretical perspective of interpretivism. This research study aimed to achieve a better description and understanding of the phenomenon of high staff turnover rate, by exploring the experiences of the millennial medical technologists who experienced the phenomenon. Therefore, this study was firmly placed within the interpretive paradigm. An interpretive qualitative inquiry permits several views, multiple meanings, and realities to be given to the phenomenon under investigation (Creswell 2007). The researcher explored the job satisfaction needs, and recommendations of retention strategies, by appropriately applying Herzberg's motivation-hygiene theory through the identification and understanding of the critical motivation and hygiene factors of the study's participants.

A method of inquiry known as qualitative research enables researchers to pursue, analyse, and understand various values and experiences individuals attribute to a particular phenomenon (Creswell 2007). A qualitative methodology includes studying psychological elements which cannot be measured using statistics (Percy, Kostere and Kostere 2015). Examining the real-life experiences and personal views of those who have encountered the phenomenon can help us better understand the phenomenon as an individual's journey or concern (Creswell 2007).

The researcher used an approach based on qualitative research to gather information for the study under consideration. There are several qualitative approaches from which a researcher can choose (Sandelowski 2000) to deliver findings. These include case study, phenomenology, grounded theory, narrative, and ethnography. An exploratory descriptive qualitative method, in the view of the researcher, was the most relevant because it connected to the research's objectives and delivered an effective means of accomplishing those objectives (Thomas 2013).

This exploratory study design concentrated on examining what was happening, asked questions, sought new perceptions, and evaluated the phenomenon in a new light, as well as produced ideas, and a hypothesis for future research. An exploratory study

was conducted as there was little information available in some areas and less information was known about how similar research which was carried out previously. Therefore, the exploratory study offered a higher level of awareness of the nature of the problem that was researched since very few qualitative studies had been conducted in the same area (Sekaran 2003) as this study of the high turnover rate of millennial medical technologists in KwaZulu-Natal, South Africa.

This type of exploratory study was valuable for explaining and understanding the problem; it was conducted based on three key elements: an examination of the literature, interviewing experts, and conducting interviews of millennial medical technologists (Saunders, Lewis and Thornhill 2009). In essence, it was helpful to uncover the full nature of a little-understood phenomenon (Polit and Beck 2012), and explored a subject with limited reporting within the literature. This approach allowed the participants of the study to add to the growth of up-to-date information regarding the subject (Reid-Searl and Happell 2012).

The description of a phenomenon is an important purpose for research (Polit and Beck 2012), and was useful in documenting and describing the phenomenon of interest (Sandelowski 1995). This study provided a detailed account of the phenomenon's significance and generated a picture of the world from the perspective of the participants (Holloway and Wheeler 2010). Sandelowski (2010) reminds the researcher that the data must be analysed or interpreted to make something of the data. Sandelowski (2000) suggested further that descriptive qualitative studies should be the methodology of choice when the aims of the research were to produce a straightforward description of the phenomenon as was the intention with this study.

Caelli, Ray and Mill (2003) emphasised that this descriptive approach is effective in leading the researcher to understand who was involved, what was involved and where events took place. The descriptive study design presents an accurate profile of the people, situations, and events, and require the collection of a large amount of information about the study. It determines and describes the variables in the situation. It also describes the factors of high turnover at various levels such as individual, organisational, industry-oriented, and other perspectives (Sekaran 2003).

Sehularo, Du Plessis and Scrooby (2012), suggested that exploratory research is not limited to just the observation and documentation of the phenomenon but rather the examination of the phenomenon under investigation. The descriptive element was used to gain insight and inform the study. An exploratory descriptive qualitative approach was ideal for this research due to the desire to understand the millennial employee experience which leads to turnover or retention. It improved the researcher's examination of the factors that influence the phenomenon because it provided rich qualitative data on the lived experiences, views, and emotions of the high turnover of millennial medical technologists based on the perceptions of the millennial medical technologist. Although previous research allowed for the description of these factors a much more in-depth investigation was required for the purposes of this study hence the use of this study design.

To study the phenomenon from a qualitative view the researcher developed study questions, collected information in a natural environment, and used inductive analysis to discover themes and patterns (Creswell 2007).

3.3 STUDY SETTING

This study was conducted with participants who were previously or currently employed at a private diagnostic pathology laboratory in the KwaZulu-Natal region of South Africa. The pathology laboratory industry in South Africa comprises private and public laboratories which offer medical research and diagnostic testing services in a variety of disciplines such as Haematology, Chemical Pathology, Microbiology, Histopathology, Cytology, Cytogenetics, Blood Transfusion, Immunology, Immunohaematology, and Virology. Medical technologists may possess a discipline specific qualification or a clinical pathology qualification which includes all three disciplines, namely, Haematology, Chemical Pathology, and Microbiology. They may seek employment at any of these laboratories dependent on their qualification specialisation field.

Diagnostic pathology laboratories are operational in most public and private hospitals throughout the country. Due to the nature of the healthcare industry most diagnostic

laboratories offer a daily 24-hour service. Due to the urgency to provide correct patient test results to the attending physician, employees are required to work in a fast-paced environment while ensuring accuracy, precision, ethics, and professionalism. Each laboratory performs numerous different laboratory tests which are conducted under full compliance to strict protocols and standard operating procedures. The quality and accuracy of patient results cannot be compromised and therefore there is no room for error. Apart from conducting the actual laboratory testing the medical technologist also verifies that the results reported are correct. The responsibility and role of the medical technologist is therefore extremely demanding in the pathology laboratory.

3.4 POPULATION

This study's population comprised medical technologists of the millennial generation. Individuals born between 1982 and 2002 are referred to as millennials (Howe and Strauss 2000). In South Africa, medical technologists begin their career as HPCSA registered medical technologists after completion of a National Diploma in Biomedical Technology and after passing the HPCSA National Board examination. The HPCSA scope of practice of a qualified medical technologist is categorised as independent practice which enables the technologist to work independently/unsupervised, verify patient results, engage in private practice, and is restricted to the discipline/s of the National Board examination completed for example clinical pathology. Some of their daily duties include maintenance, calibration, and quality control of laboratory analysers/equipment and manual testing kits, analysis of patient specimens, verification and interpretation of test results, preparation of reports, and communication of urgent and critical laboratory findings to relevant clinical staff. Patient specimens include but are not limited to, body fluids such as blood, urine, cerebrospinal fluid, as well as tissue samples, pus swabs, faeces, and sputum. Testing includes routine and urgent priority, and accuracy is of utmost importance.

The Universities of Technology provide the opportunity to further studies in the form of a Bachelor of Technology in Biomedical Technology, Medical Laboratory Science degree, Master's, and Doctoral Degree qualifications. Medical technologists begin their career in the pathology laboratory as Junior Medical Technologist followed by

Senior Medical Technologist, Laboratory Manager, and Regional Laboratory Manager. The pathology laboratory industry in South Africa comprises medical technologists of different staff categories, different university qualifications, different discipline qualifications, various generations, all races and both sexes.

There are opportunities to progress into the support departments of the pathology laboratory industry such as quality assurance, training and development, procurement, information technology, and marketing although these positions are limited. The above opportunities present themselves at both diagnostic and medical research laboratories. There are a greater number of diagnostic laboratories than medical research laboratories in South Africa. There are also external positions such as sales representatives, trainers, application specialists, and service technicians available at the companies which supply pathology laboratories with analysers, equipment, testing kits, consumables, reagents, chemicals, and other laboratory materials. These positions however are far fewer in number when compared to the positions available at diagnostic laboratories.

3.5 ETHICAL CONSIDERATIONS

Research should always take into consideration the ethical aspects regarding the researcher and the participants (Saunders, Lewis, and Thornhill 2009; Bryman and Bell 2011). Ethical issues should account for the harm of participants, lack of information, risk of confidentiality or any form of dishonesty (Bryman and Bell 2011). Participants are affected by the research, depending on how the researchers conduct the research (Saunders, Lewis, and Thornhill 2009). It is therefore imperative that the participants are informed and understand the research intentions, before they decide to participate in the research (Bryman and Bell 2011). Researchers must ensure that the data collection process is carried out correctly (Saunders, Lewis, and Thornhill 2009).

The Belmont Report articulated three primary ethical principles on which standards of ethical conduct in research are based: beneficence, respect for human dignity, and justice (Polit and Beck 2009).

3.5.1 Beneficence

Beneficence is the first ethical principle articulated in the Belmont Report. It enforces an obligation on researchers to minimise harm and to maximise benefits. Human research should be beneficial for participants, to a situation common to other individuals, or for society as a whole (Polit and Beck 2009).

This research is expected to benefit the participants and their employers. The research will benefit participants directly because the study will provide employers with information on factors which influence staff turnover and job satisfaction as well as offer recommendations on improving retention strategies. This will, hopefully, lead to improved job satisfaction for the participant, a more productive, efficient, and profitable output for the employer, and the prospect of an improved service delivery to patients and healthcare thereby contributing to society.

A letter of information (Appendix B) about the study was issued to each potential participant stating that they will not be subjected to any known physical, psychological, economic, social, or legal risks or discomfort. The benefits of the study were addressed in the above letter as well. All research interviews were accomplished telephonically, and all the relevant documentation scanned and emailed between the participant and the researcher for the study.

3.5.2 Respect for human dignity

Respect for human dignity is the second ethical principle articulated in the Belmont Report. It includes the right to self-determination and the right to full disclosure (Polit and Beck 2009).

There was no coercion of any sort exercised to influence any participant or potential participant in any aspect of the study. A letter of information and an informed consent document (Appendix B) was given to all participants or potential participants assuring them that their participation in the study was strictly voluntary and they had the right to refuse to participate or withdraw from the study at any time, and all information

provided would be omitted from the study and destroyed in the event that the participant chose to withdraw from the study. It also stated that participation in the study did not offer any remuneration to the participants. Participants indicated their willingness to participate in the study by completing, signing, and returning the informed consent document to the researcher. The researcher further fully described the nature of the study, including the likely risks and benefits, and the researcher's responsibilities.

3.5.3 Justice

Justice is the third ethical principle articulated in the Belmont Report. It includes participants' right to fair treatment and their right to privacy (Polit and Beck 2009). The researcher applied for gatekeeper permission preceding the data collection process. Permission for the use of data, employee access and premises, was requested from and granted by the Lancet Laboratories Lancet Publications Committee (Appendix A and Appendix E). The Institutional Research Ethics Committee of the Durban University of Technology also granted full ethics approval to the research proposal and for data collection for the research study. Ethical Clearance number IREC 048/21 was assigned to the study (Appendix H).

Each participant was informed that all the information collected would be kept confidential. Only the researcher and the research supervisors would have access to the interviews. The information was coded to maintain confidentiality and no reference to a person or facility would be used. The researcher further explained that the participants' answers would be treated anonymously and that no questions were asked that could identify them or harm them in any way.

Research interviews were audio recorded, documented on paper, and stored electronically and as hard copies. Data is stored under lock and key for the duration of the study in the researcher's office and will be for five years after the research is completed. Hard copies of raw data will be shredded, by the researcher, after five years of completion of the study. All electronic data will be password protected for five years and thereafter deleted.

3.6 SAMPLE SIZE AND RECRUITMENT PROCEDURES

The sampling strategy used in exploratory descriptive qualitative research can be classed as purposeful (Hunter, McCallum and Howes 2019). Creswell (2009) stated that in qualitative research, the intention is not to generalise to a population, but rather to develop an in-depth exploration of the central phenomenon and this is best achieved through purposeful sampling strategies. Sandelowski (2000) states that this sampling technique allows the researcher to capture and describe the phenomenon over a range of situations. Likewise, Stebbins (2001) stated that the aim of sampling is to maximises the representativeness of a population and this can be achieved through purposeful sampling. In purposeful sampling the researcher recruits participants who can provide the data necessary to address the aims of the study (Sandelowski 2000). Therefore, purposeful sampling was used to solicit the involvement of people who represented the phenomenon under examination and could contribute to the researcher's understanding of the factors which influence the elevated rate of turnover of millennial medical technologists in private pathology practice (Creswell 2007).

It was imperative to ensure that the sample size supports the quality of data required for this study (Sandelowski 2000). Stebbins (2001) recommend a sample size of 30 participants, to allow for important categories and sub-categories to surface but notes that a smaller sample can be appropriate. According to Miles and Huberman (1994), qualitative research is typically conducted with a small number of participants. Keegan (2009) and Swiggard (2011) agree that in comparison to other research techniques, the study population size for qualitative research is fairly small. Having examined studies that have used an exploratory descriptive qualitative approach, the average sample size appeared to be 15 (Hunter, McCallum, and Howes 2019).

Studies such as the research conducted in this study used a sample size of 15 (Creswell and Poth 2018). Cleary, Horsfall and Hayter (2014) state that exploratory descriptive qualitative research allows for flexibility with respect to sample size; but it is the researcher's obligation to validate the sample size used in the study as the selection had to have a clear rationale with the capacity to accomplish a specific function in relation to the aims of the research. The goal of a qualitative study is to

have a large enough sample size to sufficiently describe the phenomenon of interest and address the research question at hand. But at the same time, a large sample size risks having repetitive data and is therefore limited to the point of saturation. As in any qualitative study, the end goal of purposeful sampling is to acquire cases considered information-rich for the purposes of study (Sandelowski 2000).

This study's population was limited to HPCSA registered medical technologists, between the ages of 19-39 years (millennial generation), currently or previously employed at Lancet Laboratories in KwaZulu-Natal.

The researcher recruited participants from a list of employees, provided by the Regional Technical Manager, who fitted the selection criteria for this study. The researcher invited these employees by email to voluntarily participate in the interview. Gatekeeper permission to invite and interview such employees was obtained from Lancet Laboratories, Lancet Publications Committee (Appendix A and E). The researcher forwarded 20 invitations to which 17 signed informed consent forms were received from participants indicating their willingness to participate in the study. At the 14th interview the researcher recognised data saturation when she heard the repetition of themes in prior interviews but decided to do one more interview before concluding the sampling process.

3.7 INCLUSION AND EXCLUSION CRITERIA

To satisfy the sampling criteria, the following inclusion and exclusion criteria were applied.

3.7.1 Inclusion criteria

Participants were included in this study if they were:

- HPCSA registered medical technologists, between the ages of 19-39 years (millennial generation).
- Currently or previously employed at Lancet Laboratories in KwaZulu-Natal.

3.7.2 Exclusion criteria

Participants were excluded from this study if they were:

- Participants in the pilot study.
- Medical technologists who are younger than 19 years and older than 39 years of age.
- Medical technologists who have never been in the employ of Lancet Laboratories (KZN).
- Not registered with the HPCSA as medical technologists.

3.8 PILOTING OF THE RESEARCH TOOL

A pilot study is an important part in the interview preparation process and was executed before the actual study. The purpose of the pilot was to improve the interview schedule to ensure no problems occurred during the actual data collection, and to allow for participant suggestions regarding the interview schedule (Saunders, Lewis, and Thornhill 2009). It assisted in identifying flaws, limitations or weaknesses in the interview design and allowed the researcher to complete necessary amendments to the interview questions before carrying out the actual study (Kvale 2007). Bryman and Bell (2011) mentioned further that it is best to use a small set of participants that can be compared with the members of the real sample group that will be used in the actual study.

The pilot study was conducted prior to the actual study on two selected candidates fitting the inclusion criteria. A letter of information about the study and an informed consent document (Appendix B) was given to the participants who indicated their willingness to participate in the pilot study by completing and signing the informed consent document. Two semi-structured qualitative interviews (Appendix C) were conducted telephonically at times which were convenient to the participants. Interviews were conducted by the researcher, were audio recorded, and documented on paper.

