Developing measures to improve employee engagement in public Technical Vocational and Educational Training (TVET) colleges in Gauteng Province, South Africa – An investigation of antecedent and outcome variables.

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ABSTRACT

This study investigated the antecedent and outcome variables of employee engagement within the public Technical Vocational and Educational Training (TVET) colleges in South Africa's Gauteng Province. Job demand in the form of work overload, job resources in the form of supervisor and co-worker support and role clarity, personal resources in the form of self-efficacy, individual differences in the form of proactive personality, and psychological conditions in the form of psychological meaningfulness and psychological availability were assessed as the possible antecedents to employee engagement (referring to job engagement and organisation engagement). Discretionary effort and turnover intention were assessed as the possible outcomes of employee engagement. Adopting a quantitative cross sectional design survey, a random sample of 190 lecturers across 43 campuses of the eight public TVET colleges in Gauteng was used for the study. Twelve variables were considered with six major hypotheses. The research hypotheses were tested through correlation analysis and structural equation modelling. Results revealed that some of the proposed antecedents significantly predicted employee engagement. For example, workload has a statistically significant positive and direct effect on psychological availability ($\beta = 0.28$, $p < 0.003$), and a statistically significant negative effect on job engagement ($\beta = -0.32$, $p < 0.000$) and organisational engagement ($\beta = -0.37$, $p < 0.000$). Supervisor support has a statistically significant positive relationship with psychological meaningfulness ($\beta = 0.27$, $p < 0.003$), job engagement ($\beta = 0.35$, $p < 0.000$), and organisational engagement ($\beta = 0.23$, $p < 0.000$). This study also supported the view that psychological conditions are positive antecedents of employee engagement, and that employee engagement can influence positive employee intention and behaviour in an organisation. Implications for scholars and practitioners, especially management of public TVET colleges and the South African government are discussed as viable options for providing conditions that aid the development of employee engagement and consequently organisational performance.

DECLARATION

I, Akinlawon Olubukunmi Amoo, declare that the work presented in this research is my own, has not been presented for a degree or any other academic award in any university and all sources have been duly acknowledged.

Signed: Date: 11/12/2021

Akinlawon O. Amoo

Signed: Date: 11/12/2021

Prof J. K. Adam (PhD)
Supervisor

DEDICATION

To my family, for whom I strive, and to God in whom I find strength.

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My deepest gratitude to my supervisor, Professor Jamila Khatoon Adam for her guidance and support throughout this academic journey. Thank you for trusting me and for believing in me. You made this possible.

To my ever-loving and ever-supportive wife, Zandile, my beautiful daughter, Morolake and my handsome boys, Olakunle and Adeyemi, thank you for bearing with Daddy when it seemed like my life revolved around books. I am grateful for your love and support. Daddy is back!!!

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CHAPTER 1

INTRODUCTION

1.1 Background to the Study

Workload-resource imbalance is a global challenge in higher education institutions. While these institutions are confronted with demand overloads, they are ill-equipped with the requisite strategies to respond to these increasing demands (Barkhuizen & Rothmann, 2008; Mapfumo, Chitsiko & Chireshe, 2012; Letooane, 2013; Jonker, 2016). This demand overload induces an elevated amount of stress in the employees, and time and again, it creates a disconnection between the employees, their jobs and all job-related tasks, consequently leading to employees' decision to seek better jobs elsewhere (Mxenge, Dywill & Basaza, 2014).

The "South African Technical Vocational Education and Training (TVET)" sector is not exempt from this workload-resource imbalance dilemma. The sector is faced with the huge challenge of recruiting and retaining competent lecturers capable of executing their job tasks effectively and efficiently (Mmako & Schultz, 2016). An even greater challenge, according to the authors, is that of holding on to the lecturers who are currently working at these TVET colleges.

In 2015, the total number of enrolled students at TVET colleges nationwide was 737 880, while the total number of lecturers stood at 10 592, denoting a lecturer-student ratio of 1:69 as opposed to the standard ratio of 1:30. (TVET College Annual Survey 2015). The total number of enrolled students at the eight TVET colleges selected for this study was 188 481, while the total number of lecturers stood at 2 072, denoting a lecturer-student ratio of 1:91 as opposed to the standard ratio of 1:30 (TVET College Annual Survey 2015). This uneven ratio means more work for the lecturers. Consequently, the lecturers at TVET colleges have reported their inability to cope with the large

number of students and the increase in the demand for academic support (Jeremiah, 2018; Jonker, 2016; Buthelezi, 2016).

Coupled with the uneven lecturer-student ratio is the lack of resources needed to carry out the day-to-day teaching at these colleges (Beukes, 2019; Buthelezi, 2018). Four key resource-related and efficiency factors inhibiting the desired growth within the TVET sector are: “1) The inadequate physical infrastructure; 2) insufficient funding: a disjuncture between allocated funding and targeted growth; 3) a shortage of additional and relevant human resources to handle increased enrolments; and 4) a lack of relevant teaching and learning equipment for the provision of occupational programmes funded and regulated by the relevant Sector Education and Training Authority (SETA)” (Department of Higher Education and Training (DHET), 2017).

In addition to these barriers to the desired growth, gaps have been reported in lecturer capability, with emphasis on the lack of the required competence needed for effective teaching; having to cope with large classes; and facilitating learning in “mixed ability” classes (DHET, 2014). The TVET colleges are also faced with the daunting task of facilitating, coordinating, and sustaining a positive learning atmosphere for all their students (Buthelezi, 2016; Jonker, 2016). It is thus imperative that lecturers show competency in both the theoretical and practical aspects of the courses they teach, and possess the requisite skills needed to engage students in the class (DHET, 2017).

From the challenges and barriers to growth mentioned above, it is clear that TVET lecturers are faced with several significant obstacles that ordinarily lead to fatigue, weariness or burnout in individuals and consequently, to a disengagement (Ngobeni & Bezuidenhout, 2011: 9962; Manyau, 2015; Buthelezi, 2016; Jonker, 2016). The TVET lecturers are expected to execute complex, multifaceted tasks in an overly demanding atmosphere and with inadequate physical (job-related) and personal resources (Jeremiah, 2018;

Jonker, 2016; Houston, Meyer & Paweai, 2006). The performance of these tasks without the essential job-related and personal resources creates stress (Jeremiah, 2018; Jonker, 2016; Daly & Dee, 2006) that could bring about lower levels of commitment in the organisation (Barkhuizen, Rothmann & Van de Viljver, 2013) and could impact considerably on the lecturers' engagement levels.

Although a very significant amount of meaningful research (ranging from understanding the construct of employee engagement, to identifying antecedent factors and consequences of engagement) has been conducted on employee engagement (Bakker & Demerouti 2008, 2009; Macey & Schneider, 2008; Schaufeli, Bakker & Salanova, 2006; Bakker, Albrecht & Leiter, 2011; Saks, 2006; Saks & Gruman, 2014; Gallup, 2013; Shuck & Reio, 2011; Wollard & Shuck, 2011; Rothmann, 2014), the bulk of this research was conducted by business consulting firms (Saks, 2006; Shuck, 2010).

Only recently have researchers paid attention to investigating the concept of employee engagement (Saks, 2006; Shuck, 2010; Rothmann & Rothmann, 2010). A large number of academic research studies focusing on employee engagement has been undertaken within the context of the Western world (Rothmann, 2014; Rana, 2016), with only a few studies on the topic emerging recently from the East, and only a few in-depth and robust research emanating from Africa (Rothmann & Rothmann, 2010; Engelbrecht, Heine & Mahembe, 2014; Ugwu, Onyishi & Rodríguez-Sánchez 2014; Egwuonwu, 2015). The number of academic research studies that investigated the topic of engagement at TVET colleges in South Africa is very low (Mmako, 2016).

A search on Google Scholar for the statement "antecedents and consequences of employee engagement at TVET colleges" between 1990 and 2017 yielded 119 results – a clear indication of the dearth of research in a TVET setting. As far as this study is concerned, a low number of research (Beukes, 2019; Jeremiah, 2018; Jonker, 2016; Mmako, 2016) on employee

engagement in TVET colleges has been conducted in South Africa. Of particular interest is the research conducted by Mmako (2016) which considered four organisational factors that could create engagement among lecturers, and proposed a framework for employee engagement at public TVET colleges. The study considered a few organisational factors that promote employee engagement, but it did not consider certain individual factors that could impact on employee engagement, nor did it consider measuring employee engagement at the different institutional layers of the TVET colleges. The study used a “non-probability purposive sample” of academic staff working at public TVET colleges and as a result, generalising the findings was not possible, thus creating a gap as to whether these research findings are applicable to all the TVET colleges in South Africa that might be faced with different situational challenges.

Despite the increase in the research on employee engagement, it is surprising that studies on the engagement of lecturers at TVET colleges is still low (Toews & Yazadjian, 2007) and very low in South Africa.

1.2 Problem Statement

The importance of TVET education in a South African context cannot be overemphasised. The South African Government envisioned TVET colleges as a critical medium that can significantly aid the growth of businesses and contribute immensely to economic development in South Africa (South African Government, 2017). In order for the vision of the South African Government for TVET colleges to come to fruition, the key drivers – TVET lecturers – have an integral role to play. However, these lecturers are faced with massive job-related (student/work overload) and personal (inadequate skills/capacity) challenges (Buthelezi, 2016; Towani, 2010) that can create a disengagement between them and their job, and could potentially hamper the delivery of the TVETs’ goals.

Recent research has shown that TVET lecturers in the delivery of their duty experience a range of reactions “from fear and anguish to boredom and frustration” (Buthelezi, 2016: 263 citing Smith, 2001: 26) due to inadequate job-related resources and the lack of requisite personal resources required to teach and train effectively (Buthelezi, 2016; Mmako, 2016). These lecturers express feelings of not having “adequate content and pedagogical knowledge” to execute their job tasks effectively. As a result, many of these lecturers feel inadequate, do not go the extra mile in the execution of their duties and on many occasions have opted for the easy route – resignation, leaving those left behind with even more workload than before. Those left behind are then forced to teach subjects for which they have not been trained and have no capacity, rendering them ineffective and disengaged from their academic duties and at the same time, putting the students at a great disadvantage (Buthelezi, 2016).

Research has shown that globally, employee engagement is low, and it is extremely low in South Africa. It has been reported that only 9% of the total workforce in South Africa are feeling engaged with their employer and their jobs, 46% are disengaged, while 45% are actively disengaged (Gallup, 2013). Research has also found that disengagement is extremely costly to the organisation, while positive employee engagement would have been able to offer numerous and significant positive business outcomes (Saks & Gruman, 2014).

The extremely low levels of engagement in South Africa, coupled with the high levels of employee disengagement at TVET colleges (as a result of the workload-resource imbalance) and therefore the risks of not achieving the TVET goals, confirms the severity of the problem of low engagement and the need to urgently find solutions to employee disengagement in public TVET colleges. Employee engagement in public TVET colleges in South Africa merits more attention if the government’s vision of these colleges as ”*a critical medium that can significantly aid the growth of businesses and contribute immensely to economic development in South Africa*” must be realised.

Furthermore public TVET college lecturers are underappreciated in South Africa, particularly in terms of handling massive workload requirements (Buthelezi, 2018; Jeremiah, 2018; Jonker, 2016), and this does not bode well for the government's vision, because weary lecturers resort to resignation (Jeremiah, 2018; Buthelezi, 2018; Jonker, 2016; Mmako, 2016), leaving hard-to-fill voids behind. It is, therefore, imperative to investigate within the TVET context, the antecedent factors that could improve employee engagement and the possible consequences of such an improved level of employee engagement, as a preliminary step to developing an improved framework − consisting of both organisational and individual factors (building on the work of Mmako (2016), which focused on organisational factors) − to improve employee engagement in the challenging TVET environment.

