

UNIVERSITY OF KWAZULU-NATAL

**Determining turnover intention and job satisfaction among Health Scientists in
Durban South Africa.**

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ABSTRACT

Human capital management is an integral part of the management process. It is people who help an organisation exit into the future. One important factor to consider under human capital management is 'employee turnover'. Employee turnover, or staff turnover, is the rate at which employees leave a company in a given period. It's a way to track whether a company has more employees leaving than is typically expected. This includes employees that quit voluntarily, are let go by the company, or retire. Companies measure each of their employee turnover types separately to facilitate effective management of each type. Predicting turnover intention is an important step in determining job satisfaction among employees and in developing a good staff retention strategy. Turnover intent is the probability that an individual will change his or her job within a certain period of time. Intentions are statement about a specific behaviour of interest, determined prior to the actual event or behaviour happening. Turnover intention has been acknowledged as the best predictor of actual turnover. This research was designed to identify turnover intentions among employees and establish whether a relationship existed between job satisfaction and turnover intentions. The objective of the study was to identify factors contributing to the rise in staff turnover and suggest recommendations to identified problems. Quantitative research methods were used in data collection and Statistical Package for Social Sciences (SPSS) was used for data analysis. Reliability of the instrument was tested using the Cronbach Alpha's reliability scale from SPSS. A Cronbach alphas of (>0.6) internal consistency for all the research's 5 concepts was observed. This indicated that the reliabilities of composite measures used to test the concepts were at acceptable levels. The participants of the research were all employees of University of KwaZulu-Natal's HIV Pathogenesis Programme (UKZN-HPP). Participation in the study was voluntary and was through the means of self-administered questionnaires. The main findings from the study were that UKZN-HPP employees had a general positive perception of their jobs and working environments. The study also found that job satisfaction and labour turnover intention were negatively correlated at 0.05 level of significance, so when employees are happy and satisfied with their jobs, the intention to leave or quit a job was significantly lower.

Key words: Turnover intention, job satisfaction, staff retention, organisational commitment, supervisory support.

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CHAPTER ONE

Study Introduction

1

1.1 Introduction

This chapter gives insight to the background of the study. The study sought to determine turnover intentions of health scientists at a research facility in Durban, South Africa, called the University of KwaZulu-Natal's HIV Pathogenesis Programme (UKZN-HPP) research unit. The chapter gives an introductory theory on turnover, a brief description of UKZN HPP, a detailed background of the study, the problem statement, objectives of the study, scope of the study, and lastly limitations observed in conducting the study.

In today's workplace, employee turnover is a management issue that cannot be ignored. Robbins et al. (2012, p.68) defines turnover as the rate at which employees leave an organisation either by free will or through coercion. It represents permanent exit from the organization and is often preceded by other withdrawal behaviours, such as lateness or absenteeism. Podsakoff et al. (2007) observed that both withdrawal intentions and behaviours are negatively related to organizational attitudes, such as organizational commitment, identification, motivation and job satisfaction. High turnover is usually associated with high recruiting, selection and training efforts by an organisation. Ali (2005) defined "turnover" as the ratio of employees leaving an organisation divided by the number of employees retained in the organization during the period under consideration. Cohen et al. (2015) argues that employee turnover is a complex phenomenon that depends on various factors including age, gender, tenure, designation, experience, compensation, education and nature of employment. Correctly predicting turnover will help management to efficiently plan its human resources and develop effective corporate strategies.

The competitive environment, technology, globalisation, cultural diversity, and emerging virtual worker have all contributed towards turnover management becoming a key issue in organisations (Chin and Rasdi, 2014). Shamsuzzoha and Shumon (2007) mentioned that the identification and retention of critical skills was of paramount importance. The movement of people, in and out of an organisation had both benefits and losses to be considered (Dess and Shaw, 2001). Erasmus et al. (2015) argued that employees with specialised skills in an

organisation were to be retained if possible. Organisations are seeking to increase productivity, increase profitability and lower personnel costs, through people management.

1.2 Background of HIV Pathogenesis Programme (HPP) unit

UKZN-HPP commonly referred to as HPP is an externally funded biomedical research unit at Nelson Mandela Medical School. HPP was established in 2002, as a joint collaboration between UKZN Medical School and the Harvard University Medical School. It is a facility for exploratory pathogenesis and translational research into the Human Immunodeficiency Virus (HIV) and Tuberculosis. The research unit was first funded by the Doris Duke Charitable Foundation. Over the years, a number of grant funding have been received locally and internationally (UniversityofKwaZuluNatal, 2017).

As an academic research institute, HPP's aim is to provide a broad understanding of the immune system response effective in controlling HIV through student academic research and scientific investigations. The institute's mission is to pave way for continuous research excellence, and to produce humanitarian leaders devoted to fighting HIV/AIDS' (UniversityofKwaZuluNatal, 2017).

Research institutes are competitive units seeking to produce best research outputs, best students, increase funding opportunities, build outstanding skills and extend global recognition (Erasmus et al., 2015). HPP competes with organisations like the Centre for Aids Programme of Research in South Africa (CAPRISA), Africa Health Research Institute (AHRI) and many other initiatives from several universities across the country. The Institute strives to produce innovative scientific research initiatives which funders are confident about and could be further developed into clinical interventions and vaccine development.

HPP has a total of 37 staff members employed to support and facilitate the achievement of its mission as well as UKZN's broader vision. The University employs over 5 000 employees both academic and administration staff spread across its five campuses (UKZN, 2015). The Nelson R. Mandela (MRM) College of Health Sciences (CHS) campus on its own has approximately 1450 employees. Developing and maintaining sustainable human resources in each university department is of paramount importance. All departmental units are expected to uphold the university values, which are Respect, Excellence, Accountability, Client orientation, Honesty and Trust (R.E.A.C.H T). Research units like HPP are required to uphold, build and maintain high motivational levels among all its employees. This will

cumulatively contribute towards the University's goals and drive towards better management of human resource.

1.3 Background of the study

Macroeconomic studies have shown that labour market conditions do have an impact on turnover rates (Jones, 2014). This is not only true in South Africa but it was observed in many other countries and across industries as well. Holtom et al. (2008) suggests that organizations in different industries experience varying average turnover levels. This is because not all turnover is equal as it is affected by many factors. Involuntary turnover is presumed to be within the control of the organizational leaders, whereas voluntary turnover is the employee's control or decision.

The 21st century has come with numerous changes to social and career management of employees. Career patterns and the evolution of the modern man has become extremely unpredictable due globalisation, employability, boundary-less careers and virtual enterprises (Hess et al., 2012; Hall, 2013). Workers now have the capacity to adapt or change their occupations as often as possible to keep up with advances in technology, stages in life roles and lifestyles (Del Corso, 2013). Careers are no longer lifetime commitments to an employer, but a revolving sale of innovative services and skills (Savickas, 2012). The modern employee is ever seeking new skills in order to keep up with the global pace of change (Del Corso, 2013). People are more educated and intelligent, thus calling for better employment conditions from employers hence the increase in voluntary turnover across industries (Trevor, 2001).

Turnover costs are important even though they are often hidden from managers. Organisations seem not to keep profit and loss statements, with specific items like cost of voluntary turnover. The cost of turnover is commonly absorbed in recruitment and training costs, thus making it hard to itemise and apportion its costs accurately. Unfortunately these hidden costs bear losses some involving goodwill and customer service if unmeasured over long periods of time. The estimated costs and losses per employee vary from company to company. Some range from a few thousand rands to more than double an employee's salary depending on industry, job content and availability of replacements (Hinkin & Tracey, 2000).

High rates of voluntary turnover are often found to be harmful to firm performance (Glebbeek & Bax, 2004), however not all turnover is bad, hence the need to study turnover and its antecedents. In fact Kaur et al. (2013) says, ‘when poor performers choose to leave, this can be quite functional’ unlike unforeseen random job quits. It was noted that if there was some stability between purposeful (functional) turnover compared to unplanned (dysfunctional) turnover, managers are more likely able to effectively control the specific turnover cases (Barrick & Zimmerman, 2005).

1.4 Motivation for the study

Rising turnover rates can be very costly to an organisation. Organisations incur considerable direct and indirect expenses associated with high turnover. These include loss of time, loss of productivity, advertising costs, hiring fees, training and development expenses. HPP has been experiencing a surge in the volumes of employees entering and leaving the research unit. Every time a person leaves the job and another is hired, money is forfeited in that transaction. It is because of these kinds of losses that HPP needs to pay attention to personnel management issues such as job satisfaction and turnover. Determining common causes of employee turnover enables management to take necessary steps for recruiting and retaining well-qualified personnel. The study showed that employee satisfaction, motivation and involvement were related to employee turnover hence the need for HPP to establish a picture of its status.

1.5 Focus of the Study

The study focused on understanding the current turnover intentions status, aiming to show whether there was a relationship between employee satisfaction / motivation and turnover. There are several causes of turnover and organisations need to know which one of the many factors is affecting the entity more often. Identifying the causes is beneficial to the organisation’s decision making processes.

Research institutes are competitive units seeking to produce best research outputs, students, funding opportunities, support skills and extensive global recognition. The institute strives to produce ground breaking basic science that funders can have confidence in to springboard clinical interventions and vaccine development (UniversityofKwaZuluNatal, 2017). It is

because of this competitiveness, that attracting and retaining the best skills is paramount to the success of the institute.

1.6 Problem Statement

The factors influencing turnover and job satisfaction are not well understood in health science institutes. For instance, factors influencing job satisfaction and turnover intentions have been investigated in sectors such as the oil industry (Mbah and Ikemefuna, 2012), textile industry (Bashir et al., 2012) nursing (AlHussami et al., 2014) etc. However, there is dearth of information on turnover in externally funded health science institutes. The determinants of job satisfaction, turnover and turnover intentions within the research context is not well understood. The relationship that exists between job satisfaction and the staff turnover rates is also not very clear across industries, i.e. the direction of causality is not well understood. It is this lack of evidence that has warranted a need to study these two variables.

HPP has seen an increase in the number of employees exiting the research unit over the past few years. This has raised some concern within management. Laboratory units require full-time staff support in their operations to efficiently achieve set goals. The cost of time incurred when a vacancy is open, and cost of hiring replacements cannot be ignored. According to Ahmed et al. (2010) total cost of turnover can be as high as R3 780 000 per annum, with a range of R26 640 to R40 300 per employee. The costs of pre-hire can total R1 300 000 whilst the hiring process consumed R1 200 000. Sharing and covering up of tasks creates frustration and dissatisfaction among employees as they feel overworked (Bonenberger et al., 2014). Staff morale begins to go down as motivation drops leading to an increase in turnover intentions. HPP is continuously searching for innovative ways to manage and control its human resource costs especially training and development.

1.7 Rationale / Justification for the Study

The reason for undertaking this study was based on the need to find out why more and more people were choosing to leave employment from UKZN-HPP and also to document the factors that may be linked to the observed increase in job switching. Taking cognisance of employees' grievances and concerns helps the institute identify areas of improvement and encourage managers to actively look for strategies to instil confidence in staff and retain

critical skills. Organisations are concentrating more on keeping their highly skilled employees than getting new ones (Shuck et al., 2014). HPP does not intent to lag behind in establishing efficient staff retention strategies for its employees hence the importance of this study.

1.8 Purpose of the Study

The study sought to understand the issues surrounding job satisfaction and staff turnover at HPP. The research looked at factors likely to influence turnover intentions among employees, i.e. Job satisfaction, job motivation, satisfaction with pay, supervisory support, nature of work, organisational commitment etc. The study also sought to identify employee sources of their dissatisfaction, and use findings to inform management when designing human resource developmental programmes.

1.9 Aim and Objectives of the study

The aim of this study was to identify factors leading to the rise in staff turnover at the University of KwaZulu-Natal's HIV Pathogenesis Program unit. The study sought to identify the causes of high turnover, determine job satisfaction levels and to evaluate the relationship that exists between job satisfaction and employee turnover intention.

1.10 The specific objectives of the study were:

1. To identify factors leading to turnover intention among health scientists
2. To determine the level of turnover intentions among health scientists
3. To determine the level of job satisfaction among health scientists
4. To determine whether there is a relationship between job satisfaction and turnover intention

1.11 Research Questions

- Q1. What are the factors leading to turnover intention among health scientists at HPP?
- Q2. What is the level of turnover intention among health scientists?
- Q4. What is the level of job satisfaction among health scientists?
- Q6. Is there a relationship between job satisfaction and turnover intention?

1.12 Significance of the study

Employee turnover is an integral cost factor for any organisation whose goals incline towards growth, excellence, empowerment, sustainability etc. Its impact must not be disregarded. An effective organisation makes sure there is a spirit of cooperation, commitment and satisfaction within the sphere of its influence. Knowing what is causing a rise in an inherent business cost is a worthy cause for research. Costs associated with turnover can influence an organisation's profitability both directly and indirectly. It is then important for all organisational efforts to be aligned towards reducing costs where necessary and human resources by default is the first port of call that should be well strategized and managed. The findings from this study will assist HPP management in formulating research informed strategies to reduce the turnover rate, improve organisational efficiencies and assist in formulating better human resource.