The interview schedule was well received by the participants who advised that the questions were well designed and were easily interpreted. The outcome of the pilot study indicated that the interview schedule satisfied its purpose therefore did not require any changes before being used in the actual study. The participants involved and the data collected during the pilot study were not included in the final data analysis.

3.9 DATA COLLECTION

Many data collection methods exist in qualitative research and interviews are among the best suited and most frequently used methods (Kumar 2005; Nohl 2009). Interviewing can be very flexible, when the interviewer has the choice to articulate questions as they come to mind about the issue being explored, or interviewing can be inflexible when the interviewer has to adhere strictly to the questions decided beforehand (Kumar 2005). Interview methods can be divided into three categories depending on the configuration of the questions used: unstructured, semi-structured, and structured interview.

In keeping with Crotty's framework, the data collection instrument chosen was the qualitative interview particularly, the semi-structured interview. Hunter, McCallum and Howes (2019) proposed the use of semi-structured interviews when conducting an exploratory descriptive qualitative study. Sandelowski (2000) suggested that focus groups and the observation of certain target events may be used to collect data in descriptive qualitative studies, however semi-structured interviews are typically used. Stebbins (2001) concurred that while exploring through observation was useful, exploring with interviews was more focused. The aim of descriptive qualitative studies was to uncover the 'who, what and where' of events or experiences (Sandelowski 2000) and exploratory researchers should "try to generalize about who is doing (thinking, feeling) what to (with, for, about) whom and when and where the action is taking place" (Stebbins 2001).

The semi-structured interviews (Appendix C) used for this study involved asking a series of structured questions and then probing more deeply with open-form questions to obtain additional information (Gall, Gall and Borg 2003). Semi-structured interviews

have an advantage over unstructured and structured interviews because they offer higher flexibility for the researcher to explore unanswered questions and enrich the collected data based on the participant's response. The semi-structured interview design was deemed most suitable for the exploration of the central phenomenon of this research based on the following reasons:

- The semi-structured design allowed the participants plentiful time and opportunity to express their diverse views and allowed the researcher to respond to and inquire further on emerging ideas and unfolding events (Nohl 2009).
- Data gained through semi-structured interviews was comparable between interviews because all participants expressed their views on the common universal themes (Nohl 2009).
- Semi-structured interviews explore the participants' views, declarations, and beliefs, but also allow the researcher to prompt participants to give accounts of their personal experiences (Nohl 2009).
- Open-ended questions allow the participants to willingly express their experiences and diminishes the influence of the researchers' perceptions and previous findings (Creswell and Cresswell, 2005).

Anonymity was assured to give the participants the opportunity to freely convey their thoughts and encouraged them to report contentious matters.

An interview schedule was compiled and used to direct the interviews to ensure that all participants reported during the interview process on the matters that were of interest in this study. However, this list was not used for standardising the data collection procedure, but simply provided a setting for the discussions and was intended to prompt and guide the participants' descriptions.

A qualitative method investigates psychological elements such as attitudes, beliefs, subjective opinions, or environmental events that cannot be quantified statistically (Percy, Kostere and Kostere 2015). As a result, the interviews were formulated to gather relevant and detailed information on turnover, job satisfaction and retention of millennial medical technologists, who have shared the experience of the phenomenon

under investigation, as well as elaborate on motivation and hygiene factors of Herzberg's theory (Herzberg 1964). The interview questions were carefully designed to promote responses to the objectives explored in this study. The first part of the interview was designed for gathering pre-qualifying information, the second part to collect demographic information and third to gather responses to open-ended questions regarding the participant's perceptions and observations.

It is very important to be well prepared for the interview process to ensure that the research instrument addresses possible biases and offers maximum advantage to the planned research study (McNamara 2009). Prior to and during the interview stage, the researcher applied the following eight principles based on the recommendations by McNamara (2009): (1) select a setting with little distraction; (2) explain fully, the purpose of the interview to the participant; (3) clarify the terms of confidentiality; (4) describe the format of the interview; (5) specify the interview duration; (6) provide researcher contact details should the participant need to contact the researcher later; (7) enquire before the start of the interview if the participant had any questions; and (8) do not rely on memory to recall the responses and therefore record the participants' responses during the interview process.

Qualitative researchers gather information in a natural environment, such as a place of work or a residence. (Creswell 2007) and the use of a phone was a practical communication device in those settings. All interviews were conducted telephonically, at the researcher's home office which offered a private, quiet, and disturbance-free area. The participants' location varied depending on their circumstances or convenience. The participants chose a familiar, private, and quiet environment, which allowed the participants to be more comfortable to express their opinions freely. Interviews were conducted at venues dependent on network signals, internet access and convenience. The researcher used her mobile phone for all the telephone calls, her home office provided excellent mobile network signal strength and internet access. All communication between the researcher and the participants were clearly audible throughout the interview sessions. The researcher chatted informally with each participant to break the ice before proceeding to the formal interview. The researcher also requested permission from the participant before commencing with the audio

recording of the interview session. The duration of each interview was approximately 30 minutes. The data collection period was dependent on the mutual availability of the participant and researcher and took approximately 1 month to complete the number of interviews required.

Data was collected from participants who agreed to speak about their own views and actual interactions about the phenomenon. Through the use of semi-structured qualitative interviews (Appendix C), data was collected from 15 HPCSA registered medical technologists. All participants belonged to the millennial generation and were between the ages of 19 and 39 years. They were either currently or previously employed at Lancet Laboratories in KwaZulu-Natal. The interviews were executed by telephone with the participants agreeing to participate in the study by signing an informed consent document (Appendix B). Altogether 15 interviews were completed telephonically by the researcher, audio recorded using Microsoft Word, documented on paper, transcribed, and stored electronically and as hard copies on the researcher's laptop. The interviews were audio recorded to guarantee that the most accurate information from individuals interviewed was obtained. During the interview, the researcher captured written records to be used as a backup source of data if the audio recording failed.

3.10 DATA ANALYSIS

Data analysis for the exploratory descriptive qualitative methodology was that of thematic analysis as recommended by Hunter, McCallum and Howes (2019), and based upon the work of Braun and Clarke (2006) who concurred that thematic analysis was compatible with the constructionist paradigms of epistemology within psychology. Thematic analysis, through its theoretical perspective, offers a flexible and valuable research instrument which provides a rich and in depth, yet intricate, description of data (Braun and Clarke 2006).

Patton (2015) emphasises that there is no formula for the process of qualitative data analysis; however, there are guidelines and principles to support the process. Thematic analysis was the preferred approach to data analysis in this exploratory

descriptive qualitative study and was acceptable for many reasons (Braun and Clarke 2006). Firstly, the exploratory descriptive qualitative methodology intended to explore and describe the experiences of participants in relation to the phenomenon under examination (Braun and Clarke 2006). Green and Thorogood (2014) recommended that thematic analysis is appropriate for this very purpose. Secondly, Stebbins (2001) stated that the exploratory aspect of exploratory descriptive qualitative methodology is used to discover generalisations; therefore, thematic analysis should recognise the key statements and the core of the experience from the participants (Holloway and Wheeler 2010). These 'statements' are used to form the generalisations (Hunter, McCallum and Howes 2019). Additionally, thematic analysis seems to have worked in other, related studies where Braun and Clarke (2006) are referred to as esteemed thematic analysts.

Themes or patterns within the data were identified in an inductive approach which meant that the themes identified were strongly linked to the data collected (Braun and Clarke 2006). The purpose of qualitative data analysis is to interpret the ample, diverse, and rich forms of information that accrue during the study. The researcher is required to relate the information collected during the interview process and compile the data into sections or groups of information, known as codes (Creswell 2007). These codes are used for consistent phrases, expressions, or ideas that are common among the research participants (Kvale 2007). The manner in which codes are expressed differs among researchers. Several researchers seek the expertise of a third-party consultant to review codes to determine the quality and effectiveness based on their evaluation of the interview transcripts (Creswell 2007).

In the current study, the researcher enlisted the assistance of her research supervisors. Data was managed using Nvivo 11 qualitative analysis software which is a programme used for qualitative research specifically unstructured text, including interviews and open-ended responses to facilitate a more comprehensive, methodical, and sensitive approach to study (Bazeley and Jackson, 2013; Edhlund and McDougall 2019) due to the ability to organise data quickly and easily for analysis. The identified codes were further condensed into themes.

3.11 TRUSTWORTHINESS

In this qualitative study, it is the researcher who was the main data collection instrument and she had to take steps to demonstrate the trustworthiness of the data. The key effort was to confirm that the findings accurately expressed the experiences and viewpoints of participants, rather than the views of the researcher. The researcher chose to evaluate the trustworthiness of the study's data and findings using the following criteria for developing the trustworthiness of the qualitative inquiry: credibility, dependability, confirmability, transferability, and authenticity as suggested by Lincoln and Guba (1985) and Guba and Lincoln (1994)

3.11.1 Credibility

Credibility refers to confidence in the truth of the data and interpretations of them (Polit and Beck 2009). The researcher strived to establish confidence in the truth of the findings for the participants and contexts in the research. In doing so, the researcher provided actual interview excerpts to illustrate sources of the findings identified in the data analysis. The researcher also enlisted the use of peer debriefing through numerous meetings with her research supervisors to review and explore various aspects of the study. All interviews were audio recorded and transcribed verbatim, and the researcher limited the sample size at the point of saturation. The trustworthiness of the inquiry was further enhanced because information about the researcher, including information about her credentials and her personal connections to the people, topic, and profession under study, are reported in Chapter 5.

3.11.2 Dependability

Dependability is defined as the stability of data over time and over conditions. In qualitative research, credibility cannot be attained in the absence of dependability (Polit and Beck 2009). The researcher demonstrated dependability by transparently describing the research steps taken from the start of the research project to the development and reporting of the findings. All records pertaining to the research were saved throughout the study. The researcher ensured that the evaluation of the

participants' findings, interpretation, and recommendations of the study were all supported by the data as received from participants of the study (Polit and Beck 2009).

3.11.3 Confirmability

Confirmability refers to the objectivity of the data and is demonstrated by the potential for agreement between two or more independent people about the data's accuracy, relevance, and meaning. This criterion is concerned with confirming that the data represented the information provided by the participants, and that the data interpretations are not figments of the researcher's imagination (Polit and Beck 2009). The trustworthiness of this criterion was achieved through multiple meetings throughout the study with the research supervisor and co-supervisor to review and explore various aspects of the study, as well as to confirm that the findings presented were based on the participants' responses instead of the researcher's own preconceptions.

3.11.4 Transferability

Transferability refers to the extent to which qualitative findings can be applicable in other settings or groups. To conduct such an assessment, the duty of the researcher was to provide sufficient descriptive data of the participants and the context in which the data was collected. Hence, transferability was promoted by the amount of information the researcher provided about the contexts of the study. The researcher portrayed a rich and thorough description of the study setting, the population, and of observed transactions and processes.

3.11.5 Authenticity

Authenticity can be defined as the extent to which researchers justly and truly show a range of different realities in the analysis and interpretation of their data. Authenticity is demonstrated through the depiction of the feelings and experiences of the participants' lives as they were lived (Polit and Beck 2009). The researcher further contributed to the authenticity of the study through the presentation of a rich and

thorough description of the context of the study and the participants, and rich verbatim accounts of the participants' responses.

The researcher was able to demonstrate trustworthiness in this qualitative study through the degree of confidence in the data assessed using the criteria of credibility, transferability, dependability, confirmability, and authenticity.

3.12 CONCLUSION

The research methodology outlined in this chapter helped the researcher to address the study's research objectives. Through in-depth, semi-structured interviews the researcher was able to elicit the personal stories, feelings, experiences, and true insight of millennial medical technologists who experienced the phenomenon of high staff turnover in a private pathology laboratory setting. Furthermore, the researcher was able to derive meaning about the voluntary turnover of millennials from their viewpoint by performing an in-depth examination of the information provided by the participants and identifying and analysing patterns and themes in the information gathered. More importantly, by viewing the phenomenon through an exploratory descriptive qualitative lens, the researcher was able to add abundant, empirical information to an existing reservoir of published literature that is limited in scope with regard to millennial medical technologists' voluntary turnover. The study's results will be revealed in Chapter 4 and reviewed in Chapter 5.

CHAPTER 4: QUALITATIVE DATA ANALYSIS

4.1 INTRODUCTION

This chapter presents the results and interpretation of the findings of the study exploring the voluntary turnover of millennial medical technologists from the millennials' perspective. Furthermore, it provides a summary of the qualitative techniques used, the participant profiles, as well as themes identified in the analysis. This chapter's emphasis is on the qualitative information gathered during an exploratory descriptive study which executed purposeful sampling, semi-structured interviews of millennial medical technologist participants, and the thematic analysis of such data.

The objectives of the study are:

1. To explore the high staff turnover rate of millennial medical technologists in private pathology laboratory practice in KwaZulu-Natal.
2. To describe the job satisfaction needs and expectations of medical technologists belonging to the millennial generation in private pathology laboratory practice in KwaZulu-Natal.
3. To recommend retention strategies based on the study finding which will be made available to Lancet Laboratories Human Resources Department to review and implement.

4.2 QUALITATIVE TECHNIQUES

The researcher used Nvivo 11 qualitative analysis software to analyse, organise, and visualise the information obtained from the semi-structured interviews. This software provided tools for classifying, sorting, and arranging the information which enabled the researcher to identify codes and themes.

4.3 PROFILE OF PARTICIPANTS

Data was collected using semi-structured qualitative interviews (Appendix C) from 15 HPCSA registered medical technologists between the ages of 19 and 39 years (millennial generation), currently or previously employed at Lancet Laboratories in KwaZulu-Natal. The first part of the interview was designed for gathering pre-qualifying information and the second part for gathering demographic information.

At the time of the interviews all 15 participants were HPCSA registered and practising medical technologists. Of these, 10 were employed at Lancet Laboratories (KZN) and five were employed at other pathology laboratories. All 15 participants were within the millennial age group (18-39 years) thereby satisfying the age criteria of the study, with most participants aged above 26 years. Both genders were represented; however, a female majority existed with only five male participants. The participants represented African and Indian race groups. The majority of the participants were unmarried with one married participant in the study. Most participants had a degree qualification in Biomedical Technology. All 15 participants satisfied the inclusion criteria of the study.

4.4 THEMES OF THE STUDY

The third part of the interview was designed for gathering responses to more detailed open-ended questions concerning the participant's impressions and conclusions. The qualitative analysis of such data generated three key themes, five subthemes and a variety of categories and subcategories, as listed below and in Figure 4.1 and Appendix G. The themes and subthemes are reported in detail with the appropriate quotes from the interview data in the following sections.

Theme 1: Job satisfaction

This theme emerged with three subthemes: current views about the medical technology, factors promoting low job satisfaction, and factors promoting high job satisfaction.

Theme 2: Turnover

This theme emerged with two subthemes: workplace factors affecting turnover, and progression and remuneration factors affecting turnover.

Theme 3: Retention

This theme emerged with the two subthemes: motivation to stay at current organisation, and change factors to attract and retain medical technologists of the millennial generation.