1.3 Research Questions

Three main research questions guided this study:

a) What is the relationship between the antecedent variables of job demand (work overload); job resources (supervisor and co-worker support, and role clarity; personal resources (self-efficacy); individual differences (proactive personality); and (a) psychological conditions (psychological meaningfulness and psychological availability) and (b) employee engagement (job engagement and organisation engagement);
b) What is the relationship between the antecedent variables of psychological conditions (psychological meaningfulness and psychological availability) and employee engagement?
c) What is the relationship between employee engagement and the outcome variables of discretionary effort and turnover intention?

1.4 Study Aims and Objectives

The aim of this study was to develop measures to improve employee engagement in public TVET colleges in Gauteng Province, South Africa.
Three main research objectives guided this study:

a) To determine if there is a relationship between the antecedent variables of job demand (work overload); job resources (supervisor and co-worker support, and role clarity); personal resources (self-efficacy); individual differences (proactive personality); and (a) psychological conditions (psychological meaningfulness and psychological availability) and (b) employee engagement (job engagement and organisation engagement);
b) To determine if there is a relationship between the antecedent variables of psychological conditions and employee engagement;
c) To determine if there is a relationship between employee engagement and the outcome variables of discretionary effort and turnover intention.

1.5 Hypotheses

To answer the three research questions, six hypotheses were tested:

H1: Job demand is negatively related to psychological conditions and employee engagement.

H2: Job resources is positively related to psychological conditions and employee engagement.

H3: Personal resources is positively related to psychological conditions and employee engagement.

H4: Individual differences is positively related to psychological conditions and employee engagement.

H5: Psychological conditions is positively related to employee engagement.

H6: Employee engagement is positively related to discretionary effort and negatively related to turnover intention.

The research conceptual model is shown in Figure 1.1.

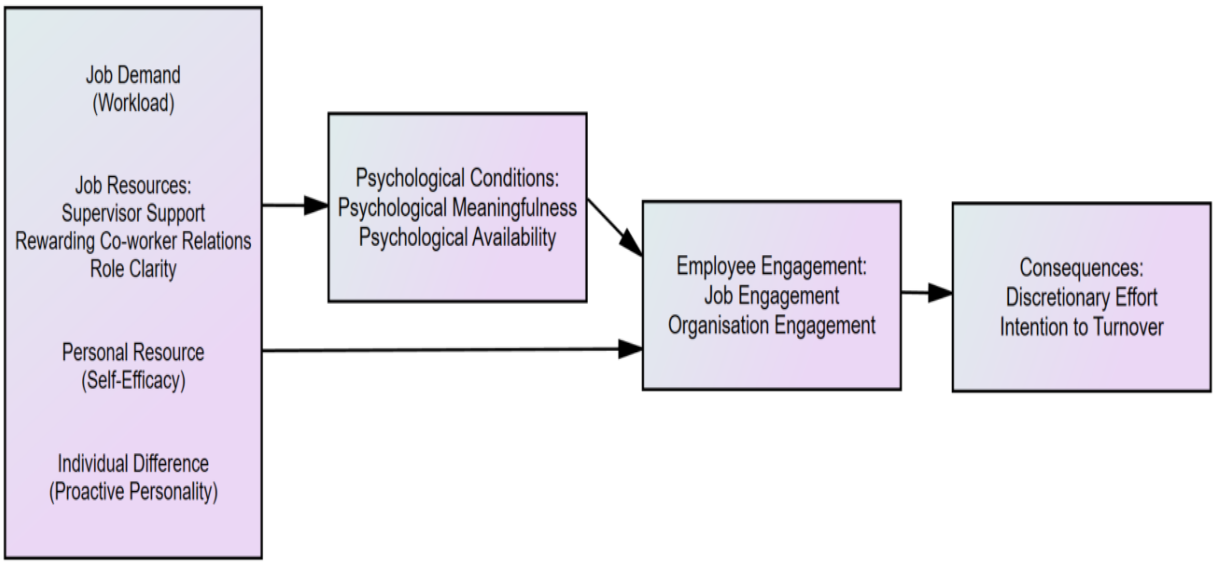

Figure 1.1: Research conceptual model (Source: Own compilation)

1.6 Significance of the Study

Employee engagement plays a pivotal role in the attainment of business outcomes (Burns, 2016; Rana, 2016). On a global scale, employee engagement is generally considered a key driver of positive organisational outcomes (Shuck, 2010; Saks & Gruman, 2014). Despite the numerous benefits associated with employee engagement, researchers and practitioners have found that creating and sustaining an engaged workforce is a daunting task (Saks, 2006; Rothman & Rothman, 2010). This is evident in the low level (13%) of employee engagement worldwide (Gallup, 2013). As a result, the bulk of research on employee engagement have focused on uncovering antecedents to employee engagement in different organisational or business settings (Saks, 2006; Shuck, 2010). Studies on employee engagement have been undertaken in for-profit and not-for-profit organisations as well as in academic institutions (mostly universities), with only little research conducted in vocational colleges. There is dearth of literature on employee engagement in TVET colleges in South Africa.

This study focused on specific organisational and individual factors that could contribute to the promotion of employee engagement among academic staff at public TVET colleges in the Gauteng Province, as well as specific factors that are influenced by an increased level of employee engagement.

The results from this study add to the body of knowledge on the topic of employee engagement. The findings should also help TVET colleges develop an improved employee engagement framework and consequently provide a clearer insight to practitioners and researchers, guiding the development of appropriate strategies needed to foster employee engagement locally, and particularly in TVET colleges in Gauteng and South Africa as a whole.

Furthermore, the results of this study can serve as strategic leverage platforms for the South African government, the major stakeholder of public TVET colleges. The government can ensure its vision for the public TVET colleges succeeds by implementing the recommendations provided in this study. For example, there is a need to pay attention to the workload of the lecturers, provide adequate job resources and deploy strategies that promote workplace support. Improved employee engagement levels at these colleges will translate to better teaching which will translate to better student throughput and thus the availability of a qualified and competent workforce that will contribute valuably to the South African economy.

Finally, the variables that were tested in this study and the resultant conceptual model can serve as a strategic tool that similar organisations worldwide can use to create an engaged workforce. The study thus contributes new and useful knowledge to the understanding of the engagement construct.

1.7 Rationale for the Study

The rationale for this research lies in the fact that despite the wealth of research (ranging from trying to establish a generally acceptable definition for

the construct (Bailey, 2016; Cole et al., 2012), distinguishing the construct from other related constructs (Saks & Gruman, 2014; Shuck et al., 2012) to identifying factors that predict engagement (Buthelezi, 2018; Osborne & Hammoud, 2017; Bakker, Albrecht & Leiter, 2011; Christian, Garza & Slaughter, 2011) and the outcomes of employee engagement (Bailey, 2016; Bakker & Bal, 2010; Crawford, LePine & Rich, 2010)) conducted on the subject of employee engagement, most organisations worldwide still report low levels of employee engagement (Jeremiah, 2018; Bailey, 2016; Osborne & Hammoud, 2017; Gallup, 2013).

In South Africa, 9% of the workforce is reported to be engaged in their occupational tasks (Gallup, 2013). Also, there exists a dearth of research on the antecedents and outcomes of employee engagement in TVET colleges globally, and in South Africa, as stated above, only a few studies (Jeremiah, 2018; Mmako, 2016; Jonker, 2016) had been conducted till date. Mmako's 2016 study considered four organisational factors affecting employee engagement in public TVET colleges in South Africa, but neither did it provide an all-encompassing view of these factors, nor did it consider individual factors capable of impacting on employee engagement in the TVET colleges.

Mmako (2016: 316) proposed that more factors should be considered when developing employee engagement strategies in the higher education environment. Mmako's study used a non-probability purposive sample of academic staff working at public TVET colleges and as a result, generalising the findings was not possible, and consequently the author proposed that future research should focus on obtaining a probability sample that is a true reflection of all the lecturers throughout the TVET colleges in order to achieve generalisability.

TVET lecturers are expected to play a significant role in reducing the scarce skills shortage in South Africa by training and producing competent artisans in all areas of trade. However, these lecturers face the challenge of extreme

workload with little job-related and personal resources (Arfo, 2015: 171; Manyau, 2015; Lawrence, 2016: 20; DHET, 2017). The lecturers are overwhelmed by their job tasks and the resultant effect is work-related stress (Buthelezi, 2018; Jonker, 2016), demoralisation and disengagement from their job (Ngobeni & Bezuidenhout, 2011; Buthelezi, 2016), thus leading to a high turnover ratio (Buthelezi, 2016). It was thus imperative to understand the antecedent factors that can improve their engagement levels and propose appropriate strategic interventions to achieve such engagement levels. Therefore, this study explored specific organisational and individual factors (using probability sampling) that could aid increased engagement levels in public TVET colleges in Gauteng.

1.8 Scope of the Study

The study focused on specific organisational and individual factors that will help in the promotion of employee engagement among academic staff at public TVET colleges in Gauteng Province as well as specific factors that are influenced by an increased level of employee engagement. An attempt was made to investigate the antecedent variables (namely supervisor and co-worker support, role clarity, opportunities for professional development, performance feedback, work overload, optimism, self-efficacy, proactive personality, core self-evaluation, psychological conditions) and consequences of employee engagement (namely discretionary effort and turnover intention) among the academic staff members at these Colleges (8 colleges, with 43 campuses) in Gauteng, South Africa, in an effort to be able to propose ways to improve employee engagement at these colleges.

The purpose of this study was to examine a hypothesised model of employee engagement by exploring the relationship among supervisor and co-worker support, role clarity, opportunities for development, performance feedback, optimism, self-efficacy, work overload, psychological conditions, optimism, proactive personality, core self-evaluation discretionary effort, turnover

intention and employee engagement (namely, task, job and organisational engagement), and to establish measures through which employee engagement can be improved as a means to promoting discretionary effort and reduce turnover intention among academic staff members at public TVET colleges in the Gauteng Province.

1.9 Organization of the Study

This study is made up of six chapters. Chapter 1 is based on the explanation of the research topic as well as the description of the background to the context, the significance of the study, and the aim of the study, and the research questions and hypotheses.

Chapter 2 provides a review of the literature that supported the study. It also covers an in-depth examination of the variables investigated in the study.

Chapter 3 describes the research methodology adopted for this study, the research design, target population and sample, the sampling technique, data collection and analysis as well as all ethical considerations for the study.
Chapter 4 focuses on data analysis, and the presentation and interpretation of the research findings.

Chapter 5 presents the proposed improved employee engagement framework derived from the research.

Chapter 6, which is the concluding chapter, focuses on general conclusions from the study, as well as recommendations arising out of the research study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The previous chapter provided the background to the study, outlined the problem statement, research questions, hypotheses, aim of the study, significance, and rationale for the study. An overview of the entire study was also provided. The current chapter starts with an overview of employee engagement by expressing the concept as an emerging concept with multiple views provided from several authors. The chapter then explores the literature interconnected to this study, the theoretical frameworks explored in the study, followed by a review of the literature on likely variables that might contribute to employee engagement. The chapter concludes by exploring literature closely linked to the research questions and objectives, a hypothesised model, and a brief conclusion.