1.13 The Scope of the study

The study was done on current employees of the UKZN-HPP unit. It concentrated on staff members whose employment was solely under the unit itself and left out general university staff. This was done to cater for only those staff whose remuneration was grant funded by research under the university unit.

The research was conducted in the province of KwaZulu-Natal specifically the Durban UKZN-HPP offices situated within the Nelson Mandela School of medicine campus. Participants of the study consisted of both laboratory staff and clinic staff. The total number of employees involved in the study was 26 out of 37 staff members. The need to understand factors affecting small externally funded research units like HPP was paramount hence the focus on one unit. The research focus took into consideration factors affecting job satisfaction, impact of organisation commitment, remuneration issues and job motivation. These were regarded as important constructs in understanding employee turnover. Unemployment is generally high in the country making job switching hard but in certain sectors, like science and technology its impact is likely to be more damaging and unbeneficial for employers regardless of whether they are receiving or losing the staff.

1.14 Study Limitations

HPP is a very small unit with around 37 employees. Generalisation of the research to represent the whole population of research academia was limited by the small sample size as only one unit was focused on.

The respondents took time to complete and return the questionnaires due to various work and travel commitments. This resulted in some delay to the research process. Some staff were reluctant to complete the questionnaires for fear of the unknown, and some staff were just unwilling to be involved in the study since it was out of their scope of interest. The findings from this research were relevant in measuring the effect of job satisfaction, and organisational commitment on employees' turnover intention for a small institute like HPP.

1.15 Chapter Summary

This chapter provided an insight into the research study. It focussed on the background of the study, problem statement, aim and objectives of the study, significance of the study and research constraints in carrying out this research. The next chapter, Chapter two explored what other authors and previous researchers found about turnover intentions and job satisfaction. It reviewed available literature in the field of turnover intention and job satisfaction.

CHAPTER TWO

Literature Review

2

2.1 Introduction

This chapter focuses on the relevant literature pertaining to the area of study. It gives insight to what other reputable authors have researched and discovered about job satisfaction and turnover intentions. On literature reviewing this chapter, the researcher started by reviewing the common theoretical models on turnover intentions, turnover antecedents which may affect work in any business environment and lastly current empirical studies.

According to Robbins et al. (2012), the cost of staff turnover to the South African economy costs several millions of rands every year, and its impact can disrupt the efficient running of an organisation. The South African Board for People found in its annual human resources survey that a significant 32 per cent of South African organisations do not concern themselves with this phenomenon at all (SABPP, 2012). Furthermore, 46 per cent of those that did indicated that the matter of talent retention was a major concern to be prioritised. Turnover issues affect human resource practices, from recruitment, selection, training and retention (Saeed et al., 2014). The frequency of people leaving employment in a workplace creates work overload and overtime for existing employees and can lead to reduced morale and productivity (Mbah and Ikemefuna, 2012). Ali (2013) supported the idea that reduced productivity impacts on the business or organisation's bottom line and so the need for organisations to work towards winning their employees' support and loyalty. The ability to keep employees motivated brings to light the need to timeously identify and understand turnover behaviours and intentions.

The need for organisations to measure employee turnover is substantial because the measure is a predictor of organisational effectiveness (Masoga, 2013). Van Zyl (2011) explained that turnover is 'a worker's decision to leave the organisation', thereby reflecting some form of decision-making on the employee's part. Murphy and Price (2006) also further explained that when an employee starts contemplating leaving the organisation (intent), turnover automatically increases. The study of voluntary job mobility goes hand in hand with "turnover intention". In this study "turnover intent" was used as the dependent variable

rather than “turnover”. Turnover intention analysis has shown its importance in major studies like the Mobley Turnover Model of 1977 and the Hom & Griffeth Turnover Model of 1991. These studies assessed the role of turnover intention in forecasting and understanding actual turnover. Satisfaction with one’s job impacts positively on one’s motivation thereby reducing turnover intentions. People leave their places of work for numerous reasons, some leave out of their own will, which is voluntarily while others are discharged by the organization (i.e. involuntarily).

2.2 Turnover Intention

Medina (2012) defines turnover intention as the process of making a decision by an employee to quit or leave their job for another organization. Intentions are statements about a specific behaviour of interest (Kaur, 2013). It can further be explained as the probability that an individual will change his or her job within a certain time period and thus lead to actual turnover (Kaur et al., 2013). It has been found to be an individual’s intention to voluntarily quit the organization or the profession and acknowledged as the best predictor of actual turnover (Mbah and Ikemefuna, 2012). The prediction helps determine the likelihood of staff leaving an organization. An organisation’s ability to deduce the pattern helps firms effectively channel resources towards sound personnel retention strategies. Kaur et al. (2013) said turnover intention was a complex phenomenon that stemmed from various elements including age, gender, tenure, designation, experience, compensation, education, and nature of employment. They authors argued that these elements contributed to actual turnover being dependent on turnover intention since they all played a big role in one’s decision-making process.

Scholars such as Cohen et al. (2015), found that the use of turnover intention as a proxy of actual turnover was common practice. It was also argued that turnover intentions and quitting behaviours were statistically correlated. The afore-mentioned author explained that this was due to turnover intention having better statistical qualities economically and its ability to be scaled. Furthermore, Cohen et al. (2015) highlighted other studies whose findings supported the same notion that turnover and turnover intentions were statistically correlated. Such studies included the Mobley, 1977; Hom et al., 1984; Griffeth et al., 2000; Lee & Whitford, 2007. For these reasons, scholars commonly use turnover intention as a proxy of actual turnover.

Saeed et al. (2014) commended that organizations can reduce turnover rate but never to zero percent. In as much as high turnover is regarded as bad for the organisation, a little bit of it can be beneficial. The study suggested that, when employees are unhappy or lowly motivated, dissatisfaction tends to increase and management loses trust in its employees. The propensity to leave the job on the employee's part also goes up and this reduces job duration (Jeffrey, 2007). On the other hand Saeed et al. (2014) and Gobbler et al, (2005) claimed as well that increased turnover can help an organisation deal with high levels of employee work conflicts, open up opportunities for change, diversification and innovation

2.3 Organisational commitment

Organisational commitment is the attachment an employee has to an organization which in turn induces a positive response to working conditions (Mathieu and Zajac, 1990). When employees feel they can recognise with a company and its management, their view towards the business and organisation as a whole is most likely to be positive and beneficial. Workers who view their companies favourably are most likely to stay with the organisation compared to those who are unhappy. A favourable attitude to a company is most likely associated with loyalty and organisational commitment. Employees who would have built a strong organisational relationship overtime have fewer intentions to move than employees who are not new to the company (Saeed et al., 2014).

2.4 Job satisfaction.

Robbins et al. (2009) defined job satisfaction as the positive feeling that a person can have towards their job. Prior to that Graham (1982, p. 68) had defined it as the measurement of one's total feelings and attitudes towards one's job. High levels of job satisfaction are therefore associated with positive comments and feelings to the job and low levels are associated with negative feelings towards the job in question. Saeed et al. (2014) argue that emotional intelligence makes relationships strong in the workplace and subsequently contributes to increased employee commitment to the organisation and their motivation. Job satisfaction is therefore argued to be a strong predictor of an organisation's ability to retain highly skilled and experienced personnel (Alexander et al., 1998). Maura et al. (2011) found that having freedom to develop own work activities can encourage a sense of identification and attachment to work environment which, in turn, may reduce turnover intention.

Satisfaction of employees is a result of the level of skill application put in by management to motivate and encourage its people (Gabčanová (2011)). When employees are not satisfied negative people issues such as tension, depression, absenteeism, apprehension, theft, poor service, destructive rumours and sabotage of equipment may become the norm (Ali, 2005). These activities are counterproductive to the organisation. Ali (2005) purports that dissatisfaction gave rise to high levels of turnover intention, which in the end led to actual turnover. Organisations are managed by people and it is people who make the organisation exist into the future it is important to ensure employee are satisfied. Gabčanová (2011) agreed that people are an important asset to any organisation. Bashir et al. (2012) concluded that job satisfaction and labour turnover intention are negatively correlated so when employees are happy and satisfied with their jobs, the intention to leave or quit a job is significantly lower. Dissatisfaction among employees can negatively impact the productivity of the firm. Management needs to find out the causes of dissatisfaction and provide workable solutions.

2.5 Supervisory support

Supervisory support is another intrinsic aspect of job satisfaction that influences employee turnover. Support provided by the organization is an important predictor of job satisfaction according to the results of many studies related to the antecedents of job satisfaction (Rhoades and Eisenberger, 2002). Supervisory support was found to have a positive impact on job satisfaction and also that if role conflict levels are lowered, the employee turnover intentions will be significantly lowered as well (Stamper and Johlke, 2003). Lack of management or supervisory support has been argued to contribute toward a rise in job stress and decrease in job satisfaction (Jaramillo et al., 2005). In this study the researcher found that factors influencing job satisfaction and turnover intention presented workable platforms for management to initiate good retention strategies. As previously claimed job switching is still a common management concern and needs effective management to curb industry brain drain. The reasons for changing jobs differ across industries as well as the magnitude of the brain drain (Cohen et al. (2015)).

2.6 Actual Employee Turnover

Employee turnover as early defined by (Mobley, 1982), is the cessation of membership in an organization by an individual who received monetary compensation from the

organization. (Shuck et al., 2014) found that there was a general upward trend observed in the rate of turnover intention across industries over the last few decades due to technological advancement. According to AlHussami et al. (2014) the researcher further found out that approximately 33% of healthcare workers were looking for new employment outside their fields of expertise. It is not surprising that the rate has gone higher in recent years due to globalisation and virtual working spaces (Mowday et al., 2013). The healthcare profession has, therefore, received considerable attention in the literature when it comes to high turnover levels (Mowday et al., 2013). Although turnover is often viewed in a negative light, there are instances when it can have a positive effect on an organisation. For instance, it can help to remove poor performers, open up opportunities for talented replacements, and decrease incidents of workers with negative behaviours such as absenteeism, apathy, sabotage, and poor work quality (Mobley, 1982).

Erasmus et al. (2015) found that employment in academia was facing unique challenges like age workforce which is slightly different from the private-sector which receive relatively young people. Corporate employees have more flexibility and generally leave their jobs for another job at any time unlike in structural academic units (Chia, 2017). Health scientists at HPP, in contrast, do not have this same flexibility as they work mostly with donor funds hence are more inclined to job switching. Being externally funded also brings the issue of shorter term renewable contract employment (as opposed to permanent or longer-period employment) which then eventually leads to leaving of one job for another.

Dess and Shaw (2001) purported that voluntary turnover was directly related human resource costs and contributed huge losses to a firm. Mowday et al. (2013) also commented that the concern of increased turnover is not only one-sided. They found that both the organisation and the employee are continuously faced with linkage worries which eventual drew money through advertising and networking. Asim Faheem and Mahmud (2015) proposed that the employer considers due costs implicated by the turnover process which is, costs covering separation, advertising, recruiting, interviewing, evaluating new personnel, on-the-job training, medical costs, costs of lost productivity etc, whereas the employee's worry is mainly integration time.

UKZN-HPP incurs both direct and indirect turnover costs, and perhaps even greater socialization costs associated with turnover process due to the nature of its work. Laboratory based work requires specialised skills and experience gained over time in running sample

experiments. Bevan (2016) argued that labour turnover is rarely a welcome flow for employers especially if it involves large numbers of people. He further argued that like any other organisational problem, treating symptoms without understanding the underlying causes is precipitous to even bigger problems, hence the need to investigate the roots of a problem (Bevan, 2016).

Erasmus et al. (2015) says, career advancement within universities or tertiary organisations is a hire-from-within system, and so the pool of qualified candidates shrinks for each progressively higher rank. Giffen (2015) confirmed the finding that inability to contain labour turnover can be expensive in that, for every scarce skilled person or professor who leaves, it also takes a similar professor to replace him or her. The process of human intellectual replacement and matching is complex (Hall, 2004). The study of turnover patterns is there to channel ideas towards reducing the occurrence of voluntary employee turnover.

2.7 Mobley Turnover Model (MTM)

Over the past four decades Mobley's turnover theory of 1977 has been extensively used by scholars and has contributed massively in shaping employee turnover decision processes to day. Mobley and his colleagues explained the psychological turnover process which organisation can use to manage turnover (Johansen, 2013). The Mobley model was based on several former preceding studies including March and Simon's decision making theory of 1958 which looked into the ease and desirability of work concepts and Porter and Steer's model of 1973 which focused on met-expectations and the intention to leave. Banks (2007) supported the theory using the met expectations hypothesis by Porter and Steers in predicting an individual's expectations in determining a person's propensity to withdraw. Mobley's theory was viewed to be more heuristic than descriptive, but it however contributed significantly to our modern understanding of the turnover theory (Koslowsky and Krausz, 2012).