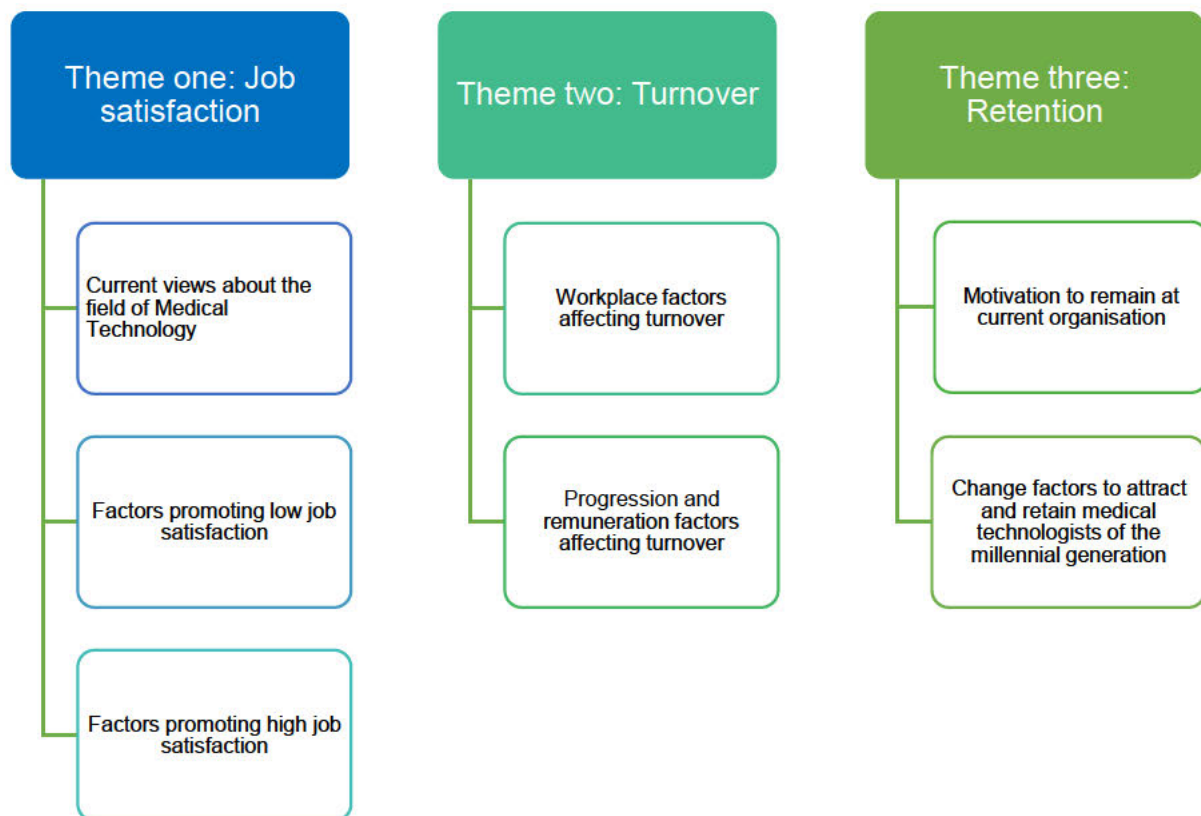


Figure 4.1: Themes and subthemes

4.5 THEME 1: JOB SATISFACTION

This theme examined the concept of job satisfaction and consisted of three subthemes, namely, current views about the field of medical technology, factors promoting low job satisfaction, and factors promoting high job satisfaction, 12 categories and 26 subcategories. A high level of low job satisfaction was noted.

4.5.1 Subtheme 1: Current views about the field of medical technology

This subtheme explored current views of participants regarding their jobs as medical technologists. This subtheme consisted of two categories, namely, negative views, and positive views about the field of medical technology. The views expressed by those participating were more positive towards the profession than negative.

Category 1: The negative views about the field of medical technology

This category consisted of two sub-categories namely lack of growth, and monotony.

Subcategory 1: Lack of growth

Many participants expressed a deficiency in opportunities for growth in the field of medical technology. This stifled their careers and led to frustration. These views are articulated in the quotes below:

... but my view is that if you are at a lab for so many years, you should move to a different level like from junior to senior technologist. Most millennials leave because there is no growth. It's not just Lancet Laboratories that does not provide opportunity to grow but rather our entire field of medical technology. We push ourselves, we work, and we need recognition. Participant 3

... I spent four years there, so in that four years, there was no opportunity presented to you as a technologist to grow or develop in that role. Participant 1

There is no succession planning. You have to plan for your own succession. There is no form of structure in place or planning for the staff. Participant 15

Subcategory 2: Monotony

Participants felt that they were doing the same tasks continuously without exposure to other areas. Monotony was a sub-category which emerged and was illustrated in the following quotes by participants:

The processes are all set, and we just follow. We do the same thing day in and day out. There is nothing new except different patient cases. Participant 4

It became monotonous where you're doing the same thing over and over but there were so many other things you could be exposed to, like QC and quality assurance, and all of that. But there's never that opportunity that's given to you.

Participant 1

Category 2: The positive views about the field of medical technology

This category was supported by many participants. It consisted of three sub-categories, namely, opportunities to learn, good working environment, and significant contribution of the profession to healthcare.

Subcategory 1: Opportunities to learn

Opportunities to learn was conveyed as a positive factor by many participants. They asserted job satisfaction with training processes as demonstrated by the following quotes:

Fruitful and challenging, I don't get bored. I am not discouraged because there is always something new to learn. Participant 10

I have a great opportunity at Lancet Labs. We tend to learn more things if we move to different departments. I learnt a lot because I moved from the main lab to the peripheral lab. I then moved back to the main lab and learnt even more.
Participant 3

The training was very efficient and informative. Participant 6

There was one participant, however, who stated that the training offered by the laboratory was disappointing, as illustrated by the following statements:

Internal and external training was not to my full liking. Participant 8

Exposure was not adequate in terms of training as a qualified medical technologist as opposed to my current organisation. Participant 8

Subcategory 2: Good working environment

A few participants felt that the laboratory was well structured, supportive, and fostered good communication which contributed to a good working environment, as quoted below.

Good communication between Superiors. Participant 10

Lancet Labs and my current organisation deserve good credit and are good organisations with good structures. Participant 8

It was nice working at Lancet Labs. People were supportive. Participant 6

Subcategory 3: Significant contribution of the profession to healthcare

Many participants were passionate about their profession and viewed it as important irrespective of which organisation they belonged to. The profession was all about contribution to efficient healthcare through accurate laboratory results which made them feel good about their profession. These feelings were expressed in the following quotes:

I enjoy my job. It is very informative. I enjoy it because I am helping people although it is indirectly. Participant 11

I think as a medical technologist we play a very important role in the medical field and patient diagnosis. Participant 7

I have a very important job at the lab. Essentially, we contribute to the diagnosis of the patient. As a technologist I am an essential and crucial part of the company. Participant 12

Contrary to the views above, one of the participant's emphasised that in general, the field of medical technology seemed to be undermined and not recognised.

Recognition of biomedical technology was very poor. Participant 8

4.5.2 Subtheme 2: Factors promoting low job satisfaction

Low job satisfaction was prominent among most participants. This subtheme examined the depth of each factor which also unpacked further categories. There were five categories generated, namely, unfavourable salaries, poor work environment, poor organisational culture, inadequate training and development opportunities, and mismanagement. These categories unpacked a further 12 subcategories.

Category 1: Unfavourable salaries

Salaries were the most dissatisfying factor and consisted of two subcategories, poor salaries, and salary inequity.

Subcategory 1: Poor salaries

Poor or low salaries were a common factor for many participants. These participants expressed similar views which included:

Poor salaries. Participant 15

Low pay or salary. Participant 7

I left for more money. Participant 13

Subcategory 2: Salary inequity

Salaries seemed generic for all technologists regardless of expertise or number of years of service. Hence there was no equity in salary and people who worked for years had the indignity of earning the same or less than someone new to the profession, as illustrated by the quotes below.

Whether you work in a low-volume or high-volume lab, everyone has the same salaries. People are not looked at as individuals. Participant 15

Salary should also increase such that equity should be maintained across the board for example if I start a job this year and 5 years from now the basic salary as opposed to when I started as a Junior Medical Technologist is obviously going to increase, so that person might be earning x amount more than what I would be

earning although I would have been qualified for a longer period and have more experience than the person who just qualified. Participant 12

Salaries cause real tension in the lab. It is demotivating when you know of other colleagues at other labs who are earning higher salaries. Participant 14

Category 2: Poor work environment

The views of the participants indicated that the work environment was not favourable in various ways. Hence this category consisted of three subcategories, namely, stifled ambition and growth, lack of promotion, and unsociable working hours.

Subcategory 1: Stifled ambition and growth

Growth was the most expressed factor as it tied into the vision and ambition of participants. It appears that the organisations did not provide such opportunities for growth. People were placed in the same positions for years and not exposed to other areas. These views were depicted in the quotes below.

When you have grown in your field to a point where you feel like you are no longer suitable for the position you are in, and you want more or to move higher in position. Participant 7

When people are in the same position for so long, they start looking for growth in other places/organisations and different positions. Participant 7

The other thing is if you have ambition and you want to grow and all of that, all of that contributes to not being happy where you are, where you can see yourself moving like where I was, I could see that there was no change, nothing was going to change. It was four years, so that is why I had to make a point. Participant 7

Subcategory 2: Lack of promotion

Relating to the above, there was also a lack of promotion of employees which caused frustrations. Senior medical technologists were still confined to bench work rather than management positions as indicated by the quotes below.

Promotion – not as easy to be promoted or move up in the company as opposed to leaving and applying elsewhere for growth and a higher position. Growth will be faster if you apply to another company than to remain. Participant 12

There are so many staff that are good enough or capable to be senior technologists and are at the lab for so long but are stuck and cannot move ahead. Participant 2

The manager should see the dedication of their staff and promote their staff. This will motivate the staff. It's not good to be stuck on the bench in the same position. Participant 2

Subcategory 3: Unsociable working hours

Unsociable working hours also seemed to be a prominent factor of low job satisfaction. Participants had to work nightshifts and weekends, which compromised personal and professional life balance, as portrayed in the quotes below.

Millennials like to enjoy life and because of working early shifts, late shifts, and weekends they don't have the time to do things they enjoy. In other working environments people have evenings and weekends free, with us being young and wanting to, you know, do so much more, I think I feel like that is one of the reasons that a lot of people also opt to leave. Participant 2

Furthermore, the impact of shift work meant that people were exhausted and as the younger generation, millennials prefer working hours that allowed freedom to engage in other personal and recreational activities, as demonstrated by the following quotes.

People prefer Monday-Friday jobs with afternoons free. The young generation much younger than me, they are more on the party side so you know they want to go out in the afternoon and do those things and they can't do that because of our shifts at Lancet. Participant 2

Expected to work a lot of shifts, 7 days straight sometimes 12 days. Participant 5

Category 3: Poor organisational culture

Many participants attributed low job satisfaction to poor organisational culture. This category of poor organisational culture comprised three subcategories, namely, lack of recognition, inequality and favouritism, and poor communication.

Subcategory 1: Lack of recognition

Participants felt that employees were not given any recognition for their good work, instead management focused on the errors and mishaps. The quotes below illustrate these feelings.

It was a very stressful environment; I was accountable for the actions of people who were poor performers. If we make one mistake or error all the very good work that has been done is forgotten. Participant 15

No recognition. Participant 3

People are not happy. As medical technologists we reach a certain point where there's not much more we can do. Participant 4

Subcategory 2: Inequality and favouritism

Participants advised of occurrences of inequality and favouritism in the workplace, as described in the quotes below.

Inequalities within the organisation which creates tension, disrespect, and frustration. Participant 10

Favouritism in the workplace. Participant 7

Mistreated – being taken advantage of. Participant 3

Subcategory 3: Poor communication

Communication seemed to be poor between management and staff and often staff were not informed of what was required of them and direction thereof. This was informed by the following quotes.

Communication is not good among the staff, HOD and pathologists. Communication is not clear and is lacking because certain staff are informed and some are not informed. Participant 11

Employer does not tell you what is expected of you, no communication in this regard. Not informed of what is required of you and how you can perform better. Participant 15

Category 4: Inadequate training and development opportunities

Inadequate training and development opportunities was a category which was noted as a key contributor to low job satisfaction. This category was further divided into 2 subcategories, namely, insufficient training courses, and lack of mentorship.

Subcategory 1: Insufficient training courses

There was a deficiency in the number and types training courses offered by the organisations to employees who desired to further their studies. This resulted in some participants having to finance their own studies as mentioned in the quotes below.

I decided to study management on my own because I was not offered any opportunity. I had to create my own opportunity. Participant 2

We did ask many times to attend the courses offered by the company, for example, quality courses and other training courses and all of that to be exposed to as technologists so we can develop, and we never got that opportunity. Participant 1

We were not properly trained although there were courses available. Participant 1

Subcategory 2: Lack of mentorship

Participants believed that organisations did not provide adequate on-the-job training and mentorship for proper fostering and mapping of talent. The following participant quotes resonated.

Even though we have the enthusiasm and the talent it is not fostered in the organisation. Participant 4

Nobody mentors you when you take on the job. Participant 15

Okay, so like I said I was there for four years as a qualified technologist. So, there were times when there were jobs that I was doing that I had not been properly trained on. Participant 1

Category 5: Mismanagement

Some participants indicated issues with leadership and management within the organisation, which led to low job satisfaction. This category included two subcategories, namely, poor management, and leadership inability to adapt to change.

Subcategory 1: Poor management

Some participants felt mistreated by management. Managers did not seem to even engage with employees to establish needs and issues as illustrated by the quotes of some participants below.

Poor management. Certain managers don't know how to treat or engage with their staff. They do not consider their subordinates but rather only focus on what the organisation expects them to do on paper. Participant 13

Mistreated – being taken advantage of. Participant 3

Unreasonable manager. Participant 7

Subcategory 2: Leadership inability to adapt to change

Leadership seemed rigid and unable to adapt to change. This included changing the organisation in line with the economy, employee generations, and innovative ways of doing things. Leadership seemed stagnant in traditional and old ways, as reflected below.

Everything is changing, the economy is changing but the company does not understand that and does not understand that they should make a change as well. The managers are too comfortable to the old ways and do not introduce any new changes. Participant 3

Managers and directors know how difficult it was as juniors, but they still don't introduce new things or make it better for the junior staff. Participant 3

4.5.3. Subtheme 3: Factors promoting high job satisfaction

This key subtheme addresses low job satisfaction factors by determining factors required to promote high job satisfaction for millennial medical technologists. This theme was informed by five categories, namely, pleasant workplace practices and conditions, provide opportunities to acquire knowledge and expertise, promotions and opportunities, income and incentives, performance and talent management. These categories were further unpacked by nine subcategories.

Category 1: Pleasant workplace practices and conditions

Workplace practices and conditions needed to change drastically to attain high job satisfaction. Participants suggested such change as per the two subcategories in this category, namely, recognition, respect, and appreciation, as well as friendly working hours.

Subcategory 1: Recognition, respect, and appreciation

Participants desired to feel recognised and appreciated for the work that they do. They suggested recognition should be acknowledged in the form of employee of the month, rewards, and managers personally expressing their appreciation as a start. Similarly, respect and dignity should be given to staff. This should be equally practised by both

management and other senior staff, such as pathologists and doctors. Participants voiced their suggestions in the quotes below.

Recognising a person's abilities and rewarding them appropriately. Participant 5

Showing the staff that you appreciate and value their work. Participant 9

Respect should be given to the staff. People leave because they are mistreated. Participant 3

Subcategory 2: Friendly working hours

Working hours should be reviewed to allow for accommodation or compromise when it comes to millennials. This can mean recreating a new roster allowing one weekend on duty instead of two, as illustrated by the following quotes.

Re-evaluate the overtime hours worked. Because as the millennial generation we are willing to work more overtime hours. Participant 14

Easing of shifts, including weekends. Perhaps only working of 1 weekend per month instead of 2 weekends per month to allow for more family time. Participant 5

Category 2: Provide opportunities to acquire knowledge and expertise

Opportunities to acquire knowledge and expertise in the field were also seen as an important factor to establish high job satisfaction. This was informed by the following three subcategories, development and exposure opportunities, improve current training model, and increase course offerings.