2.2 Conceptual Reviews

2.2.1 Overview of employee engagement

There has been increased interest in the subject of employee engagement since the early 90s. This interest is due partly to the belief that employee engagement results in many business benefits (Rana, 2016; Gallup, 2013). The findings of many academic and practitioner studies point to employee engagement as a core driver of numerous business benefits such as increased employee wellness, increased productivity, increased business profit and a significant reduction in employee turnover (Gallup, 2013; Towers Perrin, 2006). In a list of factors driving organisational success, employee engagement is ranked in the top three factors (Harvard Business Review Analytics Services, 2013).

Furthermore, since inception and to date, there is still a lot of confusion around the meaning and theory of employee engagement (Saks & Gruman, 2014).

Thus, there is a pressing need for researchers and practitioners to continue with research on the construct to eliminate the confusion surrounding the construct and properly harness its inherent benefit in various organisations. Research has suggested that engaged employees perform better than non-engaged employees (Shuck & Reio, 2011). The statistics on engagement show that on a global basis, 13% of employees are engaged in their job, with the number of disengaged workers recorded as doubled that of engaged workers (Gallup, 2013). In South Africa, the statistics are disheartening, where only 9% of the workforce are engaged, 46% are disengaged, while 45% are actively disengaged (Gallup, 2013). This is particularly serious if one considers that disengagement is extremely costly (Saks & Gruman, 2014) to organisations.

2.2.2 Conceptualisation of employee engagement

Employee engagement as a concept began to gain popularity over three decades ago, since Kahn's (1990) published work on psychological states of "individual engagement and disengagement" in the workplace (Murphy, 2014: 183). Prior to the study undertaken by Kahn, academic research focused on the negative aspects of psychology, with the concept of burnout receiving enormous attention (Murphy, 2014: 183). Numerous researchers from various professions (especially those from the human resources development, social sciences, healthcare, and educational sectors), published various research results on the subject of burnout (Murphy, 2014: 183). Over time, further research work on human psychology shifted attention to more personal and positive aspects of well-being in the workplace, with a focus on human qualities, ideal working conditions and engagement (Schaufeli et al., 2002b: 71-92).

2.2.3 The meaning of employee engagement

The lack of consensus on the meaning of employee engagement is as old as the concept itself (Cole et al., 2012; Saks & Gruman, 2014). This is due in part

to the concept of employee engagement being closely related to some other, well-grounded constructs such as organisational commitment, job satisfaction, job involvement, and the fact that most of the research on employee engagement is rooted in research on job burnout (Saks & Gruman, 2014; Maslach, Schaufeli & Leiter, 2001). Consequently, the distinctiveness of employee engagement from burnout has also been subjected to scrutiny (Cole et al., 2012).

The first conceptualisation or definition of employee engagement was introduced by Kahn (1990). Kahn in his seminal work of 1990 introduced the concept of "employee engagement". He defined employee engagement as "harnessing of organisational members' selves to their work roles where people express themselves physically, cognitively, and emotionally during role performance" (Kahn, 1990: 694).

Kahn's (1990) definition explains the concept of employee engagement simply as employees being consciously available at work or "present at work". This implies a complete devotion of the spirit, soul and body to work roles. Kahn (1990) explained that engaged employees bring their entire person (cognitively, emotionally, and physically) to work and to execute their work duties. In light of Kahn's definition, engagement can also be described as a person's psychological presence at work, characterised by work-based attention, connection, integration and focus. On the other hand, disengaged employees or individuals are separated from everything related to work (Rich, LePine & Crawford, 2010; Saks & Gruman, 2014).

Shuck and Reio (2010: 46) note that the three facets of engagement revealed by Kahn (1990) – being "cognitive, emotional and physical" facets – are still applied in clarifying the concept of employee engagement. Cognitive engagement describes an employee's perception of their job, organisation and culture, and further describes the employees' logical commitment to the organisation. Emotional engagement describes the emotional bond between

an employee and the organisation, which prompts the employees to commit personal resources into their job. Behavioural engagement describes the employees' willingness to embrace and commit to "increased levels of discretionary effort" (Shuck & Reio, 2011: 422-423).

Kahn (1990) explained that these facets of employee engagement are considerably influenced by three "psychological domains", referring to "meaningfulness, safety, and availability", and that these domains have an impact on employees' perception and performance of their work roles (Sakovska, 2012: 10). Kahn (1990) defined *meaningfulness* as "a positive sense of return or investments of self in role performance" (Shuck, 2011: 5). *Safety* is explained as being able to do one's job as honestly as practicable "without fear of negative consequences to self-image, status or career" (Jose & Mampilly, 2012: 424). *Availability* denotes a sense of having the "physical, emotional, and psychological resources" needed to carry out one's tasks at work (Kahn, 1990: 705). In summary, Kahn described employee engagement as a multifaceted motivational concept that prompts an individual to be fully immersed in their work role.

The second most popular definition of engagement was rooted in the concept of job burnout and described engagement as the opposite of burnout (Maslach, Schaufeli & Leiter, 2001). These authors viewed engagement through the lens of the concept of burnout, describing it as an "energetic state of involvement with personally fulfilling activities that enhance one's sense of professional efficacy". Individuals who displayed energy, involvement and efficacy were considered to be engaged, while those individuals who displayed exhaustion, cynicism and inefficacy were considered disengaged or burnt-out.

Building on the research of Maslach, Schaufeli, and Leiter (2001), Schaufeli et al. (2002a) argued that burnout and engagement are opposite but separate states. They defined engagement as "a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption" (Fairlie, 2011:

509). *Vigour* is described as the possession of adequate energy levels and a strong will (mental resilience) while at work. It is a conscious determination to commit all efforts into one's work in spite of all work-related challenges (Bakker, 2011: 265). *Dedication* refers to a strong involvement in work tasks, which elicits the feeling of worth, passion, stimulation, pride, and challenge in an employee (Breso, Schaufeli & Salanova, 2011: 341). A*bsorption* denotes full concentration on the job and being fully occupied by the job so much so that time passage is irrelevant and detachment from work becomes very difficult (Schaufeli, Bakker & Salanova, 2006: 702). However, other researchers' observed that engagement is not the exact opposite of burnout (Gonzalez-Roma et al., 2006).

Other than concern about the peculiarity of engagement from similar constructs (Christian, Garza & Slaughter, 2011), some researchers actually viewed engagement as the complete opposite of burnout, thus creating issues about whether a lack of engagement was really different from burnout and whether engagement was truly a unique construct. This led some researchers (Rich, LePine, & Crawford, 2010; Christian, Garza & Slaughter, 2011; Hallberg & Schaufeli, 2006) to embark on the journey to prove that engagement was different from other closely related constructs.

More recently and building on the work of Kahn (1990) and Schaufeli et al., (2002a), many scholars have also attempted to define employee engagement. Shuck and Wollard (2010: 103) defined employee engagement as a "cognitive, emotional, and behavioural state" of an individual, which is aimed towards the attainment of desired organisational outcomes.

Habraken (2013:12) defines employee engagement as "the state of emotional and intellectual involvement that motivates employees to do their best work". Armstrong (2012: 168) defines employee engagement as "what takes place when people are interested in and positive or even excited about their jobs, exercise discretionary behaviour and are motivated to achieve a high level of

performance.” Ariani (2013: 46) defines employee engagement as “a positive attitude held by employees towards the organisation and its value”. From the above definitions, it can be deduced that employee engagement involves a relationship between the employee and the organisation.

In summary, two key definitions are popular in the academic literature on engagement, namely, Kahn’s (1990) and that by Schaufeli et al. (2002a). Although both definitions are similar in terms of the motivational aspect of engagement, they disagree on many fronts (Saks & Gruman, 2014). However, Kahn’s definition is far more comprehensive, because it embraces the concept of “personal agency and the agentic self” (Cole et al., 2012).

Kahn’s definition noted that engagement is intentional, namely, that individuals make a conscious choice regarding how much of themselves they immerse in their job role. Kahn’s definition was considered to be far more specific and extensive than that provided by Schaufeli et al. (2002a). Additionally, even though some evidence suggests that there is a difference between engagement and other closely related constructs, Schaufeli et al.’s definition seemed so similar to the concept of burnout that concerns about its distinctiveness will not just go away (Saks & Gruman, 2014).

In conclusion, existing literature has shown that the concept of employee engagement lacks a singular, generally accepted definition. This can be ascribed to the fact that employee engagement varies with context and has different levels (Saks, 2006). However, Kahn’s (1990) and Schaufeli et al.’s (2002a) definition of employee engagement are considered the two main definitions of engagement in the academic literature. Kahn (1990) proposed that employee engagement is the “harnessing of organisational members’ selves to their work roles where people express themselves physically, cognitively, and emotionally during role performance”. This definition as opposed to the definition by Schaufeli et al. (2002a) was adopted for this study.

The definition of engagement by Kahn is considered to represent “something that is unique and distinct from other constructs, as it pertains to placing the complete self in a role, involves a rational choice in which individuals make decisions about the extent to which they will bring their true selves into the performance of a role”, while the definition of engagement by Schaufeli et al’. is considered “not a unique and distinct construct, given its overlap with burnout dimensions and measures” (Saks & Gruman, 2014). In the context of this study and in light of Kahn’s definition, employee engagement is defined *as the complete immersion and expression of the entire self, physically, cognitively, and emotionally into role performance*.

2.3 Theories of Employee Engagement

Just as there exist many definitions of employee engagement, there are likewise a number of models and theories of engagement (Saks, 2006), while employee engagement theories (Saks & Gruman, 2014) are rooted in two key areas of research, namely, “job burnout and employee well-being”. The following are the key theories of employee engagement.

2.3.1 Kahn’s theory of employee engagement

Kahn (1990) was the first to use the word engagement, alluding to it as the positive state of mind of an individual at their place of work. Apart from being present psychologically, Kahn stated that workers showed their true selves in the workplace through physical, cognitive, and emotional means. In his seminal work, Kahn described engagement as workers’ “self in-role”, wherein they completely commit themselves into their work roles, and as a result, are more “attentive, connected, integrated and focused in their work environment” (Kahn, 1990: 698).

According to Khan (1990), engagement depends on three essential elements: (1) psychological meaningfulness – the purpose or meaning that workers attach to their role at work; (2) psychological safety – the security afforded to

workers in the workplace that ensures there are no negative consequences from performing their job; and (3) psychological availability – availability of job resources and employees' access to those resources required to do their job.

Kahn's theory was tested by May, Gilson and Harter (2004), and this empirical test uncovered that "meaningfulness, safety, and availability" were related in significant proportions to engagement. The authors discovered important antecedents to these three psychological conditions. For example, they found that "job enrichment and role fit" had positive correlations with meaningfulness; "rewarding co-worker and supervisor support" had positive correlations with safety, while "adherence to co-worker norms and self-consciousness" had negative correlations with availability.

2.3.2 Maslach and Leiter's concept of burnout

The second theory of engagement is based in the literature of job burnout. Engagement is rooted in the concept of burnout. Maslach and Leiter (1997) described burnout as the draining out of engagement, with their research focused on the concept as a "response to business-related anxiety as well as the weakening of engagement with work" (Moodley, 2010:50).

In the early stages of their studies, Maslach and Leiter (1997) as recorded in Moodley (2010: 50) viewed engagement and burnout as two ends of "the same work-wellness concept", observing that a handful of workers reacted poorly to work-related stress, which leads to burnout. Job burnout, according to Maslach, Schaufeli, and Leiter (2001) stems from a mismatch in six facets of organisational life, namely: "workload, control, rewards and recognition, community and social support, and perceived fairness and values".