Figure 2. 1 Mobley's Employee Turnover Decision Process Model

Adapted from MOBLEY, W. H. 1977. Intermediate Linkages in the Relationship between Job Satisfaction and Employee Turnover. *Journal of Applied Psychology*, 62, 237-240.

According to Mobley (1977) the process of job termination started with as a sequence of cognitive stages where evaluation of existing job was done first. This was then followed by the emotional state of satisfaction or dissatisfaction. In the event that dissatisfaction is achieved the thought of quitting would settle in and then individual would proceed to evaluating his or her expected utility of search (e.g. desirability of possible alternatives travel or lost work time) and of the cost of quitting (e.g. loss of vested benefits). If the perceived possibility of finding an alternative is available and costs are not high, the next step would be behavioural intention to search for alternatives followed by an actual search. Existence of an alternative will lead evaluation of alternatives then a comprehensive comparison of the present job to alternatives will be made. The most favourable alternative is then considered. According to the process it is at this stage that the behavioural intention to quit would have been stimulated. The final decision to quit will then be made (Mobley, 1977).

2.8 Turnover intention profiles

Al-Hussami et al. (2014) evaluated the strength of work attitude in relation to turnover intentions. It was observed that certain characteristics were prevalent in people who chose to leave jobs to those who chose to stay in their jobs. The study managed to characterise why nurses in Jordan were likely to quit their jobs. AlHussami et al. (2014) also observed that organisations which tend to have traditional leaderships style of ruling were likely to have workers who showed symptoms of turnover intentions. Demographic factors were also considered and it was argued that the effect of age, education levels, race, culture, sex, income, organizational commitment levels, health perceptions, and environmental safety of work were important in evaluating turnover intentions (Akinyele, 2007).

Analyses of turnover profiles showed that organisational psychology and work characteristics have an impact on turnover levels in any work setting. Houkes et al. (2003) argued that ‘when employees were appreciated and received feedback on their performance, this tended to induce intrinsic motivators which drove employees to want to continue working and performing better’. WeiBo et al. (2010) supported the idea that employers should be encouraged to be more empathetic and to take some time to understand the needs and complains of their employees. Understanding and matching employee needs has far benefiting results coupled with high morale and productivity levels (Tnay et al., 2013).

2.9 Why focus on Turnover Intention

To understand the critical importance of people in the organisation is to recognize that the human element and the organisation are synonymous. Markey et al. (2012) suggests that a well-managed organisation sees its workers as the anchor and foundation of quality, growth, and productivity gains. Holtom et al (2008) did a study on the importance of turnover intention. In their study, they evaluated the evolution of turnover research and gave important insights into the current trends to consider when evaluating the antecedents of turnover. Their research pointed that social networks, differences across cultures, temporal aspects (e.g., early vs. late turnover), consequences of turnover, multi-level investigations of turnover and other types of withdrawal (e.g., retirement) were important trends affecting current turnover frameworks. As managers, it is believed that the attraction and retention of high-quality employees is more important today than ever before. Macroeconomic factors like globalization, knowledge work advancement, and new technology seem to be making

paradigm shifts in human resources, leading firms to consider acquiring and actively retaining human capital. Hinkin & Tracey (2000) argued that the existence of differences in country cultures, economies, differing turnover costs analysis as well as labour shortages in critical industries across the globe, immensely contributed to the importance of retaining key employees for organizational success. Holtom et al. (2008) also supported the idea stating that new managerial approaches were needed to increase employee retention, labour market dynamism, and in technology advancement . The emergence of the protean career also contributed towards new forms of career management in an effort to increase career success (Chin and Rasdi, 2014). The ideas by these researchers were in line with the aim of this research having noted that turnover studies have continued to be a vibrant field of research over the last 5 decades.

Researchers have come up with numerous frameworks to try and explain the process of turnover. Their aims being to try and establish how turnover intention influenced actual turnover. Medina (2012) in her study on adult workers in multiple industries noted that scholars speculated that employee turnover was moderated by intentions and that high job satisfaction was associated with low employee turnover. She commented that this indicated that the intention to leave a job was an immediate precursor to actually leaving. The researcher's observation was also in line with the aim of this research and its findings made an important contribution to the body of knowledge highlighting exploring factors like quality of life, organisational culture and job satisfaction has significant implications to an organisation's workmanship composition. The research was supported by the practical management strategies in organisations conducting turnover research is beneficial to firms.

Measuring actual turnover is not easy because data is often inaccessible to researchers, hence reliance on turnover intentions as a proxy (Cohen et al., 2015). Research has shown that when job satisfaction is high, employees' engagement and commitment to their work tends to go up as well and also results in greater productivity (Lambert et al., 2001). Lambert and his colleagues argued that higher turnover rates were associated with increased indirect costs and losses from job-specific knowledge drain, lower new employee productivity, and additional training time for new employees and diminished morale as the rest of the team is drawn to carry additional tasks. Reduction in turnover rates impacted positively on an organisation as noted by Egan et al. (2004). Saeed et al. (2014) and Grobler et al, (2005) had almost similar studies which focused on organisational conflict and turnover. The

researchers supported the notion that, the need to reduce conflict, introduce change and innovation in an organization minor turnover was necessary.

2.10 The Turnover Intention Scale

Giffen (2015) defined turnover intention scale (TIS-6) as a six-item scale adapted by Roodt (2004) from his unpublished 15-item turnover intention scale. The scale assesses employees' intentions of either staying with or leaving an organization. Giffen (2015) further explains that the TIS-6 scale measures participant's responses using semantic differential technique of bipolar 5-step response scales defined by two opposites (e.g. never-always; no extent-to a very large extent; highly unlikely-highly likely). The TIS-6 includes questions like "How likely are you to accept another job at the same compensation level if offered to you?" or "How often have you considered leaving your job?" The response would then be chosen from the bipolar 5 responses as mentioned above.

Bothma and Roodt (2013) in their study assessed the validity of the shortened, six-item version of the turnover intention scale and found that the scale could significantly distinguish between leavers and stayers (actual turnover), thereby confirming its criterion-predictive validity. Their observation contributed to the body of knowledge that TIS-6 could be used as a reliable and valid scale to assess turnover intentions and could therefore be used in research to validly and reliably assess turnover intentions or to predict actual turnover (Giffen, 2015).

Arshadi and Damiri (2013) looked at the idea of job stress and turnover, the two researchers also observed that a positive relationship existed between job stress and turnover intention. The researchers Arshadi and Damiri (2013) supported (Avey et al., 2009) who argued that workplace stress was a common problem for human resources managers and if not contained contributed largely to lower job satisfaction hence high turnover intention.

The idea that being satisfied by one's job had a big impact in changing jobs has been argued and supported by de Moura et al. (2009) and Smith et al. (2011) who agreed that the level of commitment a person has to their job provided valuable information in assessing the strength of performance-related issues associated with turnover intention.

2.11 Identified gaps in reviewed Literature

Not many studies have been done to focus on small externally funded units operating under big institutions like universities. Turnover information is readily available for review and also for comparison for manufacturing industries and health sectors but they rarely, narrow down to understand small operations within the sector. Limited research has been done for academic research institutes similar to HPP, hence the need to add more knowledge from such small non-profit making units. In (Scott, 2014), it was noted that the hospitality industry and the transportation industry were among the highest sectors to experience high turnover levels.

It was also noted that very few studies were done on testing the effectiveness of retention strategies which managers can employ in order to reduce turnover (Davis, 2013). With this information it is important that a study on academia be carried out.

2.12 Chapter Summary

This chapter presented an insight on literature that was written by various authors presenting the different views on turnover, turnover intentions, job satisfaction, how turnover affect organisations, how it can be measured and what steps companies can take in order to effectively manage its impact. The chapter also contained literature on how job satisfaction can affect employees and eventually the organisation's turnover rate. Having looked at what others have said about turnover and its effect on job satisfaction, the researcher chose appropriate research methods to use for HPP's research, based on literature that had been reviewed. Discussion on research design and relevant research methodology for the study was done in chapter three.

CHAPTER THREE

Research Methodology

3

3.1 Introduction

This chapter, describes the methods and procedures that were used in conducting the turnover intention research study at UKZN-HPP. It starts by looking at the aims and objectives employed in the research process followed by the location of study, how study participants were identified, research approach used, data collection methods employed and the research design. Validity and reliability of study instruments was looked as well as details of data analysis. Tests performed in the research were also discussed.

3.2 Aims and Objectives

The aim of this study is to identify factors contributing to the rise in staff turnover at the University of KwaZulu-Natal's HIV Pathogenesis Program unit. The study's aim, was to identify the causes of high turnover, determine job satisfaction levels and to evaluate the relationship that exists between job satisfaction and employee turnover intention. Below (table 3.1) is a tabular representation of the objectives and specific research questions addressed by the study.

Table 3. 1 Study objectives and specific questions

	Objective	Specific Question
1.	To identify factors leading to turnover intention among health scientists	What are the factors leading to turnover intention among health scientists at HPP?
2.	To determine the level of turnover intentions among health scientists	What is the level of turnover intention among health scientists?
3.	To determine the level of job satisfaction among health scientists	What is the level of job satisfaction among health scientists?
4.	To determine whether there is a relationship between job satisfaction and turnover intention	Is there a relationship between job satisfaction and turnover intention?

3.3 Respondents and Study Location

The study was conducted at the HIV Pathogenesis Programme unit under the College of Health Sciences of the University of KwaZulu-Natal in Durban South Africa. Respondents of the study were current employees of UKZN-HPP unit. The choice to use UKZN-HPP in Durban was mainly because the unit is uniquely positioned compared to other university research sites and the researcher is also an employee of the organisation. UKZN-HPP has 37 employees and all these employees are housed in the Nelson Mandela School of Medicine. The research instrument was given to all willing employees from the unit with the goal to gain a comprehensive understanding of the staff perceptions.

3.4 The Research Approach

The study is purely quantitative in nature, designed to generate various reasons leading to increased staff turnover. It evaluated how job satisfaction, motivation, nature of work, organisational commitment, remuneration and supervisory support contribute to influencing turnover intentions. Descriptive research design was used to obtain a picture of the staff's opinions of their job satisfaction and turnover intention with a view to improve HPP's standard of management. Quantitative research methods were used and data was collected using questionnaires.

3.5 Target Population

The target population for this research was 37 employees. HPP has 37 staff members, so all the institute's employees were approached for participation into the study. The target sample size was 37 health scientists from HPP, which was equivalent to the total population.

Logistical and Ethical Clearance

Consent from both participants and university authorities was sort and obtained. The Director of UKZN-HPP granted permission to conduct this study among the institute employees. All the UKZN-HPP unit staff members, were approached for participation in the study. All willing volunteers were recruited for participation into the study.

The inclusion criteria for this research was:

- i. Participation in the study is entirely voluntary.

- ii. Willingness to complete Questionnaires anonymously, no use of names or personal identifiers.
- iii. Registered current UKZN-HPP staff members.

Exclusion Criteria

- i. All none HPP unit staff members
- ii. Former HPP employees.

Sampling technique

Total sampling technique was used for this study because the universal population of the study was small and therefore equivalent to the sample size. According to Etikan et al. (2016) total population sampling is a purposive sampling methods found under non-probability sampling techniques. Etikan et al. (2016) describes purposive sampling technique, as a judgment sampling, deliberately chosen on participants due to the qualities they possess. It is a non-random technique that does not need underlying theories or a set number of participants. The researcher decides what needs to be known and finds people who are willing to provide the information by virtue of knowledge or experience.

Total population sampling was appropriate for the HPP unit because it met the criteria for specific skill set, experience, etc. (Zhi, 2014). A sample of 37 respondents were to participate in the research survey of which 26 respondents participated in the study.

It is however known, that the goal of research is to make conclusions pertaining to the population from results obtained from a sample. Descriptive statistics of frequency counts, percentages, mean, standard deviation and inferential statistics were used to analyse the data.

3.7 Survey Instruments,

The researcher administered structured questionnaires to the respondents, who were given time to look at the questions sign the consent form then complete the survey questions. The questionnaire was designed with quantitative closed questions. Respondents or the staff members interested in answering the questions were encouraged to answer truthfully and honestly.

3.8 Data Collection Techniques

Data for the study was collected using a structured questionnaires. The questionnaire was made up of 5 sections, outlined in Table 3.2 below.

Table 3. 2 Questionnaire Structure

SECTION	DESCRIPTION
A	Demographics
B	Job Evaluation
C	Job Motivation
D	Job Satisfaction
E	Turnover Intentions

Since employees were busy with their daily tasks, hard copy questionnaires were handed to respondents after obtaining consent. Anonymity of respondents was emphasised and no personal identifying information was requested. Employees completed their questionnaire in their spare times. A questionnaire drop off box was placed in a strategic place for all to drop in the completed forms.

Different types of scales and measures were used to extract data from the questionnaire sections. The three common scales used were nominal scales, ordinal scales and the Likert scales.

Nominal Scales

Nominal Scale is one which assigns subjects to certain categories or groups and the groups can be assigned code numbers (Sekaran and Bougie, 2013). The current study data where this scale was used was for collecting descriptive statistics for employee demographics, like gender, age, educational background etc.