Subcategory 1: Development and exposure opportunities

It seems that medical technologists throughout the profession struggled to move forward in their careers either because senior positions were lacking, or succession planning was inadequate, or opportunities were not afforded to those who were interested in developing. The quotes below are expressive of their views.

Not just at Lancet Labs but the industry as a whole, we feel that it is a dead-end job, and we cannot move much further. Participant 13

Staff should be groomed for higher/further positions. This will motivate the staff. Participant 8

There is validation and verification, if they give everybody that's interested a chance to grow, they are going to be happy, you're going to be learning new things and going to be developing in your role. Participant 1

Subcategory 2: Improve current training model

There is a dire need to increase and improve on the existing training model and processes. This would improve the skills of medical technologists. Furthermore, in the current epoch, it is imperative for medical technologists to be up to date in the practices and keep abreast of latest developments. Training was therefore imperative as demonstrated in the quotes below.

Teaching and training of staff on the analysers. Participant 11

Improve on staffing, increase trained staff. Too many newly qualified medical technologists who are not trained, not enough skilled staff, not enough senior staff, and no staff to train the junior staff, not enough practically trained staff. Participant 15

Rather than it being a monotonous thing where you just come to process QC samples but not trained to review the QC. Participant 1

Subcategory 3: Increase course offerings

Course offerings are important for development and knowledge of the millennial generation. Such courses could be scheduled either as classroom-based or online. Relevant courses could ensure knowledge dissemination and add to employees' credentials for promotions and growth as expressed in the quotes below.

More staff development and training. So many people are willing to learn new things, but they are so restricted because they are only supposed to do what they are told to do. There are so many people with potential. But if there were more courses where it could be done after work hours or online or through other facilities that would motivate staff so much more. Participant 2

By offering short courses the organisation can identify talents. And send someone that is so willing to do it and they were not given that opportunity. But by offering these short courses the organisation will see who's interested and who's not. Participant 2

These courses can be even offered on a rotational basis so that everyone receives training, and should someone leave, others have already been trained. Participant 2

Category 3: Promotions and opportunities

Promotions and opportunities were also identified as factors which promoted high job satisfaction. This category was unpacked by two subcategories, namely, promotions, and opportunities. Many participants felt that these factors need urgent consideration.

Subcategory 1: Promotions - Internal versus external applicants

Many participants implied that promotions should be urgently reviewed by management. This is a leading cause of turnover (as outlined in the theme 2: Turnover). It appears that internal staff don't seem to acquire promotions, yet external applicants are successful in attaining such positions within the organisations. People within the organisation (internal applicants) have more specific laboratory experience and are familiar with the environment. This should not be ignored nor overlooked by management but rather embraced, as exemplified by the quotes below.

Create more opportunities internally because there is a lack of growth internally. People applying from outside Lancet Laboratories are given more opportunities and given senior positions rather than the internal staff. People from outside the organisation are preferred although internally there are staff who have worked for longer periods at the company and can fulfil those positions. Participant 14

In my opinion the opportunities that arise within the company should be given to internal staff rather than external people. Participant 8

First preference for promotion, and for moving up the rank from junior to senior and from senior to lab manager, should be given to staff within the company rather than people applying from outside the organisation because the internal staff are working for a longer period for the company and have more experience with the work ethic and principles of the company. Participant 12

Subcategory 2: Opportunities

Relating to the preceding themes, more opportunities for promotion must be created for progress and to avoid stagnation of employees in one position. Organisations should create opportunities for medical technologists to venture into other sectors/departments of the organisation, example prospects of become potential board members, shareholders, or partners in the business management sector. The following quotes were suggestive of the need for such opportunities to be created.

Better positions should be made available. Participant 7

If there are opportunities and the opportunities are given, then the employee will be more satisfied. Participant 8

As medical technologists we cannot be partners or on the executive board of the company irrespective of much we have studied or how much skill we have unlike at other industries. The only way is to open your own lab. Participant 13

Category 4: Income and incentives

The matter of income in terms of salary certainly had to be addressed as a factor to improve job satisfaction. The majority of the participants expressed the need for salaries to be adjusted in this category, as informed by the following two subcategories namely, income, and incentives.

Subcategory 1: Income

Participants felt very unhappy and dissatisfied with their income. This implies that salary is not competitive enough and must be reviewed to avoid turnover. There should also be equity in salaries, which means that internal staff should get the same increase for a position as opposed to those that were hired from external organisations. At present it seemed that external staff hired earned more than internal staff as per the following quotes.

Equity, balance, and comparison in terms of salaries. For example, people who apply from outside the organisation will be offered higher salaries than those staff who are already working at the company. This should not be the case. Obviously because when people are employed from outside, their salaries should be bettered whereas if you are promoted from within the company your salary will not be as high as of someone who is coming from the outside who will get a greater salary as it is expected when you change from one organisation to another. Participant 12

Re-evaluate salaries so we are above board and earning what we truly deserve. Participant 14

Increase their salary scales. Participant 6

Subcategory 2: Incentives

Apart from salaries, incentives and rewards should be implemented. Such incentives can be in the form of financial, bursaries for study, training courses, and other related incentives. The main aim of such initiatives is to enhance job satisfaction by showing staff that their work is appreciated and recognised. Such views were verified by the quotes below.

Reward them for working hard. There is a difference between a hard worker and a person who drags their feet. If there aren't any rewards, then the hard worker will slacken because everyone is treated the same. Rewards will encourage those people who do not work, to work harder. Participant 10

There should be incentives for employees – company should reward staff for work well done, example bursaries should be offered but not only for biomedical technology, it should include management courses, human resources courses, IT courses and other courses so that medical technologists can move to support departments within the organisation. These bursaries should include a tie-in agreement. Participant 15

If there were more incentives based on your work output and skill set rather than years of experience. Participant 5

Category 5: Performance and talent management

This category indicated that the current performance management system should be reviewed because it is not yielding any positive results or benefits to the employee. Performance management is meant to derive value and potential from employees. This category also indicated that the human resources departments of the organisations should improve their talent management system to ensure that employee talent is being appreciated and suitably utilised by identifying and nurturing individual talent. The review of these systems was substantiated by the following quotes which are representative of many participants.

By developing your employees, you bring out more talent and you figure out who has a specific talent or passion. For example, someone may have a passion for health and safety but is not allowed to do it whereas the person that is doing it doesn't really care about it. Participant 12

Effort should be put in to recognise talent. Participant 4

Performance management reviews are not beneficial to the manager, employee, or the organisation. This should change. Participant 4

4.6 THEME 2: TURNOVER

This theme examines the key area of employee turnover. This theme describes the views of those participants who voluntarily resigned and those who have considered

resigning. Many of the participants either resigned or considered resigning from their job indicating high turnover and/or potential turnover. Resigning has financial implications due to employing and training new employees. Almost all participants communicated that there was very high turnover of millennial medical technologists which supports the notion that retention is critical.

This theme consisted of two subthemes, namely, workplace factors affecting turnover, and progression and remuneration factors affecting turnover. This was by far the most informative theme as it delivered a detailed analysis of the primary turnover factors. These factors were classified into the following five categories of millennial needs and attitudes, inferior workplace experience, unfavourable working conditions, limited progression prospects, and remuneration disparity. Each category is further unpacked below in 14 subcategories.

4.6.1 Subtheme 1: Workplace factors affecting turnover

This subtheme explores the views of participants regarding factors in the workplace which influenced the turnover of medical technologists. This subtheme consisted of three categories, namely, millennial needs and attitudes, inferior workplace experience, unfavourable working conditions.

Category 1: Millennial needs and attitudes

Millennials have a different type of attitude and needs compared to previous generations, as outlined below in the two subcategories: millennial needs, and millennial attitudes.

Subcategory 1: Millennial needs

The millennial generation is about continuous and fast progress up the career ranks and the salaries that go with it. They also desire to have a work-life balance therefore dislike prolonged working hours and shift work, as described below.

When our generation of technologists see a better opportunity, and cannot see us getting those opportunities at our current organisation we will definitely leave for the opportunity. Participant 14

Millennials want to move up in terms of salaries, positions, shifts, start families and have enough family time. Participant 5

Due to society and the country we live in, millennials are looking for a better salary to survive therefore we move around so much. Participant 7

Subcategory 2: Millennial attitude

Millennials were seen as demand orientated by their fellow peers or participants whereby things must happen quickly and instantaneously, but organisations do not operate in such a manner. Millennials also seemed to have the attitude whereby things should be handed to them or constructed to suit them and their convenience. If not, then they would leave to go to another organisation without hesitation, as illustrated in the following quotes.

They move from one job to another for higher salaries and not always learning, developing, and improving their skill set so they end up not working well and do not meet the benchmark in terms of the working environment. Participant 15

Unsatisfactory levels with millennials. The younger generation are not equipped with how work ethic should be carried out. They expect so much more and for everything to be handed to them due to their education system which I don't agree with. Participant 8

As millennials, we are brought up where things must happen instantly, on demand. Participant 4

Category 2: Inferior workplace experience

Experience in the field of medical technology was desired by the majority of the participants and was further unpacked into five subcategories, namely, resign for better work experience, deficiency in the provision of multifaceted laboratory experience, career change, laboratory type and university education versus employment.

Subcategory 1: Resign for better work experience

The majority of millennial medical technologists seemed to leave or resign from their jobs for a better working experience and for job promotions. With more experience comes more exposure and diversifies the individuals' abilities. These views were demonstrated by the participant quotes below.

I left for a chance to see how it was at another organisation while I was young in order to move further and higher in my career. Participant 15

It is mainly about millennials improving their experiences and knowledge. They feel confined and therefore look for more experience and for more growth. Participant 6

They were exposed. They were training. They were developing more in their role. They got experiences that we were not getting so I transferred. Participant 1

Subcategory 2: Deficiency in the provision of multifaceted laboratory experience

Relating to the above, millennial medical technologists crave exposure to different areas within the organisation. They believe that exposure to other departments and different areas of testing can build skillsets and alleviate monotony. Some participants had resigned due to monotony. This was because their primary work seemed to be the same routine everyday with no room for growth or diverse exposure to other areas. One participant learnt more in a short time at a new organisation than the years spent at their previous organisation. Hence, monotony and a deficiency in provision of exposure in the field existed, as expressed by the participant quotes below.

The career development – we are only exposed to on-the-job aspects and not other qualities in a business environment. Participant 4

I don't like being confined to one place. As millennials, we like to be exposed to different environments, different areas, and different labs, improve our skillset. Participant 5

And then at the new place I am, in three years, I've done everything I could have done in four years and develop as a technologist ... Okay, so at the new place, you have this opportunity. It is willingly given to you, and you don't have to ask for it. You just have to show an interest and then they're like, okay, you can do this, or you can't do that. Participant 1

Subcategory 3: Career change

Lots of millennial medical technologists are also looking towards a career change away from laboratory and more into other related aspects such as marketing, sales, information technology, and training hence they apply to organisations in the medical field, which supply laboratory equipment, products, and supplies. The following quotes are indicative of their desired career change.

Due to COVID-19, new opportunities have come up in the lab and outside the lab. In the past month, I know of three people who have moved from medical technologists to application specialists and are no longer in the lab. Some have even relocated for these positions moving from lab work to corporate. Participant 2

Most colleagues have only worked at one lab for 2-3 years before moving into different positions like applications specialists, sales reps, and service technicians at companies such as Roche, Abbott, Siemens and Biomerieux. Most have moved out of diagnostic labs to suit their lifestyles. Participant 5

Subcategory 4: Laboratory type

The type of laboratory also plays a role in millennial medical technologists' turnover or preference. Different laboratories offered different experiences based on the range and type of testing they perform hence millennials tend to explore these possibilities. These experiences and/or preferences were voiced in the quotes below.

Working at different labs for different experiences. Participant 9

Some participants preferred the peripheral laboratories as opposed to the main laboratory of the organisation due to growth and promotion opportunities.

Many colleagues moved to the Lancet peripheral labs and to senior positions.

Participant 5

Similarly, research laboratories offer higher salaries, straight hours with no shifts and many opportunities for growth as opposed to diagnostic laboratories.

I resigned from my permanent job at Lancet Labs, which is a diagnostic lab, for a contract job in a research lab. My peers were ahead of me in their careers. I wanted to move up in ranking and position like them. Participant 5

Category 5: University education versus employment

The medical technologists of the millennial generation did not understand how the laboratory industry works because their university training was limited and did not simulate the laboratory work environment. Hence their expectations and perceptions while at university were not met once employed at the laboratory and this led to frustration, demotivation, and turnover, as stated in the quotes below.

They have this new degree, but it lacks lab experience, lab practice and the board exam which builds technologists. Participant 8

I think there's a lot of people that are coming into the field right now. They don't understand what is actually going on in the lab or what is expected of them and what they're supposed to do. And I think this mainly comes from campus where they're not properly informed, so when they do come into the lab, the attitude is very different from what they are used to. They don't understand the seriousness of what they're doing in the lab. I don't even think they know they were supposed to come here and process samples and all of that and that is why they leave. Because they come thinking this is not what they're supposed to end up doing. Participant 1

From what I have seen actually, personally there's a lot of new interns. As interns they come in and are not sure about what they're doing or what they expected to do and they come for few months and they're not happy because this is not what they thought they were supposed to do, and they expected the pressure to be a lot less and the job not to be so intense. Participant 1

Category 3: Unfavourable working conditions

Many of the participants felt that the working conditions were not favourable. This category was informed by two subcategories ill-treatment in the workplace, and undesirable shifts.

Subcategory 1: Ill-treatment in the workplace

Participants believed that they were ill-treated by management. Disrespect, exploitation, and poor communication contributed to their stance and was informed by the following quotes.

Participants felt mistreated and disrespected. Managers did not approach them in a well-mannered way. Furthermore, other senior staff such as doctors did not treat medical technologists well.

Cannot tolerate mistreatment. Staff should be approached by their manager in a well-mannered way and the manager should always listen to both sides. Managers must not take sides; they must be fair and treat or address issues and conflict without mistreatment. Participant 3

Some participants felt exploited whereby they were overworked and taken advantage of due to being new.

Another colleague left because she was a newly qualified, she had to do everything by herself, she was overworked and felt like the other staff took advantage of her because she was young and a junior technologist. Participant 3

One participant felt that there was a lack of confidentiality when staff raised issues with the Human Resources Department.

Human Resources does not maintain confidentiality because everything goes back to the manager. Participant 15

Poor communication between manager and employee remained an ongoing problem.

Poor communication skills between the staff and the manager or HOD.
Participant 11

Subcategory 2: Undesirable shifts

Working hours and shifts were exhausting and millennials did not anticipate nor enjoy working shifts, weekends, and public holidays. Hence some moved to other labs with reduced shifts and weekend working hours as mentioned in the quotes below.

They moved to other labs which offered comfortable shifts with no weekends and no public holidays. Participant 5

I left because of the shifts, working of weekends and public holidays. Participant 5

Shift work- Lancet Labs works longer hours than other labs, they have a 42.5-hour week, but other labs have a 40-hour week. And at Lancet Labs we have to work weekends. Participant 7

4.6.2 Subtheme 2: Progression and remuneration factors affecting turnover

This subtheme explored the views of participants regarding factors associated with progression and remuneration which influenced the turnover of medical technologists. This subtheme consisted of two categories, namely, limited progression prospects, and remuneration disparity.

Category 1: Limited progression prospects

Deficiencies in training, growth, and progress were also major contributing factors leading to turnover. This category of limited progress was unpacked into three subcategories, namely, poor progression, deficiencies in training, and poor retention strategies.