The authors noted that the degree of mismatch between these areas of organisational life and engagement are inversely proportional, namely, the greater the mismatch, the lower the level of engagement, and the lower the

mismatch, the greater the engagement. This implies that engagement is connected to a “sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work”. The approach to engagement through the lens of burnout also noted, similar to burnout, that engagement acts as a mediator in the relationship between these six “work-life” factors and work attitudes, as well as stress-related outcomes (Saks & Gruman, 2014). In summary, Maslach et al. (2001) concluded that mismatches create burnout, while matches create engagement.

2.3.3 The job-demand-resource (JD-R) theory

A third theory of employee engagement is the job-demands-resources (JD-R) model (Bakker & Demerouti, 2007), which is also embedded in the burnout concept. The JD-R model has also been used widely in research on engagement (Moodley, 2010: 53). The model classifies working conditions into two categories, namely: job demands and job resources.

The “physical, psychological, social, or organisational” aspects of a job that entail the deployment of sustained “physical, mental, and/or psychological” effort from an employee that can lead to “physiological and/or psychological costs” are referred to as job demands (Bakker & Demerouti, 2007). Examples of job demands include: “work overload, job insecurity, role ambiguity, time pressure, and role conflict”.

Job resources, on the other hand, are “physical, psychological, social, or organisational” aspects of a job that aid the achievement of work goals; they decrease job demands; fuel learning and development and enable personal growth. Job resources can have many sources; for example, the organisation (including aspects such as remuneration, career opportunities, and job security); social and interpersonal relations (team climate, supervisor and co-worker support), work structure (for example, participation in decision-making,

role clarity); and from the task itself (namely, “skill variety, task identity, task significance, autonomy, and performance feedback”) (Bakker & Demerouti, 2007).

The basic proposition of the JD-R model is that there are many processes involved in the way that job resources and job demands have an impact on burnout and engagement.

Firstly, job resources trigger a “motivational process” capable of producing elevated amounts of engagement and reducing the risks of burnout (Crawford, LePine & Rich, 2010; Bakker & Demerouti, 2007). Job resources are understood to play a number of motivational roles, and their availability can offer intrinsic benefits as well as extrinsic benefits. The motivational capability of job resources can be intrinsic in light of the fact that they fulfil and facilitate basic psychological needs such as growth, learning, and development, or extrinsic benefits, because they are key to the achievement of work-based outcomes (Bakker, Albrecht & Leiter, 2011; Bakker & Demerouti, 2007). Additionally, job resources are important because they enable people to adapt to job demands and cushion the impact that job demands have on work-related strain and burnout (Bakker & Demerouti, 2007).

Secondly, high job demands consume an individual’s physical and mental resources, leading to energy depletion and high levels of stress capable of causing burnout, health-related problems, and disengagement (Bakker & Demerouti, 2007, 2008).

The JD-R model was also extended to incorporate “personal resources”, which allude to “aspects of the self that are generally linked to resiliency and refer to individuals’ sense of their ability to control and impact upon their environment successfully” (Xanthopoulou et al., 2007). Personal resources are “individual differences” such as self-efficacy, optimism, and organisation-based self-esteem known to be triggered by job resources and having some connection

to employee engagement. Hence, personal resources are viewed as mouldable and open to change (Xanthopoulou et al., 2009a; Bakker & Demerouti, 2007).

According to past studies on the JD-R model, there is a positive relationship between job resources and work engagement, and a negative relationship between job resources and burnout, while job demands are related to burnout and health problems (Bakker & Demerouti, 2008). Crawford et al. (2010), in their recent “meta-analysis”, discovered that job demands, and engagement have a relationship that is dependent on the type of job demand.

The concept of personal resources was linked to engagement and found to act as a mediator in the relationship between job resources (namely, “autonomy, social support, supervisory coaching, and opportunities for professional development”) and exhaustion and engagement (Xanthopoulou et al., 2007). There is likewise some proof (Xanthopoulou et al., 2009a) that job resources and personal resources are inter-related.

Despite the fact that job resources and job-challenge demands are vital for engagement, they are both considered inadequate and a somewhat narrow way of approaching the subject of employee engagement. As noted by Crawford, LePine, and Rich (2010), a “limitation of the job demands-resources model is that it does not include all relevant predictors of employee engagement” and its “greatest use is to broadly categorise *working conditions* as either resources or demands in predicting engagement”.

In conclusion, in spite of the several theories of employee engagement, the bulk of the research on this concept were based on the JD-R model, with little effort to incorporate Kahn’s (1990) theory with the JD-R model. Consequently, there is no theory of employee engagement considered to be a “generally accepted” theory of engagement. An ongoing debate regarding the JD-R model is whether it is truly a theory of engagement or whether it is a framework

that is only suitable for the classification of job demands and job resources. The theory rests solely on the notion that the degree of resources an employee is exposed to, is directly proportional to the employee's engagement level. The theory, however, fails to explain what resources influence such engagement the most, or why certain resources have a more influential capacity than others.

It is thus apparent that there is a need to establish in more detail the resources that are crucial for engagement, and when and why these resources will be related to engagement. In light of this need, Kahn's (1990) theory is more substantial, as it stipulates the psychological conditions that create engagement and the antecedents of the psychological conditions. Therefore, Kahn's theory of employee engagement, coupled with the integrative theory of employee engagement as proposed by Saks and Grumman in 2014 were used for this study.

2.4 Types of Employee Engagement

Employee engagement is a broad construct comprising different types of engagement, but the bulk of literature on engagement to a great extent has been about the job instead of the organisation or other facets of work, as is obvious in the term "work engagement," a term that is often linked with the "UWES" (Utrecht Work Engagement Scale) measure of engagement. As explained by Schaufeli and Salanova (2011: 40), employee engagement can comprise employees' relationship with their occupation or with their organisation, while work engagement refers explicitly to the connection between the employees and their work (Saks & Gruman, 2014: 172).

Apart from job-specific roles, employees have numerous roles and responsibilities, and they 'wear many hats' as some would refer to the many roles. This implies that employees engage or disengage in several areas of their work lives. Therefore, when speaking about employee engagement, it is

imperative to clearly indicate the type of engagement under discussion (Saks & Gruman, 2014: 172).

Four types of engagement (job, task, organisation, and team) (Saks & Gruman, 2014) are explained and enumerated below, but this study approached engagement as role specific with respect to one's job, task, and organisation.

2.4.1 Job or work engagement

Job or work engagement has been described as the wilful dedication of "physical, cognitive, and emotional resources" to one's work (Saks & Gruman, 2014; Christian, Garza & Slaughter, 2011: 91). Following this line of thought, Saks and Gruman (2014: 172) refer to other forms of engagement as the wilful dedication of "physical, cognitive, and emotional resources to a specific task (namely, the task engagement); the organisation (namely, organisational engagement); and to one's work group or team (namely, group/team engagement)".

2.4.2 Task engagement

Due to the fact that jobs can comprise many tasks, it is possible that the engagement levels will differ from one task to another, and employees will engage more in the performance of certain tasks than of others, or what is referred to as task engagement (Schaufeli & Salanova, 2011: 42). As noted by Saks and Gruman (2014: 172), task engagement has varying levels in the academic community. Many academics display higher levels of task engagement when carrying out research activities as compared to their engagement in the classroom, despite the fact that both tasks are part of their job. On the other hand, some academics display higher levels of task engagement when performing administrative roles than when they are involved in teaching or research activities. It is, therefore, clear that there are

differences in engagement across the tasks associated with a particular job (Saks & Gruman, 2014: 172).

2.4.3 Organisation engagement

Employees' investment of their "full and complete selves" into their role as a member of an organisation (namely, their organisational engagement) can also vary (Saks & Gruman, 2014). In his pioneer work that measured and investigated organisational engagement, Saks (2006) uncovered a crucial and important difference between job and organisational engagement and found that the antecedents of job and organisational engagement differ.

Saks and Gruman (2014:174) conclude that the possibility exists for certain employees (for example, university professors) to be completely engaged in their tasks (for example, teaching) but disengaged in other departmental roles. Likewise, an employee might be fully engaged in activities connected to their role as part of an organisation but disengaged from their job.

2.4.4 Group or team engagement

Employees can also display varying levels of engagement within their work group/team. This, according to Saks and Gruman (2014), is called group or team engagement. It is, therefore, possible for employees to show high levels of job engagement, yet the same employees refrains from investing themselves into group or team roles. In other words, they show low levels of engagement in activities involving the group and are almost inactive in their role as a member of a work group (Saks & Gruman, 2014: 174).

It is important for a number of reasons to describe the different types of engagement. According to Saks and Gruman (2014: 174), there is a likelihood that employees are engaged differently in their work, in certain tasks, the organisation, and their work group. Employees who are highly engaged in one domain may display low levels of engagement in other domains. There is also

the possibility that the different types of engagement may be related to one another, meaning that a significant change in one may have direct implications on one or more of the others.

Furthermore, it is possible that the antecedents of each type of engagement will differ, and thus interventions required to increase each type of engagement will be different. Finally, the consequences or outcomes of each type of engagement may also be different and might have implications for the type of engagement whose improvement an organisation will be mostly concerned about (Saks & Gruman, 2014:174).

2.5 Barriers to Employee Engagement

In the past, much of the extant literature placed emphasis on the various antecedents or drivers of employee engagement, but there is now an increased focus on the barriers to employee engagement (Suleman, Videira & Araújo, 2021; Latha, Mohanthy & Ramakrishna, 2020). Several researchers have identified a number of barriers to employee engagement and also proposed different ways through which those barriers can be eliminated (Petrov, Southall & Bolden, 2016; Basit et al., 2015). This study examined some past and present researches and provides a list of barriers relevant to the current study. This study addresses those barriers by proposing an improved employee engagement model that can be adopted by public TVET colleges in Gauteng and even nationwide.

In a study conducted by Freeney and Tiernan (2009: 1560), nurses were asked about their experiences of their work environments in order to reveal workplace factors that may facilitate or inhibit engagement. One of the prominent barriers to employee engagement that they uncovered was “heavy workload”. The nurses reported different reasons for the work overload, which included staff shortages, the high workload in the department where they were working, and insufficient or too short holidays. Another barrier to engagement mentioned by

the nurses was an “absence of community”, a lack of support among managers, between managers and nurses, and between nurses (Freeney & Tiernan, 2009: 1561). Lack of fairness, insufficient rewards, and incongruent values were the other barriers mentioned by the nurses.

In their investigation of barriers to engagement in the workplace Clancy et al. (2017: 765) found that a negative work environment, role ambiguity, and cultural issues are significant barriers to engagement. They reckon that supervisory and co-worker support can help effect a positive change with respect to these barriers (Clancy et al., 2017). Furthermore, Tucker (2017: 107), drawing from an online survey about people challenges at work, conducted in a bid to understand the critical roles managers can play in employee engagement, noted one recurring response – people challenges, (namely, “instances where other employees make it more challenging for workers to achieve their goal”), are undermining employee engagement. The participants in the survey indicated that “challenges with the people they manage, and challenges with people who manage them” have a significant negative impact on engagement.

A group of senior managers from top UK businesses (Bartlett, 2011: 63) at an employee engagement forum, identified the following common barriers to employee engagement:

- “Line managers are not equipped with the relevant skills;
- Organisational complexity – one engagement initiative may not fit all;
- Communication – many organisations struggle to get the right message to the right individual at the right time;
- Lack of buy-in and support from senior leadership;
- Key shareholders are unconvinced by the business case”.

Smith and Markwick (2009: 39), citing a speech delivered by John Purcell at an Employee Engagement Summit in 2009, listed six key factors that serve as a barrier to employee engagement. These factors are:

- “Job insecurity: Fear of job loss is particularly likely during a recession;
- Unfairness, particularly in reward and pay systems;
- Jobs with no space, namely, repetitive work with short cycle times;
- Highly stressful jobs with very little flexibility or autonomy;
- Poor line management behaviour and bullying;
- Working for long periods of time without a break”.