Ordinal Scales

Sekaran and Bougie (2013, p.31) describes ordinal scales as the scale that denote differences among various categories through order rankings of preference. Assigning ranks to categorised data simplifies information analysis. Employees' level of job satisfaction used rank orders in its categories as a way of consolidating and guiding differing opinions.

The Likert scale

Likert scales are used to examine how strongly subjects agree or disagree with statements (Sekaran and Bougie, 2013). The 5-point Likert scale was used in the questionnaire to assess staff opinions, perceptions attitudes and levels of satisfaction. The scale ranged from “strongly agree” to “strongly disagree”. In some sections, the scale ranged from “not interesting to very interesting, not satisfied” to “very dissatisfied” etc. Data analysis for the Likert scale used individual scale items analysed as individuals and also, as summed up items to create a score for a group of statements. The score is assigned to views that show some relatedness. Related responses are therefore grouped or categorised along a scale and make analysis and interpretation of opinions much easier. This kind of summed analysis gives reason why the Likert scales are also referred to as summative scales (Bertram, 2007).

According to Boone and Boone (2012) descriptive statistics are recommended for interval scale items, this covers the use of central tendency mean and use of standard deviations for variability. Boone and Boone further comments that data analysis procedures appropriate for interval scale items would include the Pearson's r , t -test, ANOVA, and regression procedures (Boone and Boone, 2012). Table 3.3 provides examples of data analysis procedures for Likert-type and Likert scale data.

Table 3. 3 Data Analysis Procedures for Likert-Type and Likert Scale Data

	Likert-Type Data	Likert Scale Data
Central Tendency	Median or Mode	Mean
Variability	Frequencies	Standard deviation
Associations	Kendall tau B or C	Pearson's r
Other Statistics	Chi-square	ANOVA, t -test, regression

3.9 Data Entry

The raw data collected on questionnaires was captured into a RedCap database. There after an excel spreadsheet was extracted from the database and exported into SPSS. Unique codes

were assigned to each completed questionnaire as identifier. This enabled the data capturer to locate forms easily and refer back to questionnaire form in the event of data inconsistencies and for verification purposes.

Each response on the questionnaire was then data coded for ease of analysis (see Appendix 1 for codes). The data was captured in two phase to ensure double entry system for accuracy and correctness. The researcher captured the data, whilst a second person also captured the same data from the same questionnaires. The captured data was compared against each other for any inconstancies. This method of double-data entry served as a tool of ensuring that captured data was both valid and reliable. The queried data errors were corrected and adjusted on respective questionnaires.

3.10 Reliability and Validity

Joppe (2000) defines reliability of an instrument as the extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable. (Remeyi et al., 2005) refers to validity as representing a good fit between theory and reality, the best fit in theory and reality can be traced. These two concepts considered important in indicating how the research would be accepted as a piece of academic writing, reliability is closely associated with validity. Reliability tests the consistency of a measuring instrument's ability to measure a particular concept of interest. Validity tests , how well that instrument is able to measure what it is intended to measure (Sekaran and Bougie, 2013). An instrument cannot be reliable unless it is valid, even though reliability does not depend on validity (Tavakol and Dennick, 2011). This present research, Cronbach's Alpha was used to test for reliability. Tavakol and Dennick (2011) goes further to describe the Cronbach's Alpha to be the most objective tools for testing the reliability of a measuring instrument.

3.10.1 Cronbach's Alpha

According to Tavakol and Dennick (2011) the Cronbach's Alpha was developed by Lee Cronbach in 1951, as a measure of the internal consistency of a test or scale. It is expressed as a number between 0 and 1, with numbers closer to 1 indicating higher degrees of reliability and alpha readings below 0.6 are considered poor. Sekaran and Bougie (2013)

proposed that an alpha test of 0.6 but less than 0.8 is considered acceptable, whilst readings that are 0.8 and greater are considered very good. According to Tavakol and Dennick (2011), internal consistency should be established prior the use of a measuring tool for research purposes in order to ensure validity. Table 3.4 below contains the Cronbach alpha's of five composite concepts that were measured in the research.

Table 3. 4 Cronbach's Alpha for composite measures

Construct	Cronbach's Alpha	N of Items
Job Evaluation	0,760	5
Job Motivation	0,917	10
Job Satisfaction	0,707	16
Turnover Intentions	0,709	16
Level of Turnover Intentions	0,744	8

Based on the Cronbach alphas in the above table, the internal consistency of the measures used for the present research's 5 concepts were all above the acceptable (>0.6). This indicates that the reliabilities of the composite measures used to test these concepts were at an acceptable levels. Job Motivation produced a very good alpha of (0.9). This implied that there was excellent inter-relatedness of the statements comprising this concept. It also suggests that the number of questions employed was good and appropriate.

3.11 Data analysis

After data had been collected, the researcher proceeded to check if all the questionnaires issued out had been returned. After checking the return rate, the questionnaires were checked for completeness before being send out to a data capture who then captured each questionnaire responses. The analysis of data continued with double entry being performed by the researcher and the data capture. Each questionnaire was entered into 2 similar databases so that if there are any discrepancies detected, the researcher would quickly check against the questionnaire and make necessary corrections. The checking was made easier because the questionnaires were uniquely coded. Analysis of the data was done using SPSS population analysis software designed to cater for quantitative studies

Statistical Analysis Software (SAS) was used to perform certain analysis on the research data. Predetermined variables aligned to the study's aim and objectives were used. Descriptive statistics including frequencies, medians for spread ideal for the Likert scales was used and summarised data was presented in the form of tables and graphs. Two tests for significance in the form of, the Kruskal-Wallis test and the ANOVA test were used in the hypothesis testing. Correlation was done using Spearman's Rho.

Kruskal - Wallis test

The Kruskal – Wallis test is a non-parametric analogue of the one-way between-groups analysis of variance used for the examining possible differences that might exist between two or more groups (Coakes and Ong, 2011). According to Nahm (2016) nonparametric statistical techniques have the following advantages:

- A lesser possibility of reaching incorrect conclusions because assumptions about the population are unnecessary thus it is a conservative method.
- It is more intuitive and does not require much statistical knowledge.
- Statistics are computed based on signs or ranks and thus are not greatly affected by outliers.
- This method can be used even for small samples.

Nahm (2016) also acknowledges some disadvantages associated with nonparametric statistical techniques which are:

- Actual differences in a population cannot be known because the distribution function cannot be stated.
- The information acquired from nonparametric methods is limited compared to that from parametric methods, and it is more difficult to interpret it.
- Compared to parametric methods, there are only a few analytical methods.
- The information in the data is not fully utilized.
- Computation becomes complicated for a large sample.

It is therefore assumed that using nonparametric analysis methods reduces the risk of drawing incorrect conclusions because these methods do not make any assumptions about the population, although they can lower statistical power. They can be said to be always valid, but not always efficient (Nahm, 2016)

3.12 Chapter Summary

This chapter provided an overview of the quantitative research methodology used the study. It gave an insight into various test that where employed in order to facilitate good analysis of the information gathered. The ways in which data was collected and measures that where put in place to ensure correctness and reliability of available information was used. The result of the data analysis was tested against established methods in theory which have been under use for a long time. It outlined the aims and objectives of the study, procedures used in conducting the study, the research approach used, the data collection techniques employed and the research design process. It also looked at the tests used to analyse the data as well as the data collection methods used. The actual data analysis results are discussed in the next chapter

CHAPTER FOUR

Analysis of Results

4

4.1 Introduction

This chapter presents results obtained from this current research. The analysis of the results was done using various techniques and measurements. Tests for validity and reliability of research instruments used was employed where necessary. Data generated from the research was cleaned and presented for report in the form of descriptive statistics and inferential statistics. The discussion in this chapter covered demographic profile of the study sample, results from the four constructs analysed which are job satisfaction, job motivation, and job evaluation and turnover intentions. The discussion explained what each of the generated figures meant, gave interpretation to the study hypothesis, and aligned answers to the research questions and the specific objectives of the study.

4.2 Demographics

To try understand the background and profiles of the research participants a few demographic data for each participant was gathered. This included participants' ages, genders, marital status, year of working experience and educational backgrounds. A total of 26 respondents participated in the study.

Table 4. 1 Gender, Age and Marital Status

Demographic	Options	Frequency (n)	%
Gender	Male	6	23,1
	Female	20	76,9
Age	20-29	7	26,9
	30-39	12	46,2
	40-49	7	26,9
Marital Status	Single	18	69,2
	Married	8	30,8

As seen in Table 4.1, the majority (77%) of the participants were female. Most frequently participants were aged between 30 and 39 years. Twenty-seven percent of them were over the age of 40. In addition, most participants (69%) were not married. This shows that females

still dominate the field of health sciences and are more likely to enter this industry at a young age of 30. These academic focused people seem not be married.

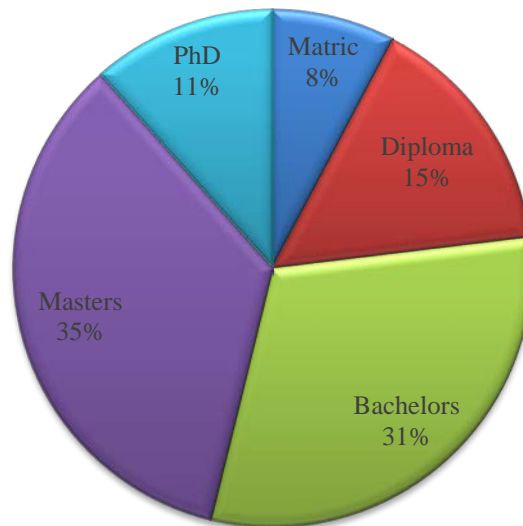


Figure 4. 1 Participants' Highest Qualifications

As illustrated in Figure 4.1, participants most often had attained a Master's degree as their highest qualification. Here nine (35%) participants indicated that they were in possession of a Master's degree. The second most achieved qualification was that of a Bachelor's degree, which 8 (31%) participants had attained. Three (11%) participants were in possession of PhD's, while four (15%) had Diplomas and the remaining 2 (8%) participants were in possession of Matric certificates as their highest academic qualification.

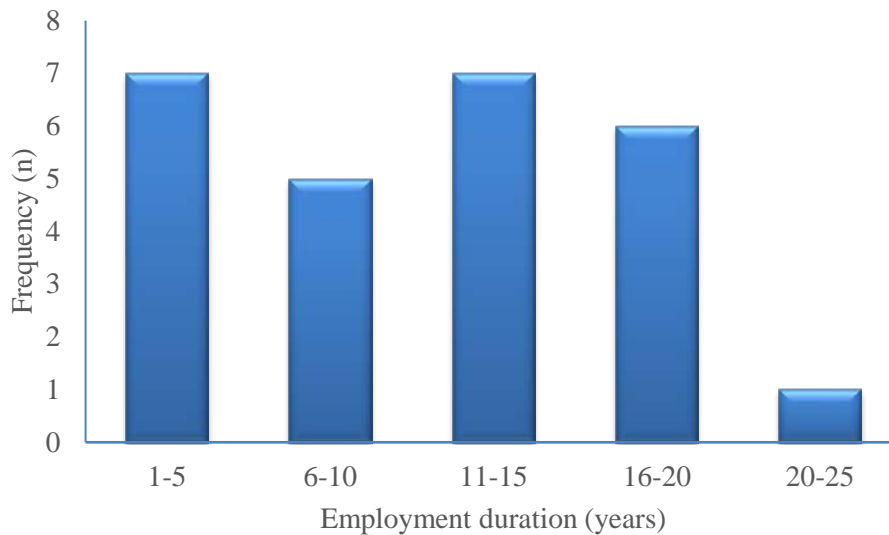


Figure 4. 2 Frequency distribution on total years of experience

As seen in Figure 4.2, 54% of the participants had over 10 years of working experience in completion of high school or matric. This indicates that the unit has well experienced staff coming from various industries and occupations. One participant had been working for at least 20 years since entering the working environment. Seven (27%) participants were still new to the organisation, having been under 5 years general working experience.

4.3 Job Evaluation

This section used summary statistics and participant actual responses. The summary statistics in Table 4.2 are coded responses, the source of which can be seen in Appendix A.

Table 4. 2 Participant responses to aspects of Job Evaluation

Question	Response Type	Frequency (n)	%	Total (N)	Median	Mode
How do you find your job	Fairly Interesting	10	38,5	26	4	3
	Very Interesting	9	34,6			
	Extremely Interesting	7	26,9			
How does your job utilize your talents	Fairly Well	14	53,8	26	3	3
	Very Well	8	30,8			
	Excellently	4	15,4			
How does your job utilize your training	Fairly Well	10	38,5	26	4	4
	Very Well	13	50,0			
	Excellently	3	11,5			
How satisfied are you with the type of work you are involved in	Slightly Dissatisfied	3	11,5	26	4	4
	Slightly Satisfied	6	23,1			
	Very Satisfied	12	46,2			
	Extremely Satisfied	5	19,2			
Do you plan to renew your contract at the end of your current employment	Probably Not	3	11,5	26	4	4
	Probably renew	10	38,5			
	Definitely renew	13	50,0			

As shown in Table 4.2, participants mostly found their jobs to be fairly interesting (38.5%) or very interesting (34.6%). Out of the 26 participants, the least amount of them found their jobs extremely interesting (26.9%). Overall, 50% or more of the participants found their jobs to be at least very interesting (median = 4). These findings support those found by Chia (2017) who found that innovative and novel drugs remain key to profitability in the life sciences industry, this has resulted in an increased use of digital technologies that has placed the industry in direct competition with tech companies for the similar talent pool of young adults with energy and zeal for new discoveries.