Subcategory 1: Poor progression

Poor progression was a highly ranked factor and was a logical argument. Nobody wanted to remain stifled, hence, millennial medical technologists resigned primarily to seek opportunities to progress elsewhere. Moving ahead in their career path was very important to this generation as illustrated by the following quotes.

When technologists want a senior position, growth, and more responsibility they will leave immediately. They will not wait another year in their company for that opportunity. They will not wait or hesitate; they will move for better positions and better opportunities. Participant 14

I think as a millennial you always looking for more and that was mainly for me looking for growth and you want to develop in the role as a technologist. So the next thing what you'd want to do is become a senior so you're going to look for that opportunity elsewhere. Participant 1

There is no growth and development, the company and the human resources department does not help the staff, the staff has to decide for themselves how to grow and develop. Participant 15

Subcategory 2: Deficiencies in training

Training was equally important to stay abreast of the latest advancements in the field of medical technology and acquire new skills. However, the training component seemed inadequate, and this impelled people to resign in the hope of obtaining training at another organisation. Many participants felt strongly about this subject, as portrayed below.

The training is also one of the contributing factors. Participant 1

For me, mainly the growth opportunity and all the training and development.
Participant 1

The only issue is that there isn't a training department therefore all training is carried out by peers. Participant 13

Subcategory 3: Poor retention strategies

There seemed to be a lack of retention efforts or strategies to prevent participants from seeking employment elsewhere. Furthermore, when participants resigned, there was no evidence of effective succession planning in place. The following quotes verify such views.

Progression in my career lacked. Participant 8

No retention of skilled staff. Participant 15

There was no succession planning. Participant 15

Category 2: Remuneration disparity

Disparity in remuneration was considered as a reason for turnover by the majority of the participants. This is a logical argument as most fields are driven by salary and competitiveness. Furthermore, economic challenges require one to earn a competitive salary especially if employees possess a professional qualification, have a scarce skill, and are in a critical field such as medical technology. This category comprised two subcategories, namely, inadequate remuneration, and evaluation of remuneration packages at other organisations.

Subcategory 1: Inadequate remuneration

It was evident that remuneration was inadequate as indicated by the millennial medical technologist perceptions of their organisations. This was a leading cause of turnover as illustrated by the following quotes.

The only way to get a raise in salary is to move from company to company because medical technologist salaries are very low throughout the country. Participant 13

Money, not being paid enough as a medical technologist. Participant 3

Millennials complain of less money. Participant 3

Subcategory 2: Evaluation of remuneration packages at other organisations

Many participants regularly examined the markets and evaluated the remuneration packages at other organisations. This practice poses a retention risk for the employer. Many participants felt this was necessary to improve their salaries. Hence, many millennials resigned or considered resigning for better financial offers at other organisations thereby increasing turnover, as depicted by the quotes below.

Now people seem to be applying anywhere and everywhere and are ready to leave because they feel like they have a better opportunity and better salary not necessarily that they are unhappy at their company. Participant 2

Other reason, I notice that with the younger generation which is the millennial generation it's more money driven. There are a lot of people that leave because another company offers them more money in terms of salary. Participant 2

After more money – millennials keep changing jobs to get better salaries. Participant 9

4.7 THEME THREE: RETENTION

This theme examined the motivation factors that influenced millennial medical technologists to remain at their organisation as well as recommended the changes that should be implemented at organisations to attract and retain millennial medical technologists. These factors are representative of the pathology laboratory industry of medical technology as a whole and not exclusive to Lancet Laboratories. This theme

comprised two subthemes, namely, motivation to remain at current organisation, and change factors to attract and retain medical technologists of the millennial generation. These subthemes were unpacked further into six categories and 18 subcategories.

4.7.1 Subtheme 1: Motivation to remain at current organisation

Regardless of the high turnover rate as indicated in the Theme 2 it was important to establish the motivating factors for those that wish to stay at the organisation, as this could inform potential strategies or retention models. This subtheme was unpacked by three categories, namely, succession planning, strong organisational culture, and passion for the profession and comfort in the workplace. These categories were unpacked further by eight subcategories.

Category 1: Succession planning

Succession was a key motivating factor, and this came from mainly those that left their primary organisation to advance elsewhere. This category was informed by the following three subcategories: exposure, opportunities for career advancement, and learning environment.

Subcategory 1: Exposure

The more participants were exposed to different types of lab work, the more they were inclined to stay at their current organisation. This included areas of exposure, inclusive of auditing, communication, research, and management. Those that left their primary organisation for a new organisation felt that exposure to different aspects of the organisation were important, as emphasised by the quotes below.

Am exposed to a lot of lab work and there is a chance for me to get a higher position. Participant 6

I have learnt management, communication, auditing, and materials management skills. I have grown as a person and have adapted to the skill set required of me. Participant 8

At my current organisation, I've been here for three years. I have grown tremendously. I've been exposed to do things I never got to. Participant 1

However, one participant believed that people chose to remain in the organisation because there was minimal difference in exposure or scope in the field of medical technology hence employees were confined to the laboratory environment.

Medical technology is not a career with much variety. There aren't many places you can work at but a lab. If you leave, you can only find work at another lab. Participant 10

Subcategory 2: Opportunities for career advancement

Opportunities to advance was a major motivation factor for retention. If millennial medical technologists could be given the necessary advancement opportunities, they would then be happy and remain at the organisation for a longer period. Most participants who left the primary organisation advanced in their career paths at other organisations as illustrated by the following participant quotes.

Opportunity to grow for example within the past year I have moved from a senior medical technologist to a position which delegates authority. Participant 8

Growth for me outweighs salary. Participant 12

Succession planning is in place. Participant 15

Subcategory 3: Learning environment

An environment of learning was a significant motivator for some participants. Hence, those that left their primary organisation and settled at their current organisation was mainly motivated by the learning opportunities accessible to them. This allowed them to acquire knowledge and stay abreast with current developments in the field. These views were substantiated by the quotes below.

I can approach my manager for my training needs and for bursaries. My training performance is monitored by my manager and discussed with me, and if more

training is required then arrangements are made for me by my manager.

Participant 15

... And then at the current organisation, I've actually got the training. I got training on document control, QC and how to become a trainer. Participant 1

The most important thing to me is growth and learn new skills. Participant 12

Category 2: Strong Organisational Culture

Strong organisational culture was also important to the participants and served as a motivating factor to remain at their current organisation. This category included the following three subcategories: constructive and supportive communication, salary versus stability, quality patient care and laboratory results.

Subcategory 1: Constructive and supportive communication

Participants believed that good leadership was demonstrated by constructive communication at the new organisation. Clear communication informed participants of their targets, goals, performance expectations, and recognition of their work. Participants felt that appropriate management of the laboratory environment made staff feel appreciated, valued, and motivated, as quoted below.

Very good communication between the manager and staff. Targets, goals, and expectations are explained, and the performance achieved, and results of surveys are shared with the department staff so we are aware of our performance and how we can do better. Participant 15

Management of the lab is good, we are motivated to excel by management, I am learning a lot and gaining a lot of new experience. Participant 14

Recognition for hard work, benefits are reaped. Participant 15

Subcategory 2: Salary versus stability

Some participants who left for another organisation were motivated by higher salaries. However, some participants remained at their organisation because it offered a stable

job with stable income especially in current unstable economic times. These views were illustrated in the following quotes.

Incentives and further increases as well as additional bonuses are earned when I work above what is expected and when targets are exceeded. Participant 15

The salary is better. Participant 6

I feel safe and secure with my job, and I feel appreciated. Participant 10

Subcategory 3: Quality patient care and laboratory results

Some participants stated that their organisation had an excellent standard of quality. Patient laboratory test results were seen as accurate which reflected the image of the organisation as reliable and credible. These factors motivated those participants who were passionate about the field of medical technology to remain at their organisation. This subcategory was informed by the quotes below.

The way the company conducts quality management regarding patient care motivates me to stay. In comparison to the government labs from what I have heard the patient care is not as focused as it is at Lancet Labs because of their quality and focus to promote patient care. Participant 4

We produce accurate patient results. Lancet Labs is a reliable and credible company in terms of patients results and accuracy. Participant 9

Category 3: Passion for the profession and comfort in the workplace

Participants who had a passion for the field of medical technology were motivated primarily by their passion and could therefore work in any organisation. Whereas some participants remained at the organisation primarily due to familiarity. This category comprised two subcategories, namely, passion for the profession, and comfort and familiarity in the workplace.

Subcategory 1: Passion for the profession

Those that were driven by passion for the profession of medical technology could work at any organisation irrespective of the conditions because it was primarily their passion that motivated them. Such passion was about caring, serving, and saving lives of patients, as mentioned in the quotes below.

I love my job. I enjoy my job as a cell morphologist. I love learning new things, learning about new cases, and helping in the diagnosis of diseases and different patient conditions. Participant 11

I want to save lives. Helping people makes me happy. Participant 3

As a medical technologist my primary function is patient care regardless of where I am. Participant 4

Subcategory 2: Comfort and familiarity in the workplace

Those participants who were still at their primary organisation, may have remained there because they had already established a work life balance, were familiar with the environment and accustomed to it. Hence it became a comfort zone. Some began their internship at their primary organisation and remained there ever since, again due to comfort and familiarity. These participant feelings were portrayed in the quotes below.

I automatically work according to the Lancet culture. I don't feel out of place because I'm so at home. I am comfortable at Lancet. I don't want to leave the organisation, but I still want to grow within the organisation. Participant 2

I've been at Lancet straight out of campus, so it feels like home. I'm used to the people and the culture. I motivate myself by applying the goals and objectives of the company. Participant 2

Good work-life balance. My work life is in sync with my personal life. Participant 10

4.7.2 Subtheme 2: Change factors to attract and retain medical technologists of the millennial generation

The following change factors were deemed necessary by participants to attract and retain medical technologists of the millennial generation. These were classified under the following three categories, namely, increase employee skillsets, improve financial and human resource management processes, and employee focus. This category was expanded further into 10 subcategories.

Category 1: Increase employee skillsets

Increase employee skillsets was the category which participants felt strongest about. This is logical as previous themes indicated the weakness in these areas. Hence change or improvement in this area was recommended to attract and retain medical technologists of the millennial generation. This category was informed by the following three subcategories: skill development programmes, professional development and progress, and facilitate diversification in laboratory work.

Subcategory 1: Skill development programmes

Skill development programmes are instrumental in increasing employee skillsets and should be offered to the employees as a strategy to attract and retain medical technologists. A structured training plan must be advanced, and this should be based on a plan to identify talent and areas to develop employees accordingly. New staff must be provided with practical and on-the-job training especially for those coming directly from tertiary or other laboratories because each laboratory is unique. Tie-in agreements should be considered such that staff serve employment time equivalent to the course duration for both the employer and employee to derive benefit. Some of the participants shared such views as illustrated by the quotes below.

HR should have a training and development committee who is knowledgeable about the structure of the organisation, also a psychologist to assist the employees to identify and grow their talent and skill as in my current organisation. Participant 15

On the bench training especially for those staff who did not do their internship at Lancet Labs. The lack of this training causes frustration and leads to staff leaving. Staff coming from other labs, external staff must receive more on-site training. Participant 10

Offer management and other different types of courses where the company will pay but the employee must stay at the company for a longer period. This will develop staff and benefit the company. Participant 2

Subcategory 2: Professional development and progress

Relative to above, not only must employee skillsets be developed, but opportunities for professional development and progress must be presented concurrently to attract and retain millennial staff as indicated by majority of the participants in the study and confirmed by the following quotes.

Putting more effort into developing the employees you have. Then these employees will discuss with other people what Lancet is offering them, attracting other technologists. Participant 2

Not much room for growth – therefore offer courses, opportunities for growth, promotions, and skillsets. Participant 5

There should be more opportunities to grow within the company. Participant 12

Subcategory 3: Facilitate diversification in laboratory work

Employee exposure and experience in different areas, departments or disciplines in the laboratory was considered an important retention factor by some participants. Such practice would improve exposure to other laboratory processes and reduce monotony, as shown by the quotes below.

I think people need to be exposed to all aspects in the lab like just not the automated part of it, but there's so many other things that you need to learn. Participant 1

There are so many things that are interesting, like QC reviews, everybody should be doing that. It's something interesting. It's something to learn so that you understand better. Participant 1

Like if it's there, then you want to do it. It should be something different. Not the same thing over and over again, and then it just gets boring and then you're looking for something new. Participant 3

Category 2: Improve financial and human resource management processes

Financial and human resource management processes were added as an area of much needed change and improvement. This category was informed by three subcategories, namely, review of current pay scales, adjust current work schedules, and value based human resource strategy.

Subcategory 1: Review of current pay scales

It was evident through participant responses that low pay was a major demotivating factor. Hence change in the current pay scales are required. Pay packages should be reviewed, market related, and increased if warranted, as demonstrated by the following participant quotes.

Offer more money or better salaries. People compare salaries from company to company. Participant 10

More money. Millennials like a luxurious life. Our salaries are too less for this lifestyle. Participant 3

Salaries would have to increase to be more inviting. Participant 5

Subcategory 2: Adjust current work schedules

Participants suggested that work schedules should be adjusted to accommodate for family time as shift work was a demotivating factor for some participants. Hours and shifts worked should be reviewed, suitably amended, and reduced as portrayed by the participant quotes below.

Shifts would have to change. Participant 2

Ease in shifts so staff can have time for family. Participant 5

Working hours should change to 40 hours per week. Participant 7

Subcategory 3: Value based human resource strategy

The human resources department should centre their model towards human capital value so that valuing employees is the pinnacle objective. Employees should be selected with appropriate knowledge and talent to improve the value employees contribute to the industry. Succession planning needs to be in place as this can result in benefits such as change management, continuity, and effective knowledge transfer. These views were expressed by the following participant quotes.

The organisation needs to value the human capital more. Not just the millennial generation but also the older generation. Participant 4

Other departments in the organisation example human resources should be able to select better employees, they should have a better working knowledge to attract more talented employees. Participant 4

Human resource department should improve. It should have a skills and development consultant to help and advise staff with succession and progression planning. Participant 15

Category 3: Employee focus

Employee focus was an important factor to retain employees. The majority of the participants supported the need for organisations to become more employee focused. This category was informed by four subcategories, namely, rewards and recognition, employee-centric culture, equality and respect, and departmental integration.

Subcategory 1: Rewards and recognition

Employees needed to be recognised for their hard work and dedication to the organisation. The participants suggested rewards and incentives in the form of

bursaries and study opportunities, financial bonuses, performance-based pay, and employee of the month recognition. Participant suggestions were illustrated by the quotes below.

Bursaries should be offered for the employee for what he/she would like to study, not just biomedical technology, but other courses such as information technology and then provide a job for you within the organisation. So, people can move forward and not become frustrated. This is how it is in my current organisation. Participant 15

Motivate employees example employee of the month rewards. Participant 3

Medical technologists should be afforded greater acknowledgement for their crucial role in the company. Participant 12

Subcategory 2: Employee centric culture

The organisation should become more employee centric. This means that they should determine what are the needs, strengths and trajectory of employees, thereafter work towards a strategy to fulfil those needs or reach a compromise. Employees should have freedom of expression to convey their views, opinions, and feelings without fear of dismissal, as conveyed by the participants in the quotes below.

Millennials need to know that the company takes care of them. Because when I resigned from Lancet labs the company didn't even ask the reason or why I was leaving, or what can they offer me to stay. But the lab I was employed after Lancet, another private lab, asked why I decided to resign. Participant 13

Having an organisation that values and focuses on the strength of their employees and their additional skills. Participant 4

Have an organisation where staff can voice their opinions example a union. Because staff are too afraid to be dismissed so they don't say anything. Participant 6

Subcategory 3: Equality and respect

Many participants felt that they needed to be treated fairly, without favouritism, and with respect. Fair opportunities must be given to staff to facilitate growth. This subcategory was informed by the following participant quotes.