Pace (2013: 16), citing an online survey by “SilkRoad”, in which 781 human resources (HR) professionals participated, noted a significant finding that the majority (54%) of employers still do not offer formal engagement programmes. Another significant discovery according to the findings is the absence of clear goals and accountability even for the informal engagement programmes. The findings also revealed that employers consider workforce diversity as a barrier to employee engagement (Pace, 2013: 16). The author recommends that training and development, and the opportunity for professional development should be offered to align training programmes with business goals, with the belief that when employees see the alignment, they will be more inclined to engage with their jobs and their employers.

Byrne (2015: 83, cited in Lacmanović, 2018: 398) identified individual level barriers to engagement as organisational level barriers to engagement. The barriers identified at the individual level included significance, fit, non-work-related problems and needs, as well as communication problems. The barriers identified at the organisational level included resources, interpersonal relationships, leadership, and other aspects such as mundane work (Lacmanović, 2018: 398, cited in Byrne, 2015: 82). Leaders, managers, and supervisors were also pointed out in the list of barriers to engagement. Their

approaches and behaviour have been cited as a critical factor leading to disengagement (Lacmanović, 2018: 398). It is believed that some leaders are unaware of the role of engagement; some do not believe the topic deserves any form of attention, and so they miss out on the benefits engagement could deliver for their organisation, while those who have shown an interest in the topic do not seem to know how to address it (Lacmanović, 2018: 398).

A list of barriers to employee engagement as found by the Kingston Business School (Macleod & Clarke, 2009: 68 cited in Lacmanović, 2018: 399) include:

- “Reactive decision-making that fails to address problems in time;
- Inconsistent management style based on the attitudes of individual managers which leads to perceptions of unfairness;
- Lack of fluidity in communications and knowledge sharing due to rigid communication channels or cultural norms;
- Low perceptions of senior management visibility and quality of downward communication;
- Poor work-life balance due to a culture of long hours”.

Most of the barriers mentioned above (Bartlett, 2011; Macleod & Clarke, 2009: 68, cited in Lacmanović, 2018: 399) were also identified by Loerzel (2019: 30) and categorised as a lack of work flexibility, a lack of timely feedback, and the lack of a compelling purpose that can help employees find meaning in their work, and see the different ways their contributions support the overall success of the organisation.

From the above, it is clear that there are many barriers to employee engagement, and these barriers can be workplace specific. For example, supervisor and co-worker support can be a driver of employee engagement, and yet, it can also be a barrier to employee engagement in another workplace. However, it is evident from the literature that leadership in any form, as well as

co-worker support, both being elements of the workplace, have an important role to play in employee engagement. From a TVET point of view, through this study's research objectives, it will attempt to uncover barriers standing in the way of employee engagement, and from that understanding propose an improved framework for public TVET colleges in the Gauteng Province and the other eight provinces in South Africa.

2.6 Employee Engagement at TVET Colleges

The state of employee engagement at public TVET colleges is generally low and can be attributed to a number of factors such as lack of adequate job resources, inadequate workforce, work overload, poor infrastructure, insufficient financial aid and support for students, inadequate remuneration, confusion in terms of ever-changing legislation in the public TVET sector and poor institutional governance by public TVET College Councils who represents the Department of Higher Education and Training when it comes to the direct administration of the colleges (Buthelezi, 2018, Jeremiah, 2018; Maringe & Osman, 2016; Mmako, 2016; Jonker, 2016; Pitsoe, 2013). These factors together with increased student absenteeism and disrespect towards staff contribute to poor quality of teaching, low morale and disengagement of public TVET lecturers, leading to absenteeism and increase turnover, which ultimately impacts the efficiency and success of the public TVET colleges (Buthelezi, 2018; Jeremiah, 2018; Maringe & Osman, 2016).

A newspaper article (Rademeyer, 2013) cited in Jonker (2016) noted the gap between teacher turnover and teacher employment in the South African educational system. It mentioned that 15000 teachers leave their jobs annually in South Africa, while just about 8200 new teachers are hired to fill the void, leaving a shortage of about 7000 teachers. When compared to other professions, Sadien (2010), cited in Beukes (2019) noted that "above-average" levels of stress is experienced in the teaching profession. Jonker (2016) noted that these heightened stress levels influences a teacher's turnover intention,

and increasing evidence according to Grace (2014) suggests there is no end in sight to the work-related stress problem. Ignoring stress can ultimately lead to performance issues, poor health, absenteeism and a disengaged workforce (Mxenge, Dywill & Basaza, 2014; Barkhuizen, Rothmann & Van de Viljver, 2013; Bakker & Demerouti, 2007, 2008).

Due to the public TVET's colleges strategic importance in artisan training and skills development in South Africa, there is a need for the colleges to be stable, efficient and effective (Akoojee, McGrath & Visser, 2011) cited in Jeremiah (2018). As a result, the need to create an engaged workforce through the provision of requisite resources and an enabling environment that allow these lecturers to bring their best selves to work constantly is imperative.

2.7 Possible Antecedents of Employee Engagement

Identifying various factors that can influence employee engagement was crucial for this study. Mmako and Schultz (2016) studied four organisational factors/antecedents, namely, "socialisation and values", "recognition and feedback", "attitude towards the direct manager", and "commitment to the institution". They found that these factors are positively related to employee engagement but are rated very low by the research participants. This implies that as much as these factors contribute significantly to employee engagement, participants note that these factors are not often present in the TVET colleges.

According to Mostert and Rothmann (2006: 479, 488), some of the factors that are likely to have an impact on employee engagement include "age, sex and race, work anxiety/job stress, and identity characteristics". Particularly stress revolves around the "interruption of the balance of the cognitive, emotional, and environmental system" by external factors (Mostert & Rothmann, 2006: 480). Extreme stress might lead to physical, and mental strain, which in turn can lead to strange behaviour and improper conduct at work (Mostert &

Rothmann, 2006: 481). Furthermore, stress is known to be caused by and related to some particular job demands, the level of support provided by supervisors, and a number of organisation-specific policies and procedures (Mostert & Rothmann, 2006: 481).

Rothmann, Steyn and Mostert (2005) identified two categories of organisational stressors, specifically referring to job demands and job resources. The job demands category essentially covers the aspects of a job requiring physical or mental exertion (workload, shift work, overtime, due dates, and intemperate paper work), while the job resources category relates to the aspects of a job crucial to the accomplishment of work objectives, and the reduction of job demands (appropriate tools and equipment, and good leadership, adequate compensation, and enough workers to carry out tasks) (Rothmann, Steyn & Mostert, 2005).

When developing the Job Demand-Resources (JD-R) model, Demerouti et al. (2001b:504-508) affirmed that job demands such as “physical demands, workload, time pressure, and shift work” can create fatigue, ultimately leading to disengagement, while job resources such as “feedback, participation in decision-making, and supervisory support” are related to engagement.

Personal resources such as “self-efficacy”, “self-esteem” and “optimism” have been observed to influence employee engagement, and to behave as a mediator in the relationship between job resources and employee engagement (Saks & Gruman, 2014). The term personal resources, as explained by the authors, refers to an individual’s strength that is generally associated with resilience and a person’s ability to “control and have a successful impact upon their environment”. According to the authors, these personal resources are triggered by adequate and relevant job resources.

Mostert and Rothmann (2006: 481-482) noted a link between personality/individual differences and employee engagement. Their study

found that emotionally stable individuals can handle difficult and stressful situations better, and as a result get higher scores on engagement and well-being. Additionally, the study's results show that inherent qualities such as "emotional stability, conscientiousness and extroversion" foster employee engagement.

Demographic variables such as "age, race, and gender" (Mostert & Rothmann, 2006: 485-486) also contribute to employees' engagement, where different age groups have been known to display different levels of engagement. For example, younger police officers showed lower levels of engagement than older police officers (Wissing & Van Eeden, 2002) as cited in Mostert and Rothmann (2006: 482).

Additionally, gender differences also seem to influence employees' engagement, as it has been observed that women have reduced access to vital resources that can shield them from stress-related impacts (Gallup, 2013). Race has also been observed to play an important role in employees' engagement, because black individuals have been observed to report reduced levels of well-being and engagement than their white counterparts (Wissing & Van Eeden, 2002, cited in Mostert & Rothmann, 2006: 482). Despite these findings, the present study did not examine the impact of demographic variables on employees' engagement.

2.8 Proposed Antecedents of Employee Engagement

In this study, the following antecedents of employees' engagement were included: workload, supervisor and co-worker support, role clarity, opportunities for professional development, performance feedback, optimism, self-efficacy, proactive personality, core self-evaluation, and the psychological conditions of meaningfulness, safety, and availability.

2.8.1 Job demand (workload) and employee engagement

Job demands comprise many different variables that an employee may be subjected to at the workplace. Re-occurring themes showing up in the literature of job demands include role design, employees being subjected to challenging and complicated tasks, and emotion at work (Schaufeli, Bakker and Van Rhenen, 2009). Job demands comprise shift work, weekend work, having huge workloads, mental demands, and so forth. Schaufeli, Bakker and Van Rhenen (2009:906) discovered that increased job demands, and decreased job resources lead to employees experiencing burnout. They also discovered that the "greater the increase in job resources but not in job demands, the more the employees feel engaged". Job demands are certainly not always negative; however, they might turn out to be "job stressors" if fulfilling them involves incredibly high effort from the employees and therefore, could lead to unfavourable results such as anxiety, burnout or depression (Schaufeli & Bakker, 2004: 296).

Macey and Schneider (2008: 25) argued that there are limits to the energy pool and resources readily available to employees, and that the chances of attaining sustained levels of engagement are very difficult. Talking about the demands of police officers, and given that people possess limited amounts of energy, the possibility exists for such finite amount of energy to be depleted (Kahn, 1990; Macey & Schneider, 2008).

Based on the work by Kahn (1990) and Macey and Schneider (2008), when employees are feeling engaged, they offer positive physical and emotional energy, even when there is only a finite amount of such energy that an employee can possess. Bakker, Demerouti, and Verbeke (2004: 87) observed that mental or emotional fatigue is how the mind responds to a decline in resources as a result of mental or psychological task execution.

In addition, people can become fatigued or exhausted in the execution of their everyday work, when they are faced with high workloads, and where additional energy has to be applied to meet the job demands, and fatigue or exhaustion arise (Bakker, Demerouti, & Verbeke, 2004: 87). Schaufeli and Salanova (2007: 141) noted how “work engagement is characterised by a high level of energy and strong identification with one’s work, whereas burnout is characterised by the opposite: a low level of energy and poor identification with one’s work”.

Demerouti, Taris, and Bakker (2007: 205) clarified that people need to recover from work while at home. They reported that the need for recovery was “the sense of urgency that people feel to take a break from their demands when fatigue builds up”. Demerouti, Taris, and Bakker (2007: 207) argued that the greater the necessity for recovery, the greater the strain experienced during non-working time, and the higher the possibility that this strain will have a negative result and hinder efficient work.

Demerouti, Taris and Bakker (2007: 214) discovered that an increased need for recovery is related to experienced low levels of concentration, while high levels of fatigue and stress are related to impaired cognitive functioning, where people would be able to self-regulate and do everything possible to avoid failure. Bakker, Demerouti and Verbeke (2004: 87) observed that with incomplete recovery, the effects of a high workload accrue gradually and eventually lead to exhaustion.