The majority (53.8%) of the participants felt that their jobs utilised their talents fairly well. Only a small percentage of them felt that their jobs did so excellently (i.e. 15.4%). In terms of how well their jobs utilised their training, 50% or more felt that their jobs did so very well to excellently. In addition, more than 50% of them were very satisfied to extremely satisfied with the type of work that they were involved in. Nine (34.6%) participants were somewhat discontented with the type of work that they did. When asked whether they planned to renew their contracts at the end of their current employment, all but 3 participants indicated that it was likely (38.5%) or definite (50%) that they would. Retaining over half of these talented employees is a positive and profitable move for health science institutes, considering the health science demand growth (Avanzi et al., 2014). Advances in precision medicine are bringing health industries closer to the day when a disease can be treated according to each individual's unique genetic makeup and 94% of pharma companies are investing in personalised medicine research (Chia, 2017).

4.4 Job Motivation

Bonenberger et al. (2014) reported in their study that job motivation and job satisfaction were both significantly associated with turnover intention, an indication that health workers with higher levels of motivation and job satisfaction were less likely to have intentions to leave their current health facilities. This finding contributes to why organisation need to establish which factors matter the most to their workers, thus identifying employee job motivator elements. Responses from participants in regard to their job motivation are tabulated in Table 4.3.

Table 4. 3 Participant responses to aspects of Job Motivation

Statement	Response Type	Frequency (n)	%	Total (N)	Median	Mode
Being in charge, exercising control, having responsibility for people and resources	Very low	1	3,8%	26	3	3
	Low	5	19,2%			
	High	13	50,0%			
	Very high	7	26,9%			
Acknowledged by bosses and colleagues for my efforts, skills and competencies	Very low	1	3,8%	26	3	3
	Low	2	7,7%			
	High	15	57,7%			
	Very high	8	30,8%			
Deriving feelings of importance from work given and job seniority.	Very low	1	3,8%	26	3	4
	Low	4	15,4%			
	High	9	34,6%			
	Very high	12	46,2%			
Given varied, stimulating and creative job objectives and work activities	Very low	1	3,8%	26	3	4
	Low	3	11,5%			
	High	10	38,5%			
	Very high	12	46,2%			
Given opportunity to advance to more senior positions	Very low	1	3,8%	26	4	4
	Low	2	7,7%			
	High	6	23,1%			
	Very high	17	65,4%			
Operating as part of a team rather than as an individual contributor	Very low	1	3,8%	26	3	3
	Low	3	11,5%			
	High	13	50,0%			
	Very high	9	34,6%			
Given the opportunity to increase earnings related to job performance	Very low	1	3,8%	26	4	4
	Low	3	11,5%			
	High	5	19,2%			
	Very high	17	65,4%			
In a secure, permanent and reliable job position	Very low	2	7,7%	26	4	4
	Low	2	7,7%			
	High	6	23,1%			
	Very high	16	61,5%			
Allowed freedom and discretion to decide how to carry out work	Very low	1	3,8%	26	4	4
	Low	2	7,7%			
	High	9	34,6%			
	Very high	14	53,8%			
Allowed opportunities to acquire new knowledge and skills, to reach personal potential	Very low	1	3,8%	26	4	4
	Low	3	11,5%			
	Very high	22	84,6%			

As seen in Table 4.3, overall, 50% or more participants considered all the motivation factors to at least play a high role in their motivation (median ≥ 3). Job motivation factors that were ranked the highest (i.e. were ranked very high by fifty percent or more participants [median = 4]) included being allowed opportunities to acquire new knowledge and skills to reach personal potential (84.6%). Being given opportunities to advance to more senior positions (65.4%), being given opportunities to increase earnings related to job performance (65.4%), being in a secure, permanent and reliable job position (61.5%), and being allowed freedom and discretion to decide how to carry out work (53.8%). These results are supported by Ahmed et al. (2010) who found that university administrative staff got motivated and achieved higher job satisfaction when they received recognition from superior for work

itself, had opportunity for advancement, professional growth, responsibility, and good feelings about organization.

In addition, UKZN- HPP staff showed that being acknowledged by bosses and colleagues for their efforts, skills and competencies was very important to them ranked very high by 57.7% of the participants. Being in charge, exercising control, having responsibility for people and resources; and operating as part of a team rather than as individual contributors were both also highly ranked by 50% of the participants each. These factors are job intrinsic motivators as described by Herzberg theory of motivation (Robbin et al., 2009). These factors have significant impact on employees' job satisfaction and motivation levels.

4.5 Job Satisfaction

Job satisfaction was assessed using 5 sub-categories namely general work conditions, pay and promotion, general work relationships, use of skills and abilities, and work activities. Participants' responses are captured in Tables 4.4 and 4.5. Note that these tables are two parts of one dataset and should be treated as one table in the upcoming interpretations and discussions.

Of the five broad categories used to assess job satisfaction, work relationships and general work conditions were ranked the highest by participants (see Table 4.4). This can be seen by more than 50% of participants indicating that they were extremely satisfied with all the elements of work relationships (median = 4 for all) and with 75% (3 x Median = 4 and 1 x Median =3) of the elements for general work conditions. These results showed that HPP employees have significant respect for work relationships and the organization has managed to create a favorable working environment for its employees. Akinyele (2007) suggested that for organization to grow and sustain their businesses successfully, favorable working conditions must be put in place to increase worker productivity.

Pay and promotion appeared to be the most volatile and troublesome area for participants (see Table 4.5). The majority of HPP staff revealed that they were unhappy or unsatisfied with their pay and promotion benefits. Almost a negligible amount of participants rated any of the elements within this category of job satisfaction highly or favorably. This is an area where management might need to give some attention in order to see how best they can meet the employees' expectations in terms of pay, salary and associated benefits.

Looking at elements of the use of their skills and abilities, and work activities. Participants seemed somewhat satisfied to extremely satisfied with all the listed elements, indicating that the organization was doing considerably well in providing tasks that rightly suited its employees. This is seen in the median score of 3 for each of these element categories indicating that 50% or more participants were somewhat satisfied to extremely satisfied, with the use of their skills and abilities.

Table 4. 4 Participant responses to work relationships and general work conditions

Category	Factor	Response Type	Frequency (n)	%	Total (N)	Median	Mode
Work Relationships	Relationships with co-workers	Not satisfied at all	1	3,8%	26	4	4
		Undecided	0	0,0%			
		Somewhat satisfied	5	19,2%			
		Extremely satisfied	20	76,9%			
	Communication with management	Not satisfied at all	1	3,8%	26	4	4
		Undecided	1	3,8%			
		Somewhat satisfied	10	38,5%			
		Extremely satisfied	14	53,8%			
General Work Conditions	Hours worked each week	Not satisfied at all	1	3,8%	26	4	4
		Undecided	2	7,7%			
		Somewhat satisfied	8	30,8%			
		Extremely satisfied	15	57,7%			
	Flexibility in scheduling	Not satisfied at all	0	0,0%	26	4	4
		Undecided	2	7,7%			
		Somewhat satisfied	9	34,6%			
		Extremely satisfied	15	57,7%			
	Location of work	Not satisfied at all	1	3,8%	26	4	4
		Undecided	1	3,8%			
		Somewhat satisfied	10	38,5%			
		Extremely satisfied	14	53,8%			
	Annual leave offered	Not satisfied at all	3	11,5%	26	3	4
		Undecided	0	0,0%			
		Somewhat satisfied	11	42,3%			
		Extremely satisfied	12	46,2%			

As just mentioned, employees were most satisfied with their work relationships and the general work conditions at the organisation. Their relationships with their co-workers received the highest commendation of all the elements in the entire job satisfaction construct, with 76.9% of the participants ranking it extremely high in the job satisfaction ratings. This indicates that employees generally get along well with each other and may suggest that a friendly ethos and organisational culture existed within the organisation. Although slightly more than 50% of employees were extremely satisfied with their communication with management, the remaining participants were not as convincing about how they felt about communication with management. Only one of these participants was brave enough to indicate that they were not satisfied at all with communications with management.

In terms of general working conditions, weekly hours and the flexibility in scheduling were elements of general working conditions that the majority were satisfied with the most (57.7% of the participants for each). Location of work also had more than 50% of employees' rate it as extremely satisfactory. Annual leave offered was rated poorly when compared to the other elements of general work conditions.

Table 4. 5 Participant responses to use of skills and abilities, work activities, and pay and promotion aspects of Job Satisfaction

Category	Factor	Response Type	Frequency (n)	%	Total (N)	Median	Mode
Use of Skills and Abilities	Opportunity to utilize your skills and talents	Not satisfied at all	1	3,8%	26	3	3
		Undecided	2	7,7%			
		Somewhat satisfied	19	73,1%			
		Extremely satisfied	4	15,4%			
	Opportunity to learn new skills	Not satisfied at all	2	7,7%	26	3	3
		Undecided	4	15,4%			
		Somewhat satisfied	10	38,5%			
		Extremely satisfied	10	38,5%			
	Support for additional training and education	Not satisfied at all	6	23,1%	26	3	4
		Undecided	6	23,1%			
		Somewhat satisfied	5	19,2%			
		Extremely satisfied	9	34,6%			
Work Activities	Job responsibilities	Not satisfied at all	0	0,0%	26	3	3
		Undecided	2	7,7%			
		Somewhat satisfied	16	61,5%			
		Extremely satisfied	8	30,8%			
	Independence associated with your roles	Not satisfied at all	0	0,0%	26	3	3
		Undecided	3	11,5%			
		Somewhat satisfied	12	46,2%			
		Extremely satisfied	11	42,3%			
	Opportunities for periodic changes in duties	Not satisfied at all	0	0,0%	26	3	3
		Undecided	6	23,1%			
		Somewhat satisfied	13	50,0%			
		Extremely satisfied	7	26,9%			
Pay & Promotion	Salary	Not satisfied at all	6	23,1%	26	3	3
		Undecided	7	26,9%			
		Somewhat satisfied	13	50,0%			
		Extremely satisfied	0	0,0%			
	Opportunities for promotion	Not satisfied at all	9	34,6%	26	2	1
		Undecided	9	34,6%			
		Somewhat satisfied	5	19,2%			
		Extremely satisfied	3	11,5%			
	Benefits	Not satisfied at all	14	53,8%	26	1	1
		Undecided	4	15,4%			
		Somewhat satisfied	5	19,2%			
		Extremely satisfied	3	11,5%			
	Recognition for work accomplished	Not satisfied at all	6	23,1%	26	3	3
		Undecided	6	23,1%			
		Somewhat satisfied	11	42,3%			
		Extremely satisfied	3	11,5%			

Employees were reasonably to extremely satisfied with the use of their skills and abilities (median = 3). The opportunity to learn new skills, and support for additional training and education had a fair number of participants indicating that they were extremely satisfied with this element. Here 10(38.5%) and 9(34.6%) participants indicated as such respectively.

Most employees (73.1%) had a low level of satisfaction with opportunities for them to utilise their skills and talents.

Similar to the use of skills and abilities, work activities saw a reasonable number of employees rate it as reasonably to extremely satisfactory (median = 3). Independence associated with their roles had the highest number (42.3%) of participants rating it extremely highly when compared to the other aspects of satisfaction with work activities. In addition, none of the employees were totally dissatisfied with any of the elements of their work activities.

Pay and promotion appeared to be the aspect of job satisfaction that employees were generally dissatisfied with. Employee benefits emerged as the one area that participants were most displeased with. Here 53.8% of the employees indicated that they were not satisfied at all with their benefits structure. Only three (11.5%) participants were extremely satisfied with their benefits. Employee salaries also appeared a point of discord for the participants with none of them being extremely satisfied with their current remuneration. Nonetheless, 50% of them were somewhat satisfied with their salaries. In addition, participants were most frequently (mode = 3) somewhat satisfied with the recognition that they received for their work accomplishments.

4.6 Turnover Intentions

The results of the analysed turnover intention consisted of two parts assessing the extent of employees' turnover intentions and ranking the relative importance of the chosen elements. The chosen elements gave an indication of the factors that employees considered important in such a way that if left unattended they would likely lead to employees leaving the employ of the organisation. In this part employees were asked to select as many factors as applied to them. These factors were all grouped together and a frequency distribution of their responses constructed (see Figure 4.3). The second part which involved employees ranking the relative importance of each of the elements was shown in Table 4.6.