Treat staff with respect. Participant 3

Treat all employees equally – there should be no favouritism. Participant 3

There is health and safety, like the opportunity, needs to be there and everybody should get a fair chance to be involved in it. Participant 1

Subcategory 4: Departmental integration

There should be departmental integration with other relevant departments where possible to facilitate understanding and added support for and from medical technologists. Support departments should also have more knowledge of the field to ensure the proper support is given effectively and efficiently. Similarly, medical technologists can be transitioned into these support departments to add great value since they perform the core function in a pathology laboratory. They will provide expert decision-making skills in areas such as procurement, product specifications and requirements, human resources, executive management, information technology and marketing. Participants also indicated a need for the integration of technology and technological advancements to be fully utilised to improve productivity. These views were illustrated by the quotes below.

Millennials are very tech-savvy. Lancet's requirement is to move with technology. They are first to introduce new technology and I admire that. But they need to give the new generation a hand in it and take their opinions and consideration. The new generation want to work smart using the technology provided to them. Participant 8

Support departments should have managers who have a working knowledge and an in-depth knowledge of medical technology in order to develop processes that will work better for the organisation. Participant 4

Medical technologists should be groomed for support departments roles because they understand the core function the best. They will offer the best and most efficient solutions. Participant 4

4.8 CONCLUSION

The 15 millennial medical technologists who participated in this study were profiled in this chapter along with their views, observations, and personal experiences regarding job satisfaction, turnover, as well as retention. Three main themes were identified after analysing the verbatim files from the digitally taped interviews (job satisfaction, turnover, and retention), seven subthemes (current views about the field of medical technology, workplace factors affecting turnover, progression and remuneration factors affecting turnover, factors promoting low job satisfaction, factors promoting high job satisfaction, motivation to stay at current organisation, and change factors to attract and retain medical technologists of the millennial generation), 23 categories, and 58 subcategories.

The results are analysed in Chapter 5 in relation to the study questions and the Herzberg two-factor theory. Additionally, the chapter includes the limitations of the study, recommendations for retention strategies, and future research recommendations that focus on the frontline millennial medical technologist employees' job satisfaction, turnover, and retention.

CHAPTER 5: DISCUSSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter concentrates on the discussion and interpretation of results related to the motivation and hygiene factors, limitations of the study, recommendations for retention strategies of millennial medical technologists, and further research in relation to the literature reviewed. The literature review in Chapter 2 established that despite the amount of published literature about millennial turnover, factors that influence the high turnover of medical technologists of the millennial generation was not represented sufficiently. Mullah (2018) recommended further research on job satisfaction and retention of staff in medical diagnostic laboratories. Additionally, Small (2013) suggested that further research and study of the retention strategies used by laboratory employers would be highly beneficial in understanding the dilemma faced by pathology laboratories. The literature review demonstrated a need to understand (a) the high staff turnover rate of millennial medical technologists in pathology laboratories, (b) the motivation and hygiene factors influencing job satisfaction needs and expectations of medical technologists belonging to the millennial generation, and (c) changes required by management for the implementation of retention strategies.

The theoretical framework that guided this study was Herzberg's two-factor theory, also known as accounts for the factors (motivation and hygiene) which result in an employee's job satisfaction or job dissatisfaction. Herzberg (1966) recognised motivators as intrinsic factors, and hygiene as extrinsic factors, and included the following as key constructs underlying the theory for job satisfaction (a) advancement, (b) the work itself, (c) possibility of growth, (d) responsibility, (e) recognition, and (f) achievement; and job dis-satisfiers (a) interpersonal relations, (b) salary, (c) company policies and administration, (d) supervision, and (e) working conditions. Martinez and Martinez (2019) specified that motivation factors promoted job satisfaction, and despite preventing work dissatisfaction, hygiene variables did not fundamentally advance and encourage job satisfaction. Also, any element that makes a worker feel

unfavourably is regarded as a hygiene component (Biegger *et al.* 2016). Thus, a key component of retaining staff members is interpreting hygiene factors. (Marais, Barnard and Mensele 2017). Herzberg's theory, founded on intrinsic and extrinsic constructs, was a determining factor in turnover as well (Frey, Bayón and Totzek 2013; Reukauf 2018).

5.2 OVERVIEW OF THE RESEARCH DISCUSSION

The study aimed to explore job satisfaction and its effect on high employee turnover of millennial medical technologists, with the purpose of recommending probable solutions in the form of retention strategies. On analysis, the voluntary turnover of millennial medical technologists is best described as encompassing three main themes:

1. Theme one: Job satisfaction

This theme emerged from three subthemes: current views about the field of medical technology, factors promoting low job satisfaction, and factors promoting high job satisfaction.

2. Theme two: Turnover

This theme emerged from two subthemes: workplace factors affecting turnover, and progression and remuneration factors affecting turnover.

3. Theme three: Retention

This theme emerged from the two subthemes: motivation to stay at current organisation, and change factors to attract and retain medical technologists of the millennial generation.

Using the motivation and hygiene factors derived from these three themes and Herzberg's two-factor theory, the analysis unpacked the phenomenon of voluntary turnover of millennial medical technologists. These are discussed further with reference to the pertinent and current literature in the sections which follow.

5.3 DISCUSSION AND INTERPRETATION OF MOTIVATION FACTORS

In the Herzberg two-factor theory, motivation is the variable most strongly associated with job satisfaction and Herzberg and his colleagues claimed that to increase employees' job satisfaction the motivation factors must be improved (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg 1966). The following is a short description of each motivation factor and the identification of the motivation factors derived from this study.

5.3.1 Advancement

Advancement is interpreted as the positive, or higher position or status of an employee in the workplace (Alshmemri Shahwan-Akl and Maude 2017; Herzberg 1966). A negative position or no change in status in the workplace is interpreted as negative advancement (Alshmemri Shahwan-Akl, and Maude, 2017; Herzberg 1966). The authors found that the lack of promotion or advancement to senior positions and poor progression lowered job satisfaction and increased employee turnover. Hence opportunities for career advancement, and professional development and progression motivated some participants to remain at the organisation thereby improving employee retention.

Similarly, Hamilton (2020) conducted a study that was solely concerned with millennial workers' retention and departure rates. The overall results of that research supported Herzberg's two-factor (1966) theory and identified the motivation and hygiene factors associated with the millennial generation. Research participants demonstrated increased motivation with career opportunities (Hamilton 2020). Likewise, Viljoen (2019) found that in his study of job satisfaction of millennials at a manufacturing company, advancement was revealed as one of the biggest problem factors. Viljoen (2019) recommended that the company had to revise their retention strategy to focus on improving advancement in order to lower millennial employee turnover and retain valuable workers.

Bateman (2014) declared that millennials decided to become part of an organisation if they saw chances for advancement there that would help them achieve one of their professional aspirations of moving up in that organisation. Additionally, millennials will judge an organisation as having inadequate or no opportunities for growth if they discover their manager has held the same position for over a decade and has no plans to leave any time soon (Bateman 2014). As a result, they will feel constrained or stifled in their positions (Bateman 2014). They would choose to seek career opportunities elsewhere in order to get rid of those feelings rather than continuing at their current jobs (Bateman 2014). Also, the lack of innovation and creativity in organisations caused millennials to feel suppressed, restricted, and dissatisfied, considering he breakthroughs in technology that emerged during the course of their lives (Kadokia 2017).

5.3.2 The work itself

The real content of work duties and projects had either a positive or a negative impact on workers (Alshmemri Shahwan-Akl and Maude 2017; Herzberg 1966). Whether the work was interesting or dull, too easy or too problematic, would influence satisfaction or dissatisfaction of workers in the workplace (Alshmemri Shahwan-Akl and Maude 2017; Herzberg, 1966). In the current study monotony influenced job dissatisfaction whereas the significant contribution by workers to the healthcare profession influenced job satisfaction. Causes of turnover in this study were attributed to the opportunity for a better work experience elsewhere, the deficiency in the provision of a multifaceted laboratory experience, a change in career, and a change in laboratory type. It was therefore not surprising that the participants of this study identified diversification in laboratory work, and departmental integration as motivation factors to attract and retain millennial medical technologists.

Likewise, (Bateman 2014) found that when they were not continually gaining knowledge, being tested, and stimulated at work on an intellectual level, millennials became miserable and dissatisfied. Therefore, if millennials were instructed to continually perform the same tasks they may leave the organisation, particularly if they were required to work on those duties for a very long time (Bateman 2014). Basically,

millennials primarily desire to participate in bigger initiatives and difficult job tasks (Bateman 2014). In addition, Brafford (2018) specified that millennials had a higher motivation to abandon their position as well as the organisation when they found their work was not meaningful. Hamilton (2019) and Hee and Rung (2019) found that challenging work motivated millennial employees.

5.3.3 Possibility for growth

Possibilities for growth were described as the actual opportunities for an employee to undergo personal growth and to be promoted in the workplace (Alshmemri Shahwan-Akl and Maude 2017; Herzberg 1966). This provides professional growth, increased opportunities to acquire new skills, experience training in new techniques and attainment of new professional knowledge (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg 1966). This study pointed out that the lack of growth stifled ambition and growth, and insufficient training courses caused low job satisfaction in the workplace. On the other hand, learning opportunities, development and exposure opportunities, improvements to the current training model, increased course offerings, internal applicant selection over external for promotions, and the creation of more opportunities for promotions were motivating factors required for high job satisfaction. This study further indicated deficiencies in training as a factor which influenced turnover. And the exposure to different facets of laboratory work, opportunities for learning, and skill development programmes were identified as motivation factors for employee retention.

The lack of opportunities for growth in an organisation could be a factor negatively influencing turnover (Kabir, Newaz and Alkhalifa, 2019). Millennials highly value the opportunities for learning and training (Aruna and Anitha 2015; Smith 2018). Cruz (2018) emphasised that organisations should see employees as an asset, rather than an overhead. Furthermore, Cruz (2018) claimed that employee training was far less costly than the cost of staff turnover.

Motivation factors are elements that enrich a person's job and are linked to long-term positive effects in work performance (Herzberg, Mausner and Snyderman 1959).

Clayton (2018) found that employer's efforts on training and development initiatives contributed to lowering employee turnover and improving retention of qualified employees. Brueton *et al.* (2017) mentioned that training and development initiatives inspire workers to impart their knowledge and skills to co-workers, which motivates employees to remain and grow within the company. Furthermore, when knowledge and skills are shared among co-workers, trust and organisational support is created between employees and management (Zondi 2017). This brings about employee job satisfaction and strengthens employee retention within the company (Zondi 2017). Additionally, Clayton (2018) stated that training and development initiatives reduce employee turnover.

Furthermore, millennials are driven when given the chance to increase their skill set (Zaharee *et al.* 2018). According to Zaharee *et al.* (2018), 71% of millennials stated in the 2016 Deloitte survey that they would quit their present job within the following two years because there were no opportunities for advancement in management. To retain millennial workers, companies have to foster an atmosphere that values learning and growth (Durocher, Bujaki and Brouard 2016; Kuhl 2016).

5.3.4 Responsibility

The factor of responsibility covers both authority and responsibility relative to the job (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Responsibility is associated with acquiring the satisfaction of being given the responsibility and authority to make decisions (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Gaps between authority and responsibility negatively influence job satisfaction, leading to dissatisfaction (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Turnover was influenced by the need for participants of the current study to fulfil their need for more responsibility at another organisation. This study also identified that positions of authority and seniority was a motivation factor for the retention of employees.

Hee and Rhung (2019) found that their conviction and their ability to make their own decisions influenced self-motivation in millennials. Hamilton (2020) agreed that the

independence and freedom to control their everyday workload were highly crucial factors for the participants in his research study. Viljoen (2019) found that one of the factors millennials were less satisfied with was authority. Viljoen (2019) further recommended that the company in his study investigate their current authority structure and consider revision to accommodate millennial employees.

5.3.5 Recognition

When workers are praised or rewarded for accomplishing specific goals at their workplace, or for their high quality of work, this is positive recognition (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Negative recognition consists of blame and criticism for the tasks completed (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The responses to the current study pointed out that the lack of recognition lowered job satisfaction while recognition, respect, and appreciation promoted high job satisfaction. The current study further recognised that rewards and recognition were required to attract and retain millennial medical technologists.

In Bateman's study, participants complained that whenever they raised issues with administration, those in charge either minimised the seriousness of the matter or ignored it rather than conducting further research (Bateman 2014). Millennials also protested about supervisors not recognising their good work and also about the time managers spent condemning their work instead of assisting them with solutions or improvements (Bateman 2014). In addition, Hee and Rhung (2019) found recognition and purposefulness were motivation factors for millennials. Similarly, Hamilton (2020) agreed that the participants in his study indicated the significance of recognition and praise as a need by millennial employees as well as for the purpose of empowerment.

5.3.6 Achievement

Positive achievement encompasses the accomplishment of a specific success, such as finishing a problematic task on time, finding a solution to a work-related problem, or noticing positive results of one's job (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Negative achievement includes inability to make progress at a task

or poor decision-making in the workplace (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The participants of this study acknowledged that quality patient care and laboratory results, as well as their passion for the profession of medical technology, were motivating factors in favour of retention. Likewise, Hee and Rhung (2019) established that enjoyment and passion for completing a project or a function was normally linked with intrinsic motivation. Williamson (2019) agreed that companies could use low-cost systems to intrinsically motivate workers, such as new projects or work challenges.

The request by millennials for promotions and challenging work are driven by their desire to contribute to the professional environment (Kadakia 2017). Most organisations fail to properly articulate their goals and mission to the millennial cohort (Kadakia 2017). Organisations would build loyalty if they provided millennials with a sense of purpose in relation to their work and something to believe in, because millennials are purpose driven and not unfaithful (Kadakia 2017). The millennial medical technologists in the current study were motivated by quality patient care and laboratory results, and were also passionate about their profession because of its contribution to healthcare. The work tasks they performed gave them a sense of achievement.

The millennial medical technologists of this study identified that the presence or improvement of the above motivation factors improved job satisfaction, reduced employee turnover, and increased employee retention, and were supportive of Herzberg's theory (1959). Herzberg Mausner and Snyderman (1959) claimed that motivation factors were needed to enhance job satisfaction. Martinez and Martinez (2019) concurred that motivation factors promoted job satisfaction. As per Herzberg (1966), motivation factors were intrinsic to the job and led to job satisfaction because the factors fulfilled desires for growth and self-actualisation. Furthermore, Herzberg (1974) inferred that motivation factors encouraged long lasting employee performance results. Additionally, an improvement in the above motivation factors reduced turnover (Reukauf 2018). Executives within an organisation had the option to decrease turnover by increasing job satisfaction (Reukauf 2018) as a lack of job satisfaction, often resulted in turnover (Conant 2017).

5.4 DISCUSSION AND INTERPRETATION OF HYGIENE FACTORS

Hygiene factors are the variables associated with reducing the level of job dissatisfaction (Herzberg, 1966). Hygiene factors function to decrease the job dissatisfaction of the employees when present and increase job dissatisfaction when absent (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The following is a short description of each hygiene factor and the identification of the hygiene factors derived from this study.