2.8.2 Job resources and employee engagement

Since its popularity over the past three decades, and as an antecedent of employee engagement, a number of authors have tried to provide a definition for job resources, explaining how these resources play a vital role in the level of engagement in an organisation. Salanova, Agut and Peiro (2005: 1218) defined organisational job resources as “the organisational aspects of a job

that are functional in achieving work goals, could reduce job demands and their associated physiological and psychological costs, and finally, could stimulate personal growth, learning, and development". Warshawsky, Havens and Knafl (2012: 419) defined job resources as the "physical, psychological, and organisational features that reduce job demands, enhance an employee's ability to meet work goals, and stimulate personal growth, learning, and development".

In support of the importance of job resources to employee engagement, Schaufeli, Bakker and Van Rhenen (2009: 908, 911) observed that an increase in job resources (namely, feedback, social support, job control, and opportunities for learning) results in an increase in employee engagement. They explained that resources are a necessity when dealing with daily job demands, and that these resources are essential because they enable increased work engagement. Xanthopoulou et al. (2009b: 185) explained that job resources play a dual motivational role, referring to their intrinsic motivational role, and the extrinsic motivational role. As intrinsic motivators, job resources foster individual development and fulfil basic human needs. As extrinsic motivators, they stimulate employees to apply more effort in their jobs.

Bakker (2011: 266) offers a similar explanation, noting that intrinsic resources are those that enhance learning and growth, while extrinsic resources are those that help with attaining work goals. Xanthopoulou et al. (2009b: 196) explained that on days when resources are readily available, employees show self-confidence, higher engagement, and better performance than on days without these resources. Warshawsky, Havens and Knafl (2012: 419) add that job resources are obtained from various sources such as structures within the organisation, interpersonal relationships, or perhaps from the "task itself".

Xanthopoulou et al., (2009a: 241) also explained that employees with autonomy at work, who have supportive colleagues, receive proper coaching and quality feedback, and are exposed to many opportunities for professional

development “possess the instrumental means and are intrinsically motivated to achieve their work goals”. Furthermore, the authors noted that these employees are more likely to respond positively because of the availability of resources for their work by displaying higher levels of engagement.

Adding to the discussion, Bakker (2011: 266) explains that job resources such as “support from colleagues, performance feedback, skill variety, autonomy, and learning opportunities” are positively related with work engagement. Bakker, Albrecht and Leiter (2011: 21) observe that apart from the important role played by job resources as well as personal resources, increasing such resources can significantly increase employees’ engagement. Based on this important role of job and personal resources, Czarnowsky (2008: 24) stressed that it is vital to ensure that employees have the resources necessary to perform their jobs appropriately at their disposal.

2.8.2.1 Supervisor support/co-worker support

The notion of social support considered refers to two factors presented by Karasek (1979): Support from the supervisor and support from co-workers. The absence of social support can result in employee disengagement (Demerouti et al., 2001). Supervisor support includes real-time leadership, task design and the provision of requisite resources needed by employees to accomplish the organisational goals (Nafei, Khanfar & Kaifi, 2012: 3; Gruman & Saks, 2011: 133). Suharti and Suliyanto (2012: 131) emphasise that attention and care shown by a supportive leadership has the capacity to activate feelings of safety among the employees which in turn, might inspire them to pay it back by being loyal and strongly engaged with the organisation.

Supervisor support has been shown to contribute to reduced levels of employee burnout (Moore, 2002) and was discovered to have a significant and positive effect on work engagement (Demerouti et al., 2001; Klusmann et al., 2008). A study of hospital nurses in Malaysia (Othman & Mohd Nasurdin,

2013) found this positive effect as well. However, in the same study, co-worker support was discovered to have no effect on work engagement, suggesting the need to further investigate the effect of this variable on work engagement (Othman & Mohd Nasurdin, 2013). In contrast, other studies indicated that co-worker support enhances engagement in the workplace (Coomber & Barriball, 2007; Hayes et al., 2006).

2.8.2.2 Role clarity

Role clarity is defined as “the degree to which an individual understands the necessary job information and performance expectations concerning a given position in an organisation” (Rizzo, House & Lirtzman, 1970). More recently, role clarity has been described as the clearness of information from supervisors to employees, in relation to “tasks, duties, and behavioural expectations”, and the degree to which the employees understand their place and role within the organisation (De Villiers & Stander, 2011).

Role clarity and role ambiguity are usually used interchangeably to describe an individual’s understanding of a role, and both are considered to be the opposite of each other (Tracy & Johnson, 1981, cited in Hahn, 2016: 29). According to role theory, an individual’s dissatisfaction with a role is tied to high levels of role ambiguity, which can lead to heightened levels of job stress and burnout (Kahn et al., 1964; Papastylianou, Kaila & Polychronopoulos, 2009), and in turn, leading to a reduction in performance levels (Rizzo, House & Lirtzman, 1970). On the other hand, increased role clarity will lead to decreased (stressful) coping attempts, the necessity for problem solving, and less role strain, and confusion (Rizzo, House & Lirtzman, 1970).

The absence of role clarity creates confusion and stress for employees, and leads to unnecessary difficulties in their accomplishment of tasks, reduced engagement and declined productivity because of the time wasted in figuring out how to perform the task(s) (Alarcon, Lyons & Tartaglia, 2010). It is,

therefore, critical for organisations to considerably reduce the level of uncertainty associated with the tasks assigned to employees, and thereby promoting employees' work-related confidence needed to deal with unclear situations (Panaccio & Vandenberghe, 2011). Drawing from past research, role clarity had been established to play a vital role in employees' engagement (Harter et al., 2002; Saks, 2006; Russel, 2008; Steele & Fullagar, 2009; Mendes & Stander, 2011).

Panaccio and Vandenberghe (2011), further note that in the absence of clear instructions, employees might struggle to engage as much as they would like to if they were to have clear and adequate instructions about their work-related tasks. The absence of role clarity can also increase the possibility of employees' turnover intention. If employees believe that their role in the organisation is not well-defined, such employees are likely to have higher turnover intentions and look for another, more fulfilling job (Alarcon et al., 2010).

2.8.3 Personal resources and employee engagement

An evolving pattern in the literature on job demand-resource theory is that of the inclusion of personal resources (Federici & Skaalvik, 2011). Studies in the last decade have reflected the impact that personal resources have on employees' perception of their job (Breevaart, Bakker & Demerouti, 2014; Federici & Skaalvik, 2011; Schaufeli & Taris, 2014).

Personal resources are "positive self-evaluations" that are largely linked to resilience, and they relate to employees' belief in their ability to effectively manage and influence their environment (Hobfoll et al., 2003; Xanthopoulou et al., 2007; Bakker & Demerouti, 2008). Xanthopoulou et al. (2007) noted that employees with personal resources believe in their abilities and are full of optimism about their future. These feelings of self-confidence and optimism

have been recognised as promoting work engagement (Xanthopoulou et al., 2007).

Additionally, researchers have emphasised the role that personal resources play in the description of the relationship between job resources and work engagement because of the many suggestions that personal resources connect job resources with work engagement and therefore lead to positive organisational outcomes (Xanthopoulou et al., 2009a). Self-efficacy is a personal resource investigated in the present study. It is the researcher's belief that this variable can significantly contribute to employees' engagement in the public TVET sector in Gauteng.

2.8.3.1 Self-efficacy and employee engagement

Over the past decades, self-efficacy has emerged as one of the main constructs capable of predicting work-based efficiency (Luthans & Peterson, 2002). Self-efficacy is described as individuals' confidence in their competencies (Satter, 2011: 64) or "individuals' perceptions of their ability to meet demands in a broad array of contexts" (Xanthopoulou et al., 2007: 124). Sweetman and Luthans (2010) explained self-efficacy as being engrossed in a job, and the investment of high energy levels and effort towards the accomplishment of job-related goals. Bandura (1997) and Hobfoll (2002) argued that self-efficacy is positively related to physical and emotional well-being and is an essential contributor to performance achievement. Markos and Shridevi (2010: 93) expressed that the more knowledgeable employees become with respect to their job and job requirements, the more confident they become in performing the job. They are, therefore, able to work with little or no supervision from their immediate managers, which in turn, builds their engagement.

There is sufficient support in empirical literature for the positive association between personal resources and work engagement (Mauno, Kinnunen, &

Ruokolainen, 2007; Xanthopoulou et al., 2008, 2009a; Luthans & Peterson, 2002). In their research work, Xanthopoulou et al. (2007) examined the role that three personal resources (namely, self-efficacy, organisation-based self-esteem, and optimism) play in the prediction of "work engagement and exhaustion among a sample of 714 Dutch employees". The results of their study showed that self-efficacy, organisation-based self-esteem, and optimism are positively related to work engagement and this partially mediated the relationship between job resources and work engagement.

Luthans and Peterson (2002) tested the "role of a manager's self-efficacy between employees' work engagement and managerial effectiveness among 449 employees in USA". The participants included a number of managers, some managers' subordinates, and some managers' peers. Their results indicated that there is a positive relationship between managers' self-efficacy and their subordinates' work engagement, while managers' self-efficacy was noted as behaving as a partial mediator in the relationship between the engagement of the subordinates and the managers' effectiveness.

In addition, Bakker, Albrecht and Leiter (2011: 8) noted that employees who possess the personal resources of "self-esteem, optimism, and self-efficacy" cope better with the daily demands made by their organisation. From their study of nurses in the Netherlands, Bakker and Sanz-Vergel (2013: 408) found that "positive self-beliefs foster nurses' weekly work engagement, and can have a positive relationship with flourishing, particularly when emotional demands are high and when work pressure is low". As noted by Warshawsky, Havens, and Knafl (2012: 419), personal resources such as self-efficacy are traits that can be improved upon to increase work engagement. Schaufeli and Salanova (2008: 386) explained that "there might exist upward spirals and that self-efficacy promotes engagement that in turn, increases efficacy beliefs, and so on".

2.8.4 Individual differences and employee engagement

2.8.4.1 Proactive personality

Grant and Ashford (2008:8) defined proactive personality as “anticipatory action that employees take to have an impact on themselves and/or their environments.” This definition indicates that proactive employees act in advance and expect their actions to have a certain amount of impact. Managing job demands and resources as well as nurturing personal and work goals may, therefore, be much easier for employees who possess a proactive personality. These employees are quick to identify opportunities, take action, and persevere until their actions result in meaningful change (Crant, 1995). Among the personal attributes, a proactive personality has been frequently linked to engagement (Dikkers et al., 2010; Bakker, Tims, & Derks, 2012). It must be stated that the concepts of “proactivity” and “proactive personality” are two separate concepts with different definitions or meanings, as evident in documented literature (Tornau & Frese, 2013).

Firstly, proactivity is considered a personality trait and an important antecedent of engagement (Dikkers et al., 2010; Bakker, Tims, & Derks, 2012). Secondly, proactivity can also be considered a behavioural attribute (or state) that can be an antecedent of engagement or even an outcome of engagement (Parker & Griffin, 2011; Salanova & Schaufeli, 2008; Sonnentag, 2003). In the present study, the researcher decided to consider proactivity as a trait, because the study’s goal was to focus on the one-directional relationship from proactive personality as an antecedent to employee engagement as an outcome. This study, therefore, aligned to the trait approach, following Dikkers et al. (2010), and argued that proactive personality is a relevant and important antecedent of engagement.