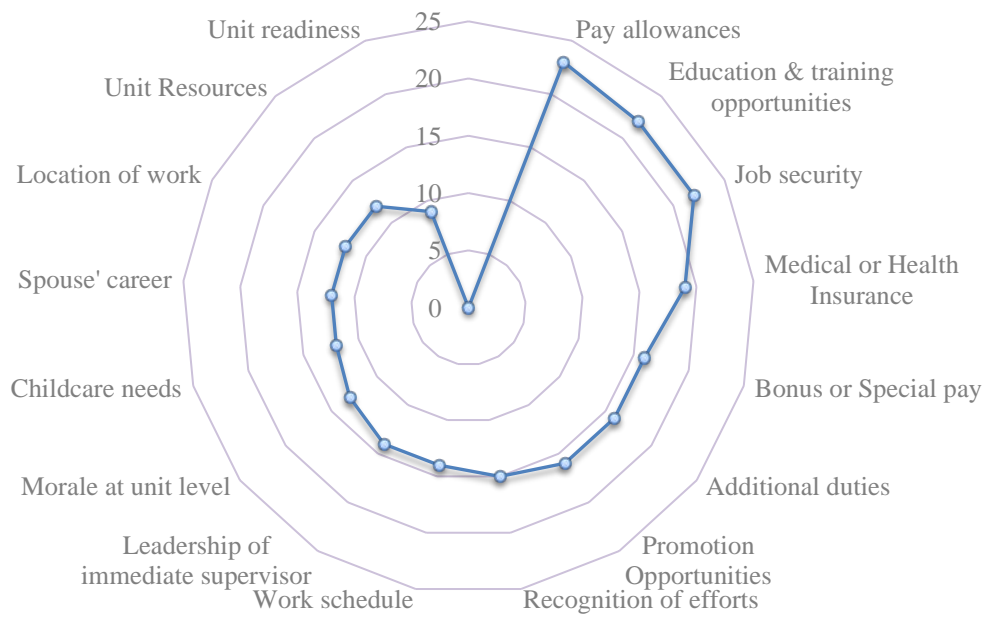


Figure 4. 3 Factors influencing employees' decisions to leave the organisation

As seen in Figure 4.3, pay allowances was the most frequently identified factor chosen by participants that had an impact on their decision(s) to either leaving or remaining with the organisation. This item was selected by 23 (88.5%) participants as important to their decision making process. Education and training opportunities, as well as job security, both featured as the second highest factor to their decisions to leave, with each of these having 22 (84.6%) of the participants selecting them. Medical or health insurance (73.1%), bonus or special pay (61.5%), additional duties (61.5%), promotion opportunities (61.5%), recognition of efforts (57.7%), work schedule (53.8%), leadership of immediate supervisor (53.8%) and morale at unit level (50%) had at least 50% of participants highlighting them as important factors to consider. The least important factors to most participants were childcare needs, spouse's career, location of work and unit resources (each with 46.2% of the participants selecting these). Only 34.6% of the participants selected unit readiness as an important factor in their decision to leave or remain in the organisation. Tables 4.7 and 4.8 tabulate the rankings of the most frequently and least frequently selected factors selected by employees respectively.

Table 4. 6 Relative importance of the most frequently selected factors influencing employees' decisions to leave the organisation

Quit Factor	Response Type	Frequency (n)	Total (n)	% of n	Median	Mode
Pay allowances	Least influential	1	23	4,3	5	5
	Somewhat influential	1		4,3		
	Moderately influential	4		17,4		
	Very influential	2		8,7		
	Most influential	15		65,2		
Education & training opportunities	Least influential	3	22	13,6	5	5
	Somewhat influential	2		9,1		
	Moderately influential	2		9,1		
	Very influential	1		4,5		
	Most influential	14		63,6		
Job security	Least influential	2	22	9,1	5	5
	Somewhat influential	0		0,0		
	Moderately influential	0		0,0		
	Very influential	3		13,6		
	Most influential	17		77,3		
Medical or Health Insurance	Least influential	4	19	21,1	5	5
	Somewhat influential	1		5,3		
	Moderately influential	1		5,3		
	Very influential	3		15,8		
	Most influential	10		52,6		
Bonus or Special pay	Least influential	4	16	25,0	4	5
	Somewhat influential	2		12,5		
	Moderately influential	1		6,3		
	Very influential	2		12,5		
	Most influential	7		43,8		
Additional duties	Least influential	6	16	37,5	2	1
	Somewhat influential	4		25,0		
	Moderately influential	1		6,3		
	Very influential	3		18,8		
	Most influential	2		12,5		
Promotion Opportunities	Least influential	1	16	6,3	5	5
	Somewhat influential	0		0,0		
	Moderately influential	2		12,5		
	Very influential	4		25,0		
	Most influential	9		56,3		
Recognition of efforts	Least influential	3	15	20,0	3	2
	Somewhat influential	4		26,7		
	Moderately influential	2		13,3		
	Very influential	3		20,0		
	Most influential	3		20,0		

As seen in Table 4.6, pay allowance, education and training opportunities, job security, medical health insurance, and promotion opportunities were rated as being the most influential factors impacting their decision(s) to leave the organisation. This is evident in 50% or more of the respondents that selected them indicating as such (also see median = 5). Bonus pay was also quite influential in employees' decision(s) to remain in the organisation.

Here at least 50% of the respondents that identified it as an important factor, felt that this factor was very influential to being the most influential (median = 4). Recognition of efforts and additional duties had 50% or more of the employees that selected them rating them as at least moderately influential (median = 3) and somewhat influential (median = 2) respectively.

Table 4. 7 Relative importance of the least frequently selected factors influencing employees' decisions to leave the organisation

Quit Factor	Response Type	Frequency (n)	Total (N)	% of n	Median	Mode
Work schedule	Least influential	7	14	50,0	2	1
	Somewhat influential	1		7,1		
	Moderately influential	1		7,1		
	Very influential	2		14,3		
	Most influential	3		21,4		
Leadership of immediate supervisor	Least influential	7	14	50,0	2	1
	Somewhat influential	2		14,3		
	Moderately influential	2		14,3		
	Very influential	3		21,4		
	Most influential	0		0,0		
Morale at unit level	Least influential	6	13	46,2	2	1
	Somewhat influential	1		7,7		
	Moderately influential	4		30,8		
	Very influential	1		7,7		
	Most influential	1		7,7		
Childcare needs	Least influential	3	12	25,0	4	5
	Somewhat influential	2		16,7		
	Moderately influential	1		8,3		
	Very influential	2		16,7		
	Most influential	4		33,3		
Spouse' career	Least influential	4	12	33,3	2	1
	Somewhat influential	3		25,0		
	Moderately influential	0		0,0		
	Very influential	2		16,7		
	Most influential	3		25,0		
Location of work	Least influential	8	12	66,7	1	1
	Somewhat influential	2		16,7		
	Moderately influential	0		0,0		
	Very influential	1		8,3		
	Most influential	1		8,3		
Unit Resources	Least influential	3	12	25,0	2	2
	Somewhat influential	4		33,3		
	Moderately influential	2		16,7		
	Very influential	2		16,7		
	Most influential	1		8,3		
Unit readiness	Least influential	4	9	44,4	2	1
	Somewhat influential	4		44,4		
	Moderately influential	0		0,0		
	Very influential	1		11,1		
	Most influential	0		0,0		

As shown in Table 4.7, of the least identified factors, childcare needs was rated as the most influential factor determining employees' decisions to leave the organisation. Here 50% or more of the employees that selected it thought it to be at least very influential to their decision-making process (median = 4). Work schedule, leadership of immediate supervisor, morale at unit level, spouse's career, unit resources, and unit readiness had 50% or more employees ranking them to be at most somewhat influential (median = 2). Location of work was identified as the least influential factor in employee decisions to leave the organisation (median = 1).

4.7 Level of Turnover Intentions

Turnover theory suggests that employees' decision to leave an organisation is a result of multiple combination of workplace events, working conditions and psychosocial factors (Moreno-Jiménez et al., 2012). These events are believed to follow progressive patterns of job dissatisfaction, gradually progressing to the likelihood of leaving the organisation and the profession (Sheridan & Abelson 1983). In this regard, the workgroup can be considered as the first (work) place environment where employees develop cognition of leaving (Hayes et al., 2012). Results from participants in regard to turnover intention levels are tabulated in Table 4.8.

Table 4. 8 Participants' levels of turnover intentions

Statement	Response Type	Frequency (n)	%	Total (N)	Median	Mode
I would quit my present job for a similar position with better pay in another organisation at the least opportunity	Strongly agree	13	50,0%	26	2	1
	Agree	10	38,5%			
	Disagree	3	11,5%			
	Strongly disagree	0	0,0%			
Continuation with my present employer will not fulfill my life's expectation	Strongly agree	9	36,0%	25	2	3
	Agree	6	24,0%			
	Disagree	10	40,0%			
	Strongly disagree	0	0,0%			
As soon as I can find a better job, I will quit this organisation	Strongly agree	4	15,4%	26	2	2
	Agree	14	53,8%			
	Disagree	6	23,1%			
	Strongly disagree	2	7,7%			
I often think about quitting my job	Strongly agree	2	7,7%	26	3	3
	Agree	5	19,2%			
	Disagree	11	42,3%			
	Strongly disagree	8	30,8%			
I will probably look for a job outside of this organisation within the next 2 years	Strongly agree	3	11,5%	26	3	2
	Agree	10	38,5%			
	Disagree	9	34,6%			
	Strongly disagree	4	15,4%			
It is very unlikely that I would ever consider leaving this organisation	Strongly disagree	6	23,1%	26	2	2
	Disagree	11	42,3%			
	Agree	5	19,2%			
	Strongly agree	4	15,4%			
I prefer very much not to continue working for this organisation	Strongly agree	3	11,5%	26	3	2
	Agree	8	30,8%			
	Disagree	8	30,8%			
	Strongly disagree	7	26,9%			
I will likely actively look for a new job in the next year	Strongly agree	8	30,8%	26	3	1
	Agree	4	15,4%			
	Disagree	8	30,8%			
	Strongly disagree	6	23,1%			

As seen in Table 4.8, 50% or more of the participants either agreed or strongly agreed to 3 statements (mode = 2). These are:

- I would quit my present job for a similar position with better pay in another organisation at the least opportunity
- Continuation with my present employer will not fulfil my life's expectation
- As soon as I can find a better job, I will quit this organisation

The above indicate that most employees would leave the organisation if a better employment opportunity presented itself.

The statement, "It is very unlikely that I would ever consider leaving this organisation", was negatively stated to participants. As such it was reverse scored relative to the other elements

within the turnover intention level construct. Here 50% or more employees disagreed (42.3%) to strongly disagreed (23.1%) with this statement (mode = 2). This indicates that 65.4% of the employees are likely to consider leaving the organisation in the future.

The remaining statements assessing employees' level of turnover intention had 50% or more participants disagreeing with them, i.e. either disagreed or strongly disagreed (also see mode = 3). These statements are:

- I often think about quitting my job
- I will probably look for a job outside of this organisation within the next 2 years
- I prefer very much not to continue working for this organisation
- I will likely actively look for a new job in the next year

The above statements indicate that most participants did not give much thought to leaving the company with 73.1% (adding those that disagreed with those that disagreed) of them indicating as such. Furthermore, 57.7% of them still preferred to remain working for the organisation and 53.9% of them had no intentions of seeking out new employment in the coming year. However, 50% of the participants felt that they might actively look for a new job elsewhere within 2 years.

4.8 Spearman's Rho Correlations

To assess whether any meaningful correlations existed between the different constructs of job satisfaction and turnover intentions, the Spearman Rho correlation coefficient was applied. Puth et al. (2015) explored the use of the Spearman's test and concluded that statistical analysis explores and summarizes the strength of association between two continuously measured traits on a number of experimental units. This can offer an effective description of linear association. In support of (Puth et al., 2015) argument that Spearman's measure returns values closer to the desired coverage rates this present study employed the test and results are shown in Table 4.9.

Table 4. 9 Spearman's rho correlation coefficients

Construct	Measure	Job Evaluation	Job Motivation	Job Satisfaction	Turnover Intentions	Level of Turnover Intentions
Job Evaluation	Corr. Coeff. (r_s)	1	0,339	0,603**	-0,298	0,165
	Sig. (2-tailed) [p-value]		0,090	0,001	0,140	0,421
	N	26	26	26	26	26
Job Motivation	Corr. Coeff. (r_s)	0,339	1	0,155	0,066	0,087
	Sig. (2-tailed) [p-value]	0,090		0,448	0,748	0,672
	N	26	26	26	26	26
Job Satisfaction	Corr. Coeff. (r_s)	0,603**	0,155	1	-0,419*	-0,121
	Sig. (2-tailed) [p-value]	0,001	0,448		0,033	0,558
	N	26	26	26	26	26
Turnover Intentions	Corr. Coeff. (r_s)	-0,298	0,066	-0,419*	1	0,105
	Sig. (2-tailed) [p-value]	0,140	0,748	0,033		0,609
	N	26	26	26	26	26
Level of Turnover Intentions	Corr. Coeff. (r_s)	0,165	0,087	-0,121	0,105	1
	Sig. (2-tailed) [p-value]	0,421	0,672	0,558	0,609	
	N	26	26	26	26	26

** . Correlation is significant at the 0.01 level (2-tailed). * . Correlation is significant at the 0.05 level (2-tailed).