5.4.1 Interpersonal relations

Interpersonal relationships were restricted to the personal and working relationships between the employee and her/his supervisors, peers, and subordinates (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). This involved work-related communication and social interactions in the workplace environment and during break times. In this study, participants reported that good communication with superiors promoted job satisfaction. However, some participants indicated that managers were not clear in communicating their expectations to workers, and managers did not ensure that communication was disseminated to all workers which leads to low job satisfaction of employees. Poor communication between manager and employee was identified in this study as a factor which influenced turnover. Furthermore, this study pointed out that good, clear, constructive and supportive communication from superiors improved employee retention.

Millennials believe organisational hierarchies to be outdated and prefer a level playing field (Viljoen 2019). Half (2022) reported that mentorship programmes produced relationships that are more personal than the manager-employee relationship. These personal relationships promote open communication which encourages workers and their managers to ask questions and share ideas (Half 2022).

Review of the literature also verified that millennials consider regular feedback which is honest and constructive as essential to aid in their development (Douglas *et al.* 2015; Kadakia 2017; Smith 2018). Individuals of the millennial age group value their

time; if they perform a task incorrectly or with an unsatisfactory output, they want to be informed immediately (Merisalo 2018), and they expected similar transparency in communication from their supervisors (Kadakia 2017).

5.4.2 Salary

This hygiene factor covers all forms of compensation at the employee's workplace, for example, bonuses, salary increases, or unsatisfied expectations of salary increases or decreases (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The current study acknowledged poor salaries, and salary inequity as factors which lowered job satisfaction, and that the implementation of competitive income and incentives would promote high job satisfaction. This study showed that inadequate remuneration, and an evaluation of remuneration packages at other organisations, were factors which influenced employee turnover. However, participants in this study mentioned that a review of the current pay scales would improve retention in the organisation.

Providing attractive and competitive salary packages is one of the most significant factors that attracted and retained the best employees (Half 2022). Viljoen (2019) recommends that packages should include both medical retirement benefits. Retention surveys have shown that health benefits, retirement plans, and insurance are aspects that convinced 56% of employees to stay in their current jobs (Halvorson 2018). Furthermore, it is also imperative that employees fully understand the benefits they are receiving from the organisation (Half 2022). The organisation should examine market related remuneration packages and create packages according to the requirements of the millennials to lower dissatisfaction concerning salary (Viljoen 2019). A healthy balance between work and life, and income and incentives were found to be the two most important factors for retaining millennial employees, according to a study by Zaharee et al. (2018).

Brow *et al* (2018) discovered that employees left companies for higher salaries, therefore market related salaries were necessary to keep highly skilled personnel. The literature review found that, when an employee made the decision to depart from an

organisation, work-related factors, professional advancement, and perks were also taken into consideration in addition to pay (Sarkar 2018; Smyth and Zimba 2019). Furthermore, as per a 2016 Deloitte survey, salary and financial benefits do drive millennial choices about an employer (Zaharee *et al.* 2018). Research showed that companies that offered good benefits and incentives to employees lowered the probability of turnover by 26% and improved retention by 14% (Chepchumba and Kimutai 2017; Benslimane and Khalifa 2016).

5.4.3 Company policies and administration

This factor involves descriptions of appropriate or inappropriate management and organisation policies and guidelines (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). This factor includes good or poor organisational policies that affect the worker. Examples include an absence of delegation of authority, inferior policies and procedures, and inadequate communication (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The participants in the current study pointed out that poor retention strategies lead to employee turnover in the organisation. But job and income stability was identified as factor which influenced some participants to remain at the organisation. Participants further indicated that an adjustment of current work schedules to accommodate for family time and shorter working hours, as well as an employee-centric culture, was required to improve retention of employees.

Hamilton (2020) mentioned that managers and organisations caused millennials to become frustrated due to their ignorance of the factors that could lead to a potential turnover. Millennials frequently experience disconnect and stress as a result of organisations failing to grasp what efficiency in the context of an online and a tactical 21st-century business entails (Kadakia 2017; Lu and Gursay 2016). Additionally, millennials dislike rigid guidelines (Hayes *et al.* 2018). Organisations that impose strict or out-of-date policies and processes risk losing millennial employees (Brown, Thomas and Bosselman 2015; Pinzaru *et al.* 2016).

5.4.4 Supervision

Supervision is related to the fairness or unfairness, and the competence or incompetence of the supervisor or supervision (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). It encompasses the supervisor's work knowledge and fairness, as well as their eagerness to teach or to delegate responsibility (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Good and accessible supervision is necessary to increase an employee's level of job satisfaction (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Poor management or leadership may decrease the level of job satisfaction in the workplace (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). The responses of the current study identified inequality and favouritism, lack of mentorship, poor management, and leadership inability to adapt to change as factors which promoted low job satisfaction in the organisation. Participants indicated that performance and talent management should be reviewed to promote job satisfaction because the current system was not yielding any positive results or benefits to the employee. Ill-treatment, disrespect, and exploitation by management in the workplace were factors affecting turnover in this study. For these reasons, study participants indicated that a value based human resource strategy, as well as equality and respect, were required to improve employee retention.

Lawson (2018) concurred that employees who left an organisation within six months of being hired was associated with the immediate manager's lack of awareness of the factors which cause turnover. Furthermore, retention of millennials will be difficult if management practices are not adjusted to accommodate this generation's specific characteristics and expectations (Kadakia 2017; Lawson 2018). Halvorson (2018) agreed that one of the key reasons employees leave an organisation is because of their manager. A manager's lack of technical and practical expertise, unethical behaviour, unprofessionalism, inadequate leadership abilities, and overall incompetence leads to millennial attrition (Hight, Gajjar, and Okumus 2019; Johansen 2013).

Furthermore, deficiencies in supervisory support increases the possibility of turnover with workers looking to other organisations for greater supportive opportunities (Al-Qathmi and Zedan, 2021). Anderson *et al.* (2017) state that because of their differing

views, ideas, and behaviours from previous generations, millennials necessitate a shift in management style. Al-Qathmi and Zedan (2021) state that supervisory support is vital in reducing turnover.

Millennials, according to Bateman (2014), dislike being shouted at or spoken to in an arrogant or rude manner. In addition, they criticise micromanagement and the refusal to complete work in their own manner (Bateman, 2014). Furthermore, they do not believe that their supervisors endorse their academic and career objectives because they do not take steps such as allowing them to leave work early to attend university or developing a career path for them to advance with the company (Bateman 2014).

5.4.5 Working conditions

Working conditions include the physical environments of the job, and whether the facilities are good or poor (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Working conditions may also cover the amount of work, space, ventilation, tools, temperature and safety (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). Employees feel satisfied and proud in a good environment, as opposed to a poor environment (Alshmemri, Shahwan-Akl and Maude 2017; Herzberg, 1966). A good working environment, and friendly working hours were identified by participants in the study by Alshmemri, Shahwan-Akl and Maude (2017) as factors which improved job satisfaction as opposed to unsociable working hours which were stated as a factor of low job satisfaction. Moreover, the misconceptions between university education and the actual laboratory work, and undesirable shift work were indicated by the participants of the study as factors influencing turnover. In addition, the comfort and familiarity in the workplace was a factor which leads to employees to remain at the organisation for longer.

Das and Baruah (2013) and Alharbi (2018) agree that long working hours lower productivity and overall job satisfaction which can lead to an increase in turnover. Time off and flexibility have been raised as hygiene factors by millennials especially if the harmony between work and personal life is affected or if promised flexibility is denied (Hamilton 2020). A proper balance between work and life and the value that the millennial age group places on time for themselves are further supported by Merisalo's

(2018) claim that this age group favours flexibility. Millennials wish to live a life with meaning that is supported by an excellent occupation which permits a minimum 30-hour work week as well as receive a constant salary so they can spend their money on what they desire, in addition what is deemed essential. (Adkins, 2016; Zaharee *et al.* 2018).

According to a study performed by Zaharee *et al.* (2018), two crucial variables that drove millennial retention was work-life balance, and irregular work schedules. Irregular work schedules affect the well-being of workers, trigger childcare problems for working parents, cause family pandemonium co-ordinating extracurricular activities, and result in increased non-conformances and poorer customer care at work (Kantor 2014; Scheiber 2018; Williams, Kesavan and McCorkell 2018).

Hamilton (2020) discovered that a work-life balance and the ability to control their daily workload was valued by the participants in his research study. Clayton (2018) declared positive work environments were significant in the retention of qualified employees. Hamilton (2020) discovered that constant feedback, time off, and flexibility are desired by millennials. Furthermore, millennials desire a productive work environment (Kadakia 2017) free of ambiguity and chaos (Hamilton 2020).

According to Bateman (2014), it is vital for businesses and academic institutions to partner in order to best equip recent millennial graduates to meet industry demands. Bateman (2014) further suggested that employees of the university and/or industry should provide seminars addressing conflict management, stress management, and interpersonal skills to university students and graduates.

The findings in the current study were supportive of the hygiene factors as identified by Herzberg, Mausner and Snyderman (1959), and must be considered as factors which influenced job satisfaction, turnover and retention. Poor hygiene factors can increase job dissatisfaction, while better hygiene factors can lower or prevent job dissatisfaction (Herzberg, Mausner and Snyderman 1959; Martinez and Martinez 2019). Hygiene components are external to the employee and environmental in nature such as the basic work requirements of staff members (Martinez and Martinez 2019).

Learning about hygiene variables is therefore crucial to retaining workers for longer (Marais, Barnard and Mensele 2017).

5.5 LIMITATIONS OF THE STUDY

The study's research was confined to a small sample size however this was an exploratory study design hence a qualitative study with adequate sample size. In addition, there was an absence of published literature concerning this study in South Africa, particularly qualitative studies therefore a large amount of international literature sources were cited. Furthermore, there was a deficit of recently published literature regarding the increased turnover of millennial medical technologists, job satisfaction factors, and retention developments both nationally and internationally. Hence the researcher cited original literature as well as old literature sources to contribute to the current study.

5.6 RECOMMENDATIONS FOR RETENTION STRATEGIES OF MILLENNIAL MEDICAL TECHNOLOGISTS

This study found that improving both motivation factors and hygiene factors increased employee job satisfaction, reduced employee turnover, and increased employee retention. Derby-Davis (2014) declared that motivation and hygiene factors increase job satisfaction and lower employee turnover, and further hypothesised that an increase in employee motivation and hygiene factors increases retention in the organisation.

The recommendations are summarised as follows:

- Employers should increase employee skillsets through skill development programmes, professional development and progression, and the diversification of laboratory work.
- Skill development programmes should be facilitated through structured training plans, with specific talent management and the identification of areas of development required for each employee.

- New employees, both from tertiary institutions and other laboratories, should be provided with practical and on-the-job training as it pertains to each laboratory.
- Tie-in agreements should be considered such that the employee's contractual obligation are equivalent to the training course duration for the benefit of both the employer and employee.
- Managers should be offered courses on interpersonal skills and business management. Followed by mentorship and supervision by their seniors.
- Succession planning should be implemented to result in benefits such as change management, continuity, and effective knowledge transfer. Employees should be identified and groomed accordingly.
- Employers should review the existing remuneration packages such that salary scales are market related, and increased to suit the millennial lifestyle.
- Work schedules and shifts should be adjusted to accommodate for flexibility, family time, healthy work-life balance, and personal time. Contractual hours and shifts worked should be revised, suitably amended with option of half-day contracts, contracts with reduced hours, and permanent night duty contracts.
- Employees need to be recognised for their hard work and dedication to the organisation. The organisation should introduce rewards and incentives in the form of bursaries and study opportunities, financial bonuses, performance-based pay, employee of the month recognition, additional annual leave days, and shopping or restaurant vouchers. Results of a survey of South African medical technologists indicated that medical technologists believed that they did not receive the respect they deserved from pathologists in their work environment (Mullah 2018).
- Organisations should become more employee centric by determining the needs, strengths, and trajectory of employees, then working towards a strategy to fulfil those needs or reach a compromise. A psychometric evaluation could be offered to employees to identify areas of strengths and weaknesses as well as consultations with a professional career coach.
- Employers should create an environment where workers would have freedom of expression to convey their views, opinions, and feelings without fear of dismissal. A platform can be introduced where these views can be conveyed

anonymously. Exit interviews should be mandatory, and the data collected should be reviewed to implement plans to improve job satisfaction and retention.

- Employers should provide regular, honest, constructive, and supportive feedback to employees. This type of communication can be facilitated through brief daily meetings, weekly departmental meetings, monthly one-one meetings between supervisors and subordinates, evaluations, emails, and notices.
- Employers should support the integration of technology and technological advancements to improve productivity in the pathology laboratory industry. This can be facilitated through continuous training and support from the service providers in the form of workshops, seminars, and online learning platforms for the end users.
- Offer departmental integration with other relevant departments where possible, to facilitate understanding and added support for and from medical technologists. Support departments should be educated about the field of medical technology and pathology to ensure effective and efficient service delivery. Similarly, the medical technologist can be transitioned into these support departments to add great value since they have performed the core function in a pathology laboratory. Medical technologists possess the ability and skill to provide expert decision-making skills in areas such as procurement, product specifications and requirements, human resources, executive management, information technology and marketing.
- It is vital for industry to address and educate university students in the first, second, and third year of study about all aspects of the profession. Students should be informed of the difficulties as well as the rewards. Therefore, when such students enter the workforce they will be accepting of the shifts, the pressures, and the stresses of providing a 24-hour healthcare service.

5.7 FURTHER RESEARCH

Although the study was timely, future scholars may pursue further research such as:

- Conducting a quantitative study with a large sample size across South Africa to test the factors identified in the current study.

- Conducting research to identify what medical laboratory professionals expect from managers.
- Identifying retention strategies of organisations that have effectively retained millennials, specifically in a pathology laboratory setting.

5.8 CONCLUSION

The researcher found that the study supported Herzberg's motivation-hygiene theory, that increased job satisfaction leads to higher employee retention, and that Herzberg's motivation-hygiene theory continues to be a viable theory for job satisfaction. Clayton (2018) recommended that managers should focus on motivation and hygiene factors to enhance employee motivation and retention while improving organisational performance and productivity. Hee and Rhung (2019) recognised that it was important for managers and organisations to understand how intrinsic and extrinsic motivation influenced the retention of millennials in the workplace. Similarly, Saeed *et al.* (2018) encouraged organisations to focus on their workers by adjusting their approach to leading millennials. Furthermore, Saeed *et al.* (2018) recognised working conditions, job security, accountability, and salary increase as specific factors impacting the retention of millennial employees in research.

A cultural shift has millennials appreciating happiness and education more than former generations did and hence, it is imperative for employers to evaluate what contributes to millennials feeling happy and unhappy in their careers and to provide more opportunities for them to study within the organisation (Bateman 2014). To satisfy the educational and professional goals of the millennial era, business entities must evolve (Bateman 2014).

Circumstances have shifted, but the individuals entrusted with attracting, recruiting, employing, managing, and retaining medical technologists of the millennial generation have not changed their philosophy. Employers are advised by the study's findings that to attract and keep millennial workers, they must improve their knowledge of this generation. The emphasis has to be removed from the baby boomers who are preparing for retirement and rather placed on the upcoming generations concerning

methods of retention and advancement. Bateman (2014) stated that it was obvious that management's lack of attention to employee development obstructed their capability to retain millennials. These problems seemed to be solvable considering many of them had to do with generational differences (Bateman 2014).

Businesses have shown little progress in altering their systems to attract, manage, and keep millennials in the workforce, despite the change in demographics. Because baby boomers held a mindset that there was no need to resign if they had a respectable position at a trustworthy organisation, employers could hold onto them for longer without any modifications. Employers may have been expecting millennials to continue with this mindset, which would explain why they experience the challenges retaining millennials. As the results of this study have exposed employers to the perspective of those interviewed regarding recruitment and retention; understanding the millennial mindset can assist organisations in retaining them.