Employees who possess a proactive personality, have been studied and found to possess an intentional drive to create positive and meaningful change within themselves and their organisation. They are regarded as the architect of their

own destiny (Seibert, Crant, & Kraimer, 2001; Bateman & Crant, 1993). These proactive individuals have the inclination to use their personal initiative to make a positive impact on their immediate environment (Bakker, Tims & Derks, 2012). These personal inclinations are expected to aid their work behaviours and engagement (Bakker, Tims & Derks, 2012; McCormick et al., 2018).

Numerous studies have shown that employees perform best in challenging, well-resourced work environments, because such environments enable their work engagement (Demerouti & Cropanzano, 2010). Thus, organisations should make adequate job resources available to their employees such as social support, skills variety, professional development, and feedback. Research suggested that management has the power to influence employees' job demands and resources (Truong, Nguyen & Phan, 2020; Schaufeli, 2017; Nielsen et al., 2008; Piccolo & Colquitt, 2006), and as a result may indirectly influence their performance and employee engagement (Hakanen, Bakker & Turunen, 2021; Harter, Schmidt & Hayes, 2002).

However, there will be certain times or occasions when employees might need to manage their own job challenges and mobilise the required resources. For example, managers are not always available for input or feedback, and at certain times, the organisation may be faced with other issues requiring management's attention. In such instances, employees may have no choice but to show their own proactive behaviour and manage their own work and work environment.

A meta-analysis by Thomas, Whitman and Viswesvaran (2010) uncovered significant correlations between a proactive personality and affective organisational commitment, job performance, work satisfaction, and social networking. In their research study, Caniëls, Semeijn and Renders (2017:48) analysed whether and how employees' proactive personality is related to work engagement. Their research found support for a positive significant relationship between proactive personality and work engagement.

Furthermore, Wang et al. (2017) conducted two studies to extend the proactive personality literature. They investigated how and under which conditions a proactive personality influences work outcome. They discovered that work proactive personality related to performance (namely, task performance and counterproductive work behaviours) through its relationship with engagement.

Given the documented evidence of the various positive effects of proactive personality, specific literature on proactive personality as an antecedent of employee engagement is scarce. It was the aim of this research to extend literature on this connection between proactive personality and employee engagement. By drawing on the theory of proactive personality (Bateman & Crant, 1993), this study proposed that employees who have a proactive personality, would be more engaged.

2.8.5 Psychological conditions and employee engagement

2.8.5.1 Psychological meaningfulness

Employees will engage in their work when they experience psychological meaningfulness in their work (Saks & Gruman, 2014: 160). Psychological meaningfulness is rooted in the comparison between work goals and personal goals. It describes the value that people attach to a work goal in comparison to their own personal goals (Olivier & Rothmann, 2007; May, Gilson & Harter, 2004). Matuska and Christiansen (2008) described meaningfulness as the subjective assessments of events in one's life and the importance attached to such events in relation to one's goals.

Psychological meaningfulness revolves around the degree to which people derive meaning from their work and believe that their investment of self in the performance of their role is being adequately rewarded (Kahn, 1990: 705; Dimitrov, 2012: 352; Saks & Gruman, 2014: 160). People experience meaningfulness when they feel valuable and valued, useful, worthwhile, and not taken for granted. Based on the description above, meaningfulness refers

not only to what work means to the employee, but what the work means to the employee as well as what that work gives back to the employee in the pursuit of personal happiness and fulfilment.

Work is considered a major source of meaningfulness for most people, because they spend a huge part of their lives in the workplace (Holbeche & Springett, 2004). Workplaces that appreciate their employees' investments of self in their role and provide incentives for such investment are more likely to lead to psychological meaningfulness (Kahn, 1990, cited in Saks & Gruman, 2014: 160). In stressful times and conditions, meaningfulness can provide the resilience needed to weather the storm (Matuska & Christiansen, 2008).

Meaningfulness relates to external goals and self-transcendence (Park, Peterson, & Ruch, 2009), it helps build social connections, and provides purpose (Schueller & Seligman, 2010). According to Fairlie (2011), meaningful work may have a significant impact on employees' outcomes. Psychological meaningfulness also predicts a significant percentage of the variance in employees' engagement (Rothmann & Buys, 2011; Rothmann & Rothmann, 2010; May, Gilson, & Harter, 2004). In their research work, Chang and Tay (2010: 1838) concluded that psychologically, individuals would be more engaged if they were to find their work meaningful.

2.8.5.2 Psychological availability

Psychological availability also referred to as "competence" (Spreitzer, 1995) results in employees' engagement (Saks & Gruman, 2014: 160). Psychological availability refers to the notion that one possesses the "physical, emotional, and psychological" resources needed to devote one's self to the performance of a role (Kahn, 1990: 705). Employees will display more engagement in workplaces that offer the "physical, emotional, and psychological" resources required for role performances (Saks & Gruman, 2014: 160) or where the

employees are able to apply their own physical, emotional, and psychological resources.

Social exchange theory (SET) can be used to explain why employees respond with varying degrees of engagement to these conditions (Saks, 2006). According to SET, “obligations are generated through a series of interactions between the parties who are in a state of reciprocal interdependence” (Rothmann & Welsh, 2013: 16). As repayment for the resources they receive from their organisation, employees tend to show appreciable levels of engagement (Rothmann & Welsh, 2013: 16). Employees are also likely to disengage from their roles if the organisation neglects the provision of resources.

2.9 Possible Outcomes of Employee Engagement

With regard to employee engagement, Demerouti et al. (2001a: 283-285) observed that it is related to positive employee attitudes that are known to enhance their level of “job satisfaction”, leading to better “organisational commitment” and reduced intention to resign in search of better opportunities. In their research, Harter, Schmidt, and Hayes (2002: 276) noted the positive linkage between employee engagement and a number of outcomes such as customer satisfaction, revenue, efficiency, and employee turnover. Studies have also shown employee engagement to be related to high student performance (Schaufeli et al., 2002b: 474-477).

In the results of their study of 2006, researchers at Towers Perrin reinforced the significance of engagement, noting that highly engaged employees are more likely to deliver exceptional results, with half of the research participants believing they can contribute positively to the success of the organisation (Towers Perrin, 2006: 4).

Additionally, employee engagement has been linked with good organisational outcomes such as high employee performance and job satisfaction (Schaufeli & Salanova, 2007: 140-141, 167). Wagner and Harter (2006) also noted that employee engagement is positively associated with workers' motivation and a host of positive organisational outcomes.

Harter et al. (2009: 32) studied "32,394 business work units consisting of 955,905 employees" and found that business units with engaged employees "doubled their chances of success" when compared directly to business units with disengaged employees. This is due to the fact that engaged employees understand the organisation better and therefore, work actively with others within the organisation to raise the levels of role performance for the benefit of the organisation (Devi, 2009: 3). Furthermore, it has been reported that engagement creates personal gains for the individuals concerned (Bakker, 2011).

Recent research conducted in educational institutions have linked employee engagement with a number of outcomes. For example, Field and Buitendach (2011) noted a significant positive relationship between employee engagement and affective organisational commitment, while Umamheswari and Swarnalatha (2015) found that engagement has a positive impact on the job satisfaction of employees in higher education faculties. Mxenge, Dywili and Bazana (2014) observed that employee engagement is negatively related to employees' intention to quit, implying that engaged academics would have less intention to quit their current position.

In their research work, Takariwa et al. (2014) also observed that employees in a higher educational institution who have high levels of engagement have significantly lower turnover intentions. Furthermore, it has been reported that engaged faculty and staff in higher educational institutions contribute significantly to student retention and student integration (McDonald, 2015), and that "faculty and staff engagement has a high correlation with student

engagement" (Gallup, 2017). However, despite the growing interests in employee engagement (as evidenced in the number of researches, past and present), an integrated comprehension of its antecedents and outcomes is not yet cast in stone (Saks & Gruman, 2014).

Past studies have each uncovered different antecedents and outcomes under different situations, with antecedents and outcomes dispersed all over the engagement literature repository (Wollard & Shuck, 2011), and there, is still no firm concept or understanding as to which antecedent has a greater predictive power on employee engagement (Saks & Gruman, 2014).

This, however, could be attributed to the dynamic, ever-evolving state of the human mind (influenced by various and subtle antecedents of employee engagement), as well as the variance in past study contexts. Research on situational models of antecedents and outcomes of employee engagement need more attention, as they could be the key to developing an integrated model of antecedents and outcomes of employee engagement.

The bulk of past and present research on employee engagement is practitioner-based and conducted in a Western context (Rana, 2016; Rothmann, 2014), with some research on the construct emerging from the East and only a few rigorous and robust research studies emanating from Africa. Furthermore, specific antecedents such as workload, role clarity, leadership (leader-member exchange), individual differences, personal resources, and co-worker social support have received little attention from researches conducted in an African context.

Apart from the research work of Mmako conducted in 2016, which employed four organisational factors to develop an employee engagement framework for public TVET colleges, the number of empirical research investigating the topic of engagement at TVET colleges in South Africa is very low (Mmako & Schultz, 2016), and this represents a huge knowledge gap in the understanding of the

topic of employee engagement from an African perspective. Therefore, there was a need for research to focus on providing an acceptable engagement-antecedent outcome model that is both situational and fundamental, particularly within an African context and specifically in the TVET colleges.

This present study, therefore, investigated supervisor and co-worker support, role clarity, opportunities for professional development, performance feedback, work overload, meaningfulness, safety, availability, optimism, and proactive personality, as conceivable impulse for positive degrees of employee engagement to develop an improved employee engagement framework for public TVET colleges in the Gauteng Province.

2.10 Proposed Outcomes of Employee Engagement

The outcomes of employee engagement that were researched in this study were discretionary effort and turnover intention. These outcomes are discussed in detail below.

2.10.1 Employee engagement and discretionary effort

Discretionary effort is a vital organisational variable (Lloyd, 2008), believed to be one of the positive work-related outcomes of employee engagement (Kular et al., 2008; Towers Perrin, 2007; CLC, 2004). Discretionary effort is defined as a voluntary extra effort applied towards organisational goals over and above the minimum work required (Lloyd, 2008). It can be summarised as an employee's willingness to go above minimal job responsibilities (Lloyd, 2008; Reychav & Sharkie, 2010: 231; Shuck, Reio, & Rocco, 2011: 431; Zigarmi et al., 2012: 29). This extra effort comprises activities such as persistence on difficult activities or tasks and putting in additional hours to get a job done or to achieve faster results (Lloyd, 2003).

Examining these definitions collectively, discretionary effort would appear to be a voluntary behaviour, one that is not in any way contractual but activated

by the employee to get a job done. Although it is believed that it is almost impossible to observe discretionary effort, Lloyd (2008: 23) suggested that "Some behaviour, such as cognitive acts of solving a problem or effort [such as discretionary effort], can only be observed as a result of these behaviours". Saks (2006), Macey and Schneider (2008) believed that "Discretionary effort is the behavioural manifestation of the cognitive and emotional decision to engage". This statement spoke directly to the definition of engagement provided by Saks (2006), and as such provides a conceptual connection between discretionary effort and employee engagement.

Past studies have supported the use of discretionary effort as an outcome variable of employee engagement (Shuck, 2010: 53). Discretionary effort has been linked to productivity and profit generation and is increasingly used as a leverage point for human resource development (HRD) interventions. Craig and Silverstone (2010:6) concluded that engaged employees will invest a great deal of effort and energy in their work. Because engaged employees care about the future of their organisation and are willing to invest discretionary effort, which motivates them to exceed in their duties to ensure that the organisation succeeds (Theisen, 2010).

2.10.2 Employee engagement and turnover intention

Turnover intention has been thought to be related to a lack of employee engagement (Berry & Morris, 2008; Wagner & Harter, 2006; Harter, Schmidt & Hayes, 2002). Turnover intent is defined as an employee's voluntary intention to leave an organisation (Saks, 2006), and is more predictive of actual turnover than any other variable (Berry & Morris, 2008).