Spearman Ranges and Interpretation (

0.00 – 0.19 “very weak”

0.20 – 0.39 “weak”

0.40 – 0.59 “moderate”

0.60 – 0.79 “strong”

0.80 – 1.0 “very strong”

As evidenced in Table 4.9, most constructs were weakly to very weakly correlated. However, a moderate negative relationship was seen to exist between job satisfaction and turnover intentions ($r_s = -0.419$). This relationship was statistically significant ($p = 0.033$) at the 0.05 level of significance. This indicates that there is sufficient evidence to suggest that a moderate negative monotonic correlation exists between job satisfaction and turnover intentions. Simplistically stated, evidence suggests that increasing job satisfaction is likely to reduce employees’ intentions to leave the organisation.

In addition, a strong positive monotonic correlation was observed between employee job satisfaction and how they perceived or evaluated their jobs at the 0.01 significance level (r_s

= 0.603, n=26, p=0.001). This suggests that the more satisfied employees were with their jobs, the more likely were they to evaluate their jobs positively.

4.9 Hypothesis Tests

To ascertain whether any significant differences existed between responses given by participants to the 5 constructs for job satisfaction and turnover intentions, the Kruskal-Wallis hypothesis test was performed. For this test, participant responses were grouped together by age, academic achievement level and years worked at the organisation. The null hypothesis for this test assumes that there are no differences between the distributions of how these groups responded to the constructs. The alternative hypothesis assumes that there is a difference between the responses of at least one of the groups being compared. A summary of the hypotheses tests are shown in Tables 4.10 to 4.12

Table 4. 10 Hypothesis test summary for the distribution of job satisfaction responses across age categories

Null Hypothesis (Ho)	Test	p-value	Decision
The distribution of Job Evaluation is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	0,454	Retain H _o
The distribution of Job Motivation is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	0,995	Retain H _o
The distribution of Job Satisfaction is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	0,120	Retain H _o
The distribution of Turnover Intentions is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	0,709	Retain H _o
The distribution of Level of Turnover Intentions is the same across categories of Age.	Independent-Samples Kruskal-Wallis Test	0,002	Reject H _o

Asymptotic significances are displayed. The significance level is 0.05.

As can be seen in Table 4.10, there were no statistically significant differences between the distribution of responses by age categories for 4 of the 5 constructs at the 0.05 level of significance (p-value > 0.05). The level of turnover intentions was the only construct wherein statistically significant differences existed between the distribution of responses by age category (p-value = 0.002). This indicates that at there existed significant differences between at least one of the age categories in how they responded to elements of this construct relative to the others. Further statistical tests will have to be performed to assess which groups actually varied.

Table 4. 11 Hypothesis test summary for the distribution of job satisfaction responses across highest academic qualification categories

Null Hypothesis	Test	p-value	Decision
The distribution of Job Evaluation is the same across categories of Highest Academic Qualification.	Independent-Samples Kruskal-Wallis Test	0,260	Retain H _o
The distribution of Job Motivation is the same across categories of Highest Academic Qualification.	Independent-Samples Kruskal-Wallis Test	0,240	Retain H _o
The distribution of Job Satisfaction is the same across categories of Highest Academic Qualification.	Independent-Samples Kruskal-Wallis Test	0,032	Reject H _o
The distribution of Turnover Intentions is the same across categories of Highest Academic Qualification.	Independent-Samples Kruskal-Wallis Test	0,015	Reject H _o
The distribution of Level of Turnover Intentions is the same across categories of Highest Academic Qualification.	Independent-Samples Kruskal-Wallis Test	0,690	Retain H _o

Asymptotic significances are displayed. The significance level is 0.05.

Table 4.11 shows that statistically significant differences were found for two of the constructs when compared by highest qualification, namely, job satisfaction (p-value = 0.032) and turnover intentions (p-value = 0.015). This indicates that, at the 0.05 significance level, qualifications did have a statically significant impact on participants' perceptions of satisfaction with their jobs and their intentions to leave the organisation. It is worth noting the importance of educational qualification attainment of the staff members as it revealed great potential for affecting turnover decisions.

Table 4. 12 Hypothesis test summary for the distribution of job satisfaction responses across years of work experience categories

Null Hypothesis	Test	p-value	Decision
The distribution of Job Evaluation is the same across categories of Years working experience.	Independent-Samples Kruskal-Wallis Test	0,622	Retain H _o
The distribution of Job Motivation is the same across categories of Years working experience.	Independent-Samples Kruskal-Wallis Test	0,407	Retain H _o
The distribution of Job Satisfaction is the same across categories of Years working experience.	Independent-Samples Kruskal-Wallis Test	0,131	Retain H _o
The distribution of Turnover Intentions is the same across categories of Years working experience.	Independent-Samples Kruskal-Wallis Test	0,706	Retain H _o
The distribution of Level of Turnover Intentions is the same across categories of Years working experience.	Independent-Samples Kruskal-Wallis Test	0,236	Retain H _o

Asymptotic significances are displayed. The significance level is 0.05.

Table 4.12 shows that no statistically significant differences were found at the 5% significance level for any of the constructs by years worked at the organisation (p -values > 0.05). This implies that the years worked at the organisation did not have any meaningful effect on employees' perceptions of job satisfaction and turnover intentions.

Reliability and Validity of the study aspects

Reliability tests the consistency of a measuring instrument's ability to measure a particular concept of interest. The instrument used in this study to determine job satisfaction and turnover intention, showed that these two aspects were negatively correlated. This suggests that when employees are happy and satisfied with their jobs, the intention to leave or quit a job is significantly lower. This was also evidenced by Spearman Rho's correlation test in Table 4.9, which showed a moderate negative relationship existing between job satisfaction and turnover intentions ($r_s = -0.419$). This relationship was statistically significant with a p value of ($p = 0.033$) at 0.05 level of significance. There was sufficient evidence to suggest that a negative monotonic correlation existed between job satisfaction and turnover intentions. Simplistically stated, this evidence has previously been supported by the literature reviewed. For this study we can suggest that the instrument applied in this study was reliable. Increasing job satisfaction is likely to reduce employees' intentions to leave the organisation.

The Cronbach alphas applied in this study, tested the internal consistency of the composite measures used to present the research's 5 concepts (Job evaluation, Job motivation, Job satisfaction, Turnover intentions and Level of turnover intentions) were all above the acceptable alpha 0.6 see Table 3.4. This indicated that the reliabilities of the composite measures used to test these concepts were at an acceptable levels suggesting towards positive reliability of the instrument used. Job Motivation produced a very good alpha of (0.9). This implied that there was excellent inter-relatedness of the statements comprising this concept. It also suggests that the number of questions employed was good and appropriate.

In addition, a strong positive monotonic correlation was observed between employee job satisfaction and how they perceived or evaluated their jobs at the 0.01 significance level. This suggests that the more satisfied the employees were with their jobs, the more they were likely to evaluate their jobs positively. The instrument used in this study was valid in measuring what it was intended to measure.

4.10 Summary of Results

A total of 26 employees participated in the study. The majority of them fell within the 30 to 39 years of age range (inclusive). The majority of the employees were females. It also came out that the marital status of most employees were single. In terms of educational qualifications, the majority of participants had a Masters degree.

Overall, participating employees had a very positive perception of their organisation and working environment. No notable differences were observed between gender comparisons on the perception of job satisfaction and turnover intention. Of concern from the Job satisfaction results was the element of pay and promotion. This factor item appeared to be the most volatile and troublesome area for participants.

Of importance to note from the previous research and this current study's results is the skewed support to literature that says , the more the employees perceive their alternatives outside the organization to be high, the more likely is their intention to leave (Mueller and Price, 1990). This indicates that employee awareness of job alternatives in the environment propels employees to evaluate their current jobs and lead them to making decisions either to leave or stay within an organisation.

Analysis of the data indicated a general positive perception of the study participants jobs and working environments. Remuneration and promotion appeared to be the most volatile

and negatively rated factor under job satisfaction. Reliability and validity test measurements for the instruments applied in this study appeared to be good and appropriate.

4.11 Chapter Summary

This chapter presented the findings from the research study. Its objective was to solve the research problem by the use of different statistical models tabulating research findings and interpreting meaning of the presented analysis. In the next chapter the researcher will be discussing the research findings, suggest recommendation to management and present concluding statements to the study.

CHAPTER FIVE

Recommendations and Conclusion

5

5.1 Introduction

This chapter summarises the study's findings. It also draws conclusions of these findings in alignment with the study's aim and objectives. The benefits of the study are also discussed as well as the limitations and recommendations for future research.

5.2 Study Outcomes

This study has evaluated job satisfaction and turnover intention at HIV Pathogenesis Programme, a research institute of the University of KwaZulu-Natal. This study had as its objectives to identify the causes of high turnover, to determine job satisfaction levels and to evaluate the relationship that exist between job satisfaction and employee turnover intention. Specifically, the objectives were to identify factors leading to turnover intention among health scientists, to determine the level of turnover intentions among health scientists, to determine the level of job satisfaction among health scientists and lastly to determine whether there was a relationship between job satisfaction and turnover intention. The specific questions that the research attempted to answer were, to establish which factors were leading to turnover intention among health scientists at HPP, to determine turnover intention level, job satisfaction levels and whether there was a relationship between job satisfaction and turnover intention.

Staff general perceptions of employment and job satisfaction at HPP was found to be very positive. No notable differences were observed between gender comparisons on the perception of job satisfaction and turnover intention. Of concern from the Job satisfaction results was the element of pay and promotion. This item appeared to be the most volatile and troublesome area for participants. The results showed an almost negligible amount of participants rating any of the elements within this category (i.e. job satisfaction) highly. Participants also seemed to be highly unhappy with their job remuneration.

Despite the negative remuneration result on job satisfaction, the results of the job evaluation were very encouraging as more than half of the participants found their jobs to be very

interesting. Importantly, the majority of the participants felt that their jobs utilized their talents fairly well. Even better was the small percentage felt that their jobs did so excellently in utilizing the staff's skills and talents.

The job motivation results were eye opening in that they showed that certain job motivation factors had the highest impact on employee motivation levels. The factor that ranked the highest was the opportunity need of employees being allowed to acquire new knowledge and skills to reach personal potential. This motivating factor was followed by the need for promotion opportunities to more senior positions. The need to increase earnings related to job performance, a safe and secure job, permanent and reliable job position, and being allowed freedom and discretion to decide how to carry out work also ranked high. Looking at Maslow's hierarchy of needs and Herzberg's two factor theory (Robbin et al., 2009), these needs are very important for management to take into consideration for its organizational employees.

The level of turnover intentions was the only construct wherein statistically significant differences existed between the distribution of responses by age category (p -value = 0.002). This indicated that there existed significant differences between at least one of the age categories in how they responded to elements of this construct relative to the others. When assessing turnover intention levels most participants did not give much thought to leaving the company. The majority of the staff disagreed to often thinking about leaving their jobs, a point which is likely to be positively viewed as good for the organisation.

Furthermore, above half of the employees still preferred to remain working for the organisation and had no intentions of seeking out new employment in the coming year. This positive notion shows the high level of organisational loyalty and commitment that exists within HPP employees. This provides a good human resource starting point for good strategic management by the institute's top management.

On the other hand, a point of concern was that half the participants felt that they might actively look for a new job elsewhere within 2 years. This finding is a red flag to management showing that there are internal organisational issues that need to be addressed for employees to consider staying within the organisation beyond two years. It is important to note that educational qualification attainment of HPP employees is high and as such it can have a significant impact to turnover decisions. This notion points to the need for further

investigation to find out why some participants felt that 2 years was enough for one to consider exiting the organisation.

Looking at the relative importance of factors influencing employees' decisions to leave the organisation, the results of the study showed that pay allowance was the most frequently identified factor chosen by participants that had an impact on their decision to either leave or remain with the organisation. Salary or pay allowances had (88.5%) of the participants citing this as important to their decision making process. Education and training opportunities, as well as job security, were the second highest factors rated important to employee decisions to leave. Another important factor that came out was that, as health scientists, medical or health insurance, which was also regarded very highly scoring a high of (73.1%). Bonus or special pay, work schedule, leadership of immediate supervisor, morale at unit level, spouse's career, unit resources, and unit readiness also comparatively emerged to be most influential in employees' decision making process whether to leave or stay within the institute. These are important factor markers for management to look at because more than 50% of employees ranked these factors important to them.