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Appendix A: Permission letter

To: Prof. Eftyhia Vardas
Clinical Virologist
Lancet Laboratories

I, Michelle Pillay (Bedessy), am currently registered for a Master of Health Sciences Degree in Medical Laboratory Science at the Durban University of Technology. I would like to request permission to conduct my research at Lancet Laboratories (KZN) where I am a permanent employee in the HR Training department.

The purpose of my study is to investigate factors of job satisfaction which have an influence on high employee turnover of millennial Medical Technologists, with the objective of recommending a solution in the form of retention strategies.

The nature of data required for the study will include the following:

1. The Lancet Laboratories HR Termination report for the period 1 Jan 2016 – 30 Oct 2020.
2. Interview questionnaires addressing turnover, job satisfaction and retention, targeted at a population of Medical Technologists (millennial generation), currently or previously employed at Lancet Laboratories in KwaZulu-Natal.

I am hopeful that my research will benefit both Lancet Laboratories and their employees directly through the recommendation of job satisfaction requirements and improved retention strategies. Employers will learn why millennials leave their jobs and what employers can do to improve retention consequently decreasing the costs of hiring and training new employees due to turnover.

I have attached my research proposal for your perusal.

I await your response. Thank you.

Kind regards

Michelle Pillay (Bedessy)
Tel: 0313086603/ 0825580772 or Email: michelle.pillay@lancet.co.za

Research study Supervisor: Dr JN Mbatha on Tel: 031-3735280 or Email: nonhlanhlanham@dut.ac.za

Appendix B: Letter of Information



LETTER OF INFORMATION

Title of the Research Study: Factors that influence the high staff turnover of the millennial generation of Medical Technologists in a Private Pathology Laboratory setting.

Principal Investigator/s/researcher: Mrs Michelle Pillay, B.Tech: Biomedical Technology

Co-Investigator/s/supervisor/s: Dr. JN Mbatha, PhD: Medical Microbiology
Mr Derrick Govender, MHSc: Medical Laboratory Science

Brief Introduction and Purpose of the Study: The background of this study is motivated by the fact that Lancet Laboratories has recorded a high staff turnover of millennial Medical Technologists in recent years. The purpose of this study is to investigate factors of job satisfaction which have an influence on high employee turnover, with the objective of recommending a solution in the form of retention strategies.

Greeting: Hello, how are you?

Introduce yourself to the participant: My name is Michelle Pillay and I am completing my thesis in a Master's degree at the Durban University of Technology.

Invitation to the potential participant: I would highly appreciate it if you will contribute to my research by participating in an interview.

What is Research: Research is a way of searching for new information, new knowledge, new understanding, and new facts through investigation, also referred to as a study. A person who does research is called a researcher.

Please feel free to ask as many questions as you wish because it is important that you fully understand the study. You are entitled to discuss the study with your family and friends and you are under no obligation to commit at this stage. You may have a copy of this Letter of Information document to take home and read through.

Outline of the Procedures: Your participation will involve an interview. Your participation is voluntary and any personal information disclosed to me during the data collection process will remain confidential and be used for research purposes only. The interview will be completed at a place and time that is convenient to you. The duration of the interview will be approximately 25-30 minutes long. The interview is a major part of the data collection that will be used for this research. As a Medical Technologist of the millennial generation, you will

be able to provide details of your job satisfaction needs/requirements. The information will be analysed by a Statistician.

Required criteria:

- Medical Technologist currently registered with the HPCSA.
- Millennial between 19-39 years of age.
- Currently or previously employed at Lancet Laboratories in KwaZulu-Natal.

Risks or Discomforts to the Participant: There are no known physical, psychological, economical, or social and legal risks

Explain to the participant the reasons he/she may be withdrawn from the Study: You will be provided with an informed consent document. You also have the right to refuse to participate or withdraw from the study at any time. In the event you choose to withdraw from the study all information you provide will be destroyed and omitted from the study. The information gained through the interviews will be interpreted according to its contribution to understanding the main objectives of the study.

Benefits: The outcome of this study is expected to benefit Medical Technologists and their employers by providing recommendations of job satisfaction needs and improved retention strategies.

Remuneration: Your participation in this study does not offer any form of remuneration.

Costs of the Study: You will not be asked to cover any cost relating to the study.

Confidentiality: Your identity will be kept anonymous. All the information collected will be kept confidential. Only the researcher and the research supervisors will have access to the interviews. The information will be coded to maintain confidentiality

Results: Results of the study will be recorded in a dissertation that will be available at DUT libraries and will be shared with Lancet Laboratories Human Resources department, as well as published in a peer reviewed journal. If any significant new findings are developed during the course of the research it will be conveyed to you electronically via email.

Research-related Injury: There will be no research related injury due to the nature of this study because the interview will be conducted either one-on-one, telephonically or on an online platform at a location which is safe and convenient to you. Interviews will be conducted by the researcher, audio recorded, and documented on paper.

Storage of all electronic and hard copies including tape recordings Data will be stored under lock and key for the duration of the study in the researcher's office. Hard copies of raw data etc. will be shredded after five years of completion of the study. All electronic data will be password protected for five years and thereafter deleted.

Persons to contact in the Event of Any Problems or Queries: Please contact the researcher Michelle Pillay (tel no. 0825580772), my supervisor Dr JN Mbatha (tel no. 031-3735280) or the Institutional Research Ethics Administrator on 031 373 2375. Complaints can be reported to the Director: Research and Postgraduate Support Dr L Linganiso on 031 373 2577 or researchdirector@dut.ac.za.



CONSENT

Full Title of the Study:

Names of Researcher/s:

Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Michelle Pillay, about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: IREC 048/21,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

_____	_____	_____	_____
Full Name of Participant Thumbprint	Date	Time	Signature / Right

I, Michelle Pillay herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____	_____	_____
Full Name of Researcher	Date	Signature
_____	_____	_____
Full Name of Witness (If applicable)	Date	Signature
_____	_____	_____
Full Name of Legal Guardian (If applicable)	Date	Signature

Appendix C: Qualitative Interview

Qualitative Interview

I. Prequalifying Questions

1. Are you a qualified Medical Technologist?

YES		NO	
-----	--	----	--

2. Are you currently registered with the HPCSA in the above category?

YES		NO	
-----	--	----	--

3. Are you between the ages of 19-39 years?

YES		NO	
-----	--	----	--

4. Are you currently employed at Lancet Laboratories (KZN)?

YES		NO	
-----	--	----	--

5. Were you previously employed at Lancet Laboratories (KZN) and currently employed at a different organisation?

YES		NO	
-----	--	----	--

II. Demographics

1. What is your age?

--

2. What is your gender?

MALE		FEMALE	
------	--	--------	--

3. What is your race?

AFRICAN		COLOURED		WHITE		INDIAN		OTHER	
---------	--	----------	--	-------	--	--------	--	-------	--

4. What is your marital status? (single, married, separated, divorced, or widowed)

SINGLE		MARRIED		SEPERATED		DIVORCED		WIDOWED	
--------	--	---------	--	-----------	--	----------	--	---------	--

5. What is the highest level of education you have completed?

--

6. a) How long have you been employed at Lancet Laboratories?

--

b) How long have you been employed at your current organisation, if not at Lancet Laboratories?

III. Questions

1. Can you describe your current views in relation to your job at Lancet Laboratories?

2.1 Have you or any of your colleagues (of the millennial generation) voluntarily resigned / considered resigning from the employ of Lancet Laboratories (KZN)?

2.2 If yes, what do you think contributes to this?

3. Would you consider low job satisfaction as a reason for leaving Lancet Laboratories? _____
Explain?

4.1 What do you think are the causes of low job satisfaction at Lancet Laboratories?

4.2 What do you think can promote high job satisfaction at Lancet Laboratories?

5. What motivates you to stay at Lancet Laboratories/your current organisation (if not at Lancet Laboratories)?

6. As a millennial, what are the main factors/reasons that can lead/led you to leaving Lancet Laboratories?

7. As a millennial, what do you think would need to change at Lancet Laboratories to attract and retain Medical Technologists of the millennial generation?

8. What are your general thoughts on employee turnover of millennials in the Medical Technology field?

<hr/>	<hr/>	<hr/>	<hr/>
Full Name of Participant	Date	Time	Signature

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

<hr/>	<hr/>	<hr/>	<hr/>
Full Name of Researcher	Date	Time	Signature

Appendix D: Training Certificate – Introduction to Research Ethics

Training certificate – Introduction to Research Ethics

	Zertifikat Certificat	Certificado Certificate
	Promouvoir les plus hauts standards éthiques dans la protection des participants à la recherche biomédicale Promoting the highest ethical standards in the protection of biomedical research participants	
	Clinical Trials Centre The University of Hong Kong	
	Certificat de formation - Training Certificate Ce document atteste que - this document certifies that	
	Michelle Bedessy Pillay a complété avec succès - has successfully completed	
	Introduction to Research Ethics du programme de formation TRREE en évaluation éthique de la recherche of the TRREE training programme in research ethics evaluation	
	Release Date: 2020/11/06 CID : TR652W6j	Professeur Dominique Sprumont Coordinateur TRREE Coordinator
	Coordinating Education Program (5 Credits) Programme de Formation continue (5 Crédits)	FPH Coordinating Education Program Programme de Formation continue
<small>(REV : 20130310)</small>		
<small>Ce programme est soutenu par - This program is supported by : European and Developing Countries Clinical Trials Partnership (EDCTP) (www.edctp.org) - Swiss National Science Foundation (www.snf.ch) - Canadian Institutes of Health Research (http://www.cihr.gc.ca/0313.html) - Swiss Academy of Medical Science (SAM/ASSM/AMS) (www.samw.ch) - Commission for Research Partnerships with Developing Countries (www.kjpr.ch)</small>		

Appendix E: Data Usage Approval – Lancet Laboratories Data Use Agreement

Data usage approval - Lancet Laboratories Data Use Agreement

LANCET Publications Guidelines 1.0

Approved 06 Jan 2012

Appendix 2 – Data Use Agreement

Lancet Laboratories and Michelle Pillay (Bedessy) ("Recipient"), in order to make certain LANCET data ("the Data") available for purposes of research, public health, or health care operations hereby agree as follows:

1.	The Recipient agrees to use or disclose the Data only for the following purpose, and for no other purpose, except as authorized (describe, including any applicable grant or protocol identifier, if any):		
2.	The Recipient agrees to use appropriate safeguards to prevent any use or disclosure of the data other than as specified in this Agreement.		
3.	The Recipient will report to the Lancet Publications Committee any violation of this Agreement. The Recipient will ensure that any agents, including any subcontractors, to whom it provides the Data, agrees to the same restrictions and conditions that apply to the Recipient.		
4.	The Recipient will collaborate with one or more LANCET investigators in analyzing and publishing the data.		
5.	Authors should avoid conflicts of interest; where a relationship that presents an actual or potential conflict cannot reasonably be avoided, it should be disclosed.		
6.	Approved manuscripts must use the following statement in the Acknowledgements section: "This manuscript has received the approval of the LANCET Publications Committee based on a review of its scientific and data interpretation."		
7.	Abstracts, draft manuscripts and final manuscript versions must be submitted to the Lancet Publications Committee prior to submission in the case of abstracts and drafts and a final copy on publication.		
	<div style="display: flex; justify-content: space-between;"> <div> <u>E. VARDAS</u> Representative Lancet Publications Committee </div> <div> <u>01/12/2020</u> Name (Please Print) </div> <div> Date: </div> </div> <div style="margin-top: 10px;"> Title </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <u>(Signature)</u> Recipient Signature </div> <div> <u>MICHELLE PILLAY (BEDESSY)</u> Name (Please Print) </div> <div> <u>6/11/2020</u> Date: </div> </div> <div style="margin-top: 10px;"> Title </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> Approved by Lancet Board: <u>YES</u> </div> <div> NO </div> <div> DATE: <u>01/12/2020</u> </div> </div>		

Appendix F: Application for Amendment of Approved Research Proposal



18 November 2021

Mrs M Pillay
39 Figtree Rise
Sunningdale
Umhlanga Rocks
4051

Dear Mrs Pillay

Application for Amendment of Approved Research Proposal

Factors that influence the high staff turnover of the millennial generation of Medical Technologists in a Private Pathology Laboratory setting.
Ethical Clearance number IREC 048/21

I am pleased to inform you that your application for amendment has been approved.

Yours Sincerely

Prof J K Adam
Chairperson: IREC

List of themes, subthemes categories, and subcategories

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Theme 2	Turnover										
	Subtheme 1	Workplace factors affecting turnover									
		Category 1	Millennial needs and attitudes								
			Subcategory 1	Millennial needs							
			Subcategory 2	Millennial attitude							
		Category 2	Inferior workplace experience								
			Subcategory 1	Resign for better work experience							
			Subcategory 2	Deficiency in the provision of multifaceted laboratory experience							
			Subcategory 3	Career change							
			Subcategory 4	Laboratory type							
			Subcategory 5	University education versus employment							
		Category 3	Unfavourable working conditions								
			Subcategory 1	Illtreatment in the workplace							
			Subcategory 2	Undesirable shifts							
	Subtheme 2	Progression and remuneration factors affecting turnover									
		Category 1	Limited progression prospects								
			Subcategory 1	Poor progression							
			Subcategory 2	Deficiencies in training							
			Subcategory 3	Poor retention strategies							
		Category 2	Remuneration disparity								
			Subcategory 1	Inadequate remuneration							
			Subcategory 2	Evaluation of remuneration packages at other organisations							
Theme 3	Retention										
	Subtheme 1	Motivation to remain at current organisation									
		Category 1	Succession planning								
			Subcategory 1	Exposure							
			Subcategory 2	Opportunities for career advancement							
			Subcategory 3	Learning environment							
		Category 2	Strong organisational culture								
			Subcategory 1	Constructive and supportive communication							
			Subcategory 2	Salary versus stability							
			Subcategory 3	Quality patient care and laboratory results							
		Category 3	Passion for the profession and comfort in the workplace								
			Subcategory 1	Passion for the profession							
			Subcategory 2	Comfort and familiarity in the workplace							
	Subtheme 2	Change factors to attract and retain medical technologists of the millennial generation									
		Category 1	Increase employee skillsets								
			Subcategory 1	Skill development programmes							
			Subcategory 2	Professional development and progress							
			Subcategory 3	Facilitate diversification in laboratory work							
		Category 2	Improve financial and human resource management processes								
			Subcategory 1	Review of current pay scales							
			Subcategory 2	Adjust current work schedules							
			Subcategory 3	Value based human resource strategy							
		Category 3	Employee focus								
			Subcategory 1	Rewards and recognition							
			Subcategory 2	Employee-centric culture							
			Subcategory 3	Equality and respect							
			Subcategory 4	Departmental integration							

Appendix H: Editing Certificate

DR RICHARD STEELE

BA HDE MTech(Hom)

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EDITING CERTIFICATE

Re: Michelle Pillay

Master's dissertation DUT: Factors that influence the high staff turnover of the millennial generation of Medical Technologists in a Private Pathology Laboratory setting

I confirm that I have edited this dissertation and the references for clarity, language and layout. I returned the document to the author with track changes so correct implementation of the changes and clarifications requested in the text and references is the responsibility of the author. The intellectual content of the document is the responsibility of the author. I am a freelance editor specialising in proofreading and editing academic documents. My original tertiary degree which I obtained at the University of Cape Town was a B.A. with English as a major and I went on to complete an H.D.E. (P.G.) Sec. with English as my teaching subject. I was a part-time lecturer in the Department of Homoeopathy at the Durban University of Technology for 13 years and supervised many master's degree dissertations during that period.

Dr Richard Steele

08 March 2023

per email