5.3 Benefits of Study

This study bridges the gap in the understanding of determinants of job satisfaction and how these affect turnover intentions on employees. The study revealed that employees had a general positive perception of their jobs and working environments and if conditions were improved to take into consideration their concerns, a better chance to reducing turnover intentions was much higher. Used effectively, application of the findings of this study has the potential benefit of contributing towards better human resources and retention strategies of health scientists' critical skills. Application of study findings can also be useful to other academic health research institutes in catering for employees' demands for job satisfaction and better working standard offerings. This presents a gap in the current university working standard within its colleges. Opportunities exist in raising awareness of current human resource offerings; allowing employees from other institute to access information and insight to these offerings. The study also identified some potential avenues for management to introduce new retention strategy ideas. It also allowed employees to openly share their thoughts and offer insights to what factors are important to them which management might

be side-lining or overlooking. The employees were also presented with the opportunity for introspection and to reflect on their beliefs in their abilities.

5.4 Recommendations to Solve Research Problem

This study intended to find out whether health scientists had any strong negative intentions towards their work and their organisation. It aimed to discover whether university resources towards retaining critical skills were being considered and correctly implemented. The study found that employees had a positive perception of their jobs and working relationships. They also had a very positive attitude towards the organisation and demonstrated intentions of becoming better health scientists. The following recommendations are proposed to bridge the awareness gap and to strengthen employee-management relationships in reducing turnover and turnover intentions:

- a. Embark on an internal employee satisfaction awareness campaign targeted at all HPP-UKZN staff members. This will instil organisational confidence in the minds of the employees. The campaign should highlight the importance of employee career growth and excellence.
- b. Employees should be made aware of the realities of the organisational brain drain and increased turnover. The importance of the scientists' contribution to country's health sector and development of new innovative ideas to the industry. This will help employees have realistic expectations and inspire them to think beyond solely seeking employment, but bigger career advancement for the betterment of our society.
- c. Strategies should be put in place to include job satisfaction assessments as integral parts of the health science disciplines. Employee profile mapping should be included in continuous assessment for talent mapping. This will stimulate creativity and innovation among employees. It is therefore important that holistic strategies be implemented to bridge the gap between the university's vision for empowering young people and unit department's vision for research development. Academic research units are thus ideally positioned to bridge this gap by raising organisational growth and turnover awareness.

5.5 Limitations and Recommendations for Future Studies

A few limitations were identified and for each limitation a possible solutions was suggested.

1. The research sample was very small as only one research unit under whole college of health sciences was studied.
2. HPP is a very small unit with 37 employees and only 26 of them participated. Generalisation of the research to represent the whole population of research academia was limited by this small sample size as only one unit was focused on.

The researcher recommends inclusion of all the other health research units under the College of Health Sciences for future studies. It is foreseeable that this study could be extended or adopted nationally encompassing all academic health scientists in South Africa. Alternately comparison studies can then be done on similar units like UKZN-HPP and see if there will be any significant differences per institute and university.

3. Another limitation identified during the study was time. The research respondents took time to manually complete and return the questionnaires due to various work and travel commitments.

The researcher would like to recommend that online surveys be conducted for similar studies to accommodate inclusion of participants that might not be physically available in office at time of survey but maybe available online.

5.6 Summary

The study evaluated job satisfaction and turnover intention at the HIV Pathogenesis Programme, a research institute at the University of KwaZulu-Natal, in Durban South Africa. The study found that employees had a positive perception of their jobs and working relationships. They also had a very positive attitude towards the organisation and demonstrated intentions of becoming better health scientists. The study had enough evidence to support that a relationship did exist between job satisfaction and turnover intention as hypothesised. However, a major drawback identified was the very small population size available for the study. This highlighted the need for follow up studies to be conducted where other health research units under the University could be included for a wider and broader view. The researcher was encouraged by the overall positive response of the employees in undertaking a survey of this nature and feels more can be done in the future to improve turnover levels and their effects in organisations.

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APPENDICES

**QUESTIONNAIRE TO DETERMINE TURNOVER INTENTION AND JOB SATISFACTION
AMONG HEALTH SCIENTISTS IN DURBAN SOUTH AFRICA.**

SECTION A

DEMOGRAPHIC INFORMATION

Thank you for taking time to fill in this questionnaire. Your honest and complete responses are highly valued as they will enable us improve our people management policies, strategies and practices.

Please utilise this opportunity to reflect on your experiences and perceptions on job satisfaction and turnover intentions.

This questionnaire is anonymous and all information gathered from this questionnaire will be kept confidential. It will be analysed and consolidated with all other responses gathered during this survey. No information gathered will be used against you or to prejudice you in any way. It is for research purposes only.

Please indicate your response with an X to each statement below. Please drop in the completed questionnaire in the Sealed Suggestion box in Office Number 119 (Tarryn Tomlinson) HPP H.R

GENDER

MALE	1
FEMALE	2

AGE

20-29	1
30-39	2
40-49	3
50-59	4

MARITAL STATUS

Single	1
Married	2
Divorced	3
Widowed	4

HIGHEST ACADEMIC QUALIFICATIONS

MATRIC	1
DIPLOMA	2
BACHELOR DEGREE	3
MASTER DEGREE	4
PH.D	5

YEARS OF WORKING EXPERIENCE

1-5	6-10	11-15	16-20	20-25
1	2	3	4	5

SECTION B**JOB EVALUATION**

Q1. How do you find your job? **Choose only one.**

- Extremely Dull 1
- Very Dull 2
- Fairly Interesting 3
- Very Interesting 4
- Extremely Interesting 5

Q2. How does your job utilize your talents? **Choose only one.**

- Not At All 1
- Very Little 2
- Fairly Well 3
- Very Well 4
- Excellently 5

Q3. How does your job utilize your training? **Choose only one.**

- Not At All 1
- Very Little 2
- Fairly Well 3
- Very Well 4
- Excellently 5

Q4. How satisfied are you with the type of work you are involved in? **Choose only one.**

- Very Dissatisfied 1
- Slightly Dissatisfied 2
- Slightly Satisfied 3
- Very Satisfied 4
- Extremely Satisfied 5

Q5. Do you plan to renew your contract at the end of your current employment?
Choose only one.

- Definitely Will Not 1
- Probably Not 2
- Probably renew 3
- Definitely renew 4

SECTION C: JOB MOTIVATION

Please rate your motivation level by a tick (√) in the appropriate column against each statement. The level of agreement is graded as Very High, High, Low and Very Low.

	I FEEL MOTIVATED WHEN I AM	Very High	High	Low	Very Low
1.	Being in charge, exercising control, having responsibility for people and resources	4	3	2	1
2.	Acknowledged by bosses and colleagues for my efforts, skills and competencies				
3.	Deriving feelings of importance from work given and job seniority.				
4.	Given varied, stimulating and creative job objectives and work activities				
5.	Given opportunity to advance to more senior positions				
6.	Operating as part of a team rather than as an individual contributor				
7.	Given the opportunity to increase earnings related to job performance				
8.	In a secure, permanent and reliable job position				
9.	Allowed freedom and discretion to decide how to carry out work				
10.	Allowed opportunities to acquire new knowledge and skills, to reach personal potential				

SECTION D:

JOB SATISFACTION

Please rate your job satisfaction level by ticking (√) the appropriate column as indicated against each statement below.

		Not satisfied at all	Undecided	Somewhat satisfied	Extremely satisfied
1.	GENERAL WORKING CONDITION	1	2	3	4
a.	Hours worked each week				
b.	Flexibility in scheduling				
c.	Location of work				
d.	Annual leave offered				
2.	PAY & PROMOTION POTENTIAL				
a.	Salary				
b.	Opportunities for promotion				
c.	Benefits				
d.	Recognition for work accomplished				
3.	WORK RELATIONSHIPS				
a.	Relationships with co-workers				
b.	Communication with management				
4.	USE OF SKILLS AND ABILITIES				
a.	Opportunity to utilize your skills and talents				
b.	Opportunity to learn new skills				
c.	Support for additional training and education				
5.	WORK ACTIVITIES				
a.	Job responsibilities				
b.	Independence associated with your roles				
c.	Opportunities for periodic changes in duties				

SECTION E: _____ TURNOVER INTENTIONS

Examine each factor in table below and determine whether it influences your decision to leave employment at HPP. Choose all that apply. After you have selected all of the appropriate items, you will be asked to rate their relative importance. Circle your rating

Quit Factor	tick all that apply	Rate your choice. 5 being Most influence and 1 being Least influence				
Education & training opportunities		5	4	3	2	1
Childcare needs		5	4	3	2	1
Pay & allowances		5	4	3	2	1
Spouse's career		5	4	3	2	1
Bonus or special pay		5	4	3	2	1
Medical or Health Insurance		5	4	3	2	1
Work schedule		5	4	3	2	1
Location of work		5	4	3	2	1
Additional duties		5	4	3	2	1
Job security		5	4	3	2	1
Promotion opportunities		5	4	3	2	1
Unit resources		5	4	3	2	1
Leadership of immediate supervisor		5	4	3	2	1
Unit readiness		5	4	3	2	1
Recognition of efforts		5	4	3	2	1
morale at unit level		5	4	3	2	1

Statements presented below are to assess the level of turnover intentions. For each of the statements, you are expected to indicate by a tick (✓) your level of agreement with the tabulated statements:

		STRONGLY AGREE	AGREE	DISAGREE	STRONGLY DISAGREE
1.	I would quit my present job for a similar position with better pay in another organisation at the least opportunity	1	2	3	4
2.	Continuation with my present employer will not fulfill my life's expectation	1	2	3	4
3.	As soon as i can find a better job, i will quit this organisation	1	2	3	4
4.	I often think about quitting my job	1	2	3	4
5.	I will probably look for a job outside of this organisation within the next 2 years	1	2	3	4
6.	It is very unlikely that i would ever consider leaving this organisation	4	3	2	1
7.	I prefer very much not to continue working for this organisation	1	2	3	4
8.	I will likely actively look for a new job in the next year	1	2	3	4

END

Thank you for successfully completing the survey

APPENDICE. B. Ethical Clearance



28 September 2017

Ms Pedzisa Giza (214572776)
Graduate School of Business & Leadership
Westville Campus

Dear Ms Giza,

Protocol reference number: HSS/1440/017M

Project title: Determining turnover intention and job satisfaction among Health Scientists in Durban South Africa

Approval Notification – Expedited Approval

In response to your application received on 14 August 2017, the Humanities & Social Sciences Research Ethics Committee has considered the abovementioned application and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

The ethical clearance certificate is only valid for a period of 3 years from the date of issue. Thereafter Recertification must be applied for on an annual basis.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



Dr Shenuka Singh (Chair)

/ms

Cc Supervisor: Dr Muhammad Hoque
Cc Academic Leader Research: Dr Emmanuel Mutambara
Cc School Administrator: Ms Zarina Bullyraj

Humanities & Social Sciences Research Ethics Committee

Dr Shenuka Singh (Chair)

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Informed Consent Letter

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

Dear Respondent,

MBA Research Project
Researcher: PEDZISAI GAZA (074 663 2336)
Supervisor: MUHAMMAD HOQUE (031 260 8690)
Research Office: Ms P Ximba 031-2603587

I, PEDZISAI GAZA an MBA student, at the Graduate School of Business and Leadership, of the University of KwaZulu-Natal, are inviting you to participate in a research project entitled; **Determining turnover intention and job satisfaction among health scientists in Durban South Africa.** The aim of this study is to identify factors contributing to the rise in staff turnover at University of KwaZulu-Natal's HIV Pathogenesis Program unit. It seeks to identify and evaluate the relationship between job satisfaction and turnover intention.

Through your participation I hope to understand the reasons why people are or may consider leaving an organization. I want to identify employee job quitting tendencies and be able to predict the actual turnover that an organization can experience. I will consider demographic factors, relevant socio economic factors, and different sources of dissatisfaction and use the information to develop employee turnover profile maps. The study will also seek to answer how job satisfaction, supervisory support and organizational commitment may affect turnover intention.

The results of the study are intended to contribute towards better human resource management especially, development of efficient staff retention strategies.

Your participation in this project is voluntary. You may refuse to participate or withdraw from the project at any time with no negative consequence. There will be no monetary gain from participating in this survey/focus group. Confidentiality and anonymity of records identifying you as a participant will be maintained by the Graduate School of Business and Leadership, UKZN.

If you have any questions or concerns about completing the questionnaire or about participating in this study, you may contact me or my supervisor at the numbers listed above.

The survey should take you at most **10** minutes to complete. I hope you will take the time to complete this survey.

Sincerely

Investigator's signature _____ Date _____

This page is to be retained by participant

**UNIVERSITY OF KWAZULU-NATAL
GRADUATE SCHOOL OF BUSINESS AND LEADERSHIP**

MBA Research Project
Researcher: PEDZISAI GAZA (074 663 2336)
Supervisor: MUHAMMAD HOQUE (031 260 8690)
Research Office: Ms P Ximba 031-260 3587

CONSENT

I hereby confirm that I understand the contents of this document and the nature of the research project, and I consent to participating in the research project.

I understand that I am at liberty to withdraw from the project at any time, should I so desire.

SIGNATURE OF PARTICIPANT

DATE

.....

This page is to be retained by researcher