An employee's intention to engage in a certain type of behaviour, for example an employee's intention to turnover, is a significant predictor of that employee's future behaviour (Carmeli & Wiesberg, 2006). Numerous engagement models have suggested an empirical connection between engagement and turnover

intention (Harter, Schmidt & Hayes, 2002; Saks, 2006). Nevertheless, it was crucial to explore this emerging model of engagement in relation to known frameworks, with new antecedent variables for the potential discovery of new perspectives of theory building and practice particularly in the TVET sector in Gauteng, South Africa.

Regarding the relationship between engagement and turnover intention, past and current empirical literature have shown that engagement is negatively related with turnover intention (Schaufeli & Bakker, 2004; Koyuncu, Burke & Fiksenbaum, 2006; Saks, 2006; Shuck, Reio & Rocco, 2011; Wefald, Reichard, & Serrano, 2011; Kim, 2012). Schaufeli and Bakker (2004) examined a research model specifying "possible antecedents and consequences of burnout and engagement among 1,698 Dutch workers" from different industries. The results of the study revealed a negative relationship between work engagement and turnover intention.

Saks (2006) investigated a model of the antecedents and outcomes of job and organisational engagement among "102 Canadian employees" with different jobs and from various organisations. The study revealed that both job engagement and organisational engagement are negatively related to turnover intention.

Furthermore, Wefald, Reichard and Serrano (2011) carried out an empirical study to examine the interrelationships of multiple conceptualisations and "measures of work engagement in the nomological network among 382 professional employees from a financial institution". Their results showed a negative and significant relationship between work engagement and turnover intention.

Shuck, Reio and Rocco (2011) conducted a study to test relationships of employee engagement between antecedents (namely, job fit, affective commitment, and psychological climate) and consequences (namely, turnover

intention and discretionary effort) among “283 workers from four different industries”. The results of their study reveal that employee engagement has a significant relationship with turnover intention and predicted lower levels of employees’ turnover intention.

Kim (2012) carried out a study to investigate the structural relationships of work engagement with its antecedents (namely, job, psychological, and environmental conditions) and consequences (namely, cooperation intention, organisational commitment, proactive behaviour, and turnover intention) among 612 employees from 7 Korean business organisations. The results of the study revealed that work engagement has a significantly negative relationship with turnover intention.

2.11 Proposed Employee Engagement Model

Although an attempt has been made (through detailed literature review) to highlight significant connections (conceptually and empirically) of some past research work to the current study, the review proved inadequate in the provision of answers to the research questions stated in Chapter 1, because specific relationships between antecedent and outcome variables with employee engagement were not covered. Building on the literature review, a new conceptual model of employee engagement is therefore proposed as shown in Figure 1.1 in Chapter 1.

2.12 Conclusion

Chapter 2 covered the review of literature on the concept of employee engagement. This was done to establish a theoretical and empirical foundation for understanding and supporting the proposed conceptual model for this research. Literature focusing on workload, supervisor and co-worker support, role clarity, opportunities for professional development, performance feedback, optimism, self-efficacy, proactive personality, core self-evaluation, discretionary effort, as well as turnover intention were also discussed. Chapter

3 will focus on the discussion of the research methodology employed for this study. Chapter 4 presents the findings, while Chapter 5 covers the proposed improved employee engagement framework derived from the research. Chapter 6 will cover the discussion of the results as well as the implications for theory, research, and practice.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the research methodology applied to this study will be discussed. The chapter begins with the research questions and hypotheses guiding this study. Thereafter, the research design, justification for the research design, population/target population, selection criteria, sampling method and technique, research instruments, data collection and analysis follow. Based on the scope and purpose of the research, the researcher followed the process of measuring variables for individual participants in a bid to obtain scores, and numerical values that were subjected to statistical analysis for interpretations and summary.

3.2 Research Design

The review of the relevant literature presented in Chapter 2 formed the basis for the research design and methodology presented in this section. The purpose of a research design (Neuman, 2011: 6) is to provide a strategic plan for answering questions relating to social issues or problems. A research design provides a template for the researcher to plan and implement the study in such a manner that it facilitates the achievement of desired results. Consequently, it increases the likelihood of obtaining information related to the real situation. A well-laid out research design affords the researcher ample control over factors that could perhaps interfere with the validity of the research results (Neuman, 2011).

White (2009: 99) viewed the research design stage as one where the researcher moves from thinking about asking questions to actually giving detailed thought to how these questions might be answered by the participants. It is the stage where the decisions about the kind of evidence

needed to address the research questions are answered, with focus on the logic of inquiry and the links between questions and conclusions.

Research design “deals primarily with aims, uses, purposes, intentions and plans, and comprises the following four categories: experimental designs, longitudinal designs, cross-sectional designs, and case study designs” (Mmako, 2016: 122). A researcher’s choice of design, or mixture of designs, will be determined by the nature of the research questions. Research design deals largely with the type of data that need to be collected to address research questions as opposed to how the researcher collects the data (White, 2009: 99).

This study required a method that could adequately and specifically describe the relationship between the variables of supervisor and co-worker support, role clarity, opportunities for professional development, performance feedback, leader-member exchange, work overload, meaningfulness in work, optimism, proactive personality, employee engagement, discretionary effort, and turnover intention among public TVET academic staff members.

Two approaches or methodology, namely qualitative and quantitative, are the dominant methodologies through which research in different disciplines is usually conducted (Cohen, Manion, & Morrison, 2007: 165). This research was a quantitative study (methodology) that was conducted with the aid of a cross-sectional survey (research design). Data were collected from a sample of TVET lecturers by means of questionnaires.

3.3 Justification for Research Design/Paradigm

Quantitative research is a method for testing objective theories through the examination of relationships that might exist among several constructs or variables (Hair et al., 2010). Quantitative research is characterised by its objectivist view of the world and its connection to natural science (especially

positivist epistemology (Smith, Thorpe & Jackson, 2012). Contrastingly, the focus of qualitative research is generally on words rather than numerical data when collecting and analysing data. The ultimate goal of the qualitative approach is theory generation, by using an inductive approach to understand the connection that exists between theory and research (Smith, Thorpe & Jackson, 2012). While qualitative methods produce detailed and non-quantitative account of small groups to interpret the meaning that people make of their lives in a natural setting (Payne & Payne 2004: 175), quantitative methods as a research approach allow for testing objective theories through the examination of a relationship that might exist among several constructs or variables (Hair et al., 2010). A survey design according to the authors allow researchers to examine through thorough analysis, a population, and from that population provide a quantitative description of trends, attitudes, or opinions.

The confirmatory nature of this study requires the key research objectives be met by providing answers to the research questions through a deductive approach where specific hypotheses are tested using the quantitative data. As a result, this study adopted a positivistic approach. The positivistic approach focuses on the idea that a phenomenon can be objectively measured. In this study engagement as well as other individual and organizational constructs were objectively measured, testing all the identified hypothesized relationships. This process also required the adoption of a quantitative research strategy using a cross sectional survey as its primary method of data collection.

In light of the above, the positivist quantitative approach using a cross sectional survey design, was suitable for this study, because it helped to unearth the relationship that existed between independent and dependent variables identified for this study. The present research focused on uncovering possible antecedents and outcomes of employee engagement, based on the “integrative theory of employee engagement” proposed by Saks and Gruman (2014).

3.4 Sampling Strategy

The sampling strategy refers to the method employed in the provision of answers to the research questions of a study in relation to the research design, which involves the definition of the target population, identification of the sampling method, decision on the sample size and the sampling (Clow & James, 2014: 225). The components of the sampling strategy employed in this study are discussed next.

3.5 Target Population

A population is “the total collection of participants about which one wishes to make some inferences” (Kumar et al., 2012: 128). In other words, a population is the target group on which a research study is based. The target population for this study was the academic staff members from 8 government TVET institutions (with 43 campuses in total) in Gauteng, South Africa (N = 2072). The target population for this study was specifically chosen to validate the research from a statistical point of view and ensure that responses were obtained from participants who should be engaged. The crucial role that government TVET colleges play in influencing the structure and management decisions and interventions at private TVET colleges justified this study’s focus on the eight government TVET colleges in Gauteng.

The sample population for this study consisted of academic staff members of all the public TVET colleges in Gauteng, South Africa. Academic staff members of private TVET colleges were not considered, because of the challenges associated with obtaining accurate and reliable data from the private TVET colleges, as well as the difficulties encountered in obtaining gatekeeper permission to conduct research in these private TVET colleges. The parameter of public TVET colleges created a limitation on who the survey would reach.

3.6 Selection Criteria

3.6.1 Inclusion criterion

The inclusion criterion for this study was that all participants had to be academic staff (lecturers) of public TVET colleges in the Gauteng Province. These lecturers have all been with their respective colleges for more than one year.

3.6.2 Exclusion criteria

The exclusion criteria for this study included the following:

- All administrative staff of the public TVET colleges in the Gauteng Province.
- Academic staff (lecturers) who have been with their respective colleges for less than a year.
- Academic and administrative staff of private TVET colleges in the Gauteng Province.
- Participants who were included in the pilot study.

3.7 Sampling Method

A sample is a “sub-group of a population” (Frey, Botan & Kreps, 2000: 125) or a “population microcosm” (Ormrod & Leedy, 2010: 205). Sampling is the selection of a portion or sample of the target population (Babbie & Mouton, 2011: 164; Kumar, 2011: 193). Due to time, money or access constraints, it is impossible to collect data from all participants; therefore, a sample population obtained through a sampling strategy was used (Saunders, Lewis, & Thornhill, 2009). This sample allowed the researcher to understand the entire target population without having to study the entire population. Sampling is an important activity not just because it improves data quality, but also because it saves the researcher from embarking on an impractical and expensive journey of studying an entire population (Adler & Clark, 2011: 100).

This strategy helped the researcher reduce the amount of data collected by only collecting data from a sub-group instead of collecting data from every element in the population (Saunders, Lewis & Thornhill, 2009). Sampling offers certain advantages such as the use of a relatively small number of cases to investigate a much larger number, accuracy of results, a speedy collection of data, and the availability of population elements (Cooper & Schindler, 2011).

A probability sampling method was employed for this research. According to Saunders, Lewis and Thornhill (2009), the likelihood of picking any participant from a population when applying a probability sampling method is known. As a result, this sampling method was suitable for this study because of its random selection nature and because it "consisted of a controlled procedure to assure that each element of the population was given a known non-zero chance of being selected" (Saunders, Lewis & Thornhill, 2009).

Non-probability sampling was not appropriate for this study, because the likelihood of picking a participant from a population was unknown (Saunders, Lewis, & Thornhill 2009). According to the authors, non-probability sampling is "arbitrary and subjective", as each member of the population does not have "a known non-zero chance of being selected".

3.8 Sampling Size

For methods such as correlational analysis (that was employed for this study), a minimum sample size of at least 5 and maximum sample size of up to 50 participants per variable was recommended (Green, 1991). This study investigated 13 variables, and as a result, a minimum total sample size of 65 was recommended while the maximum total sample size recommended was 650. For this study, a sample size of approximately 300 participants was targeted to strengthen the reliability of the research findings and reduce the possibility of a Type II error (the error of accepting a null hypothesis that is actually false) (Shuck, 2010). A sample size of 190 was realised.

The sample size (n = 190) was representative of the population because: a) The researcher ensured that the sample source included all the target population, namely, the research participants were selected evenly from all the public TVET colleges in Gauteng; b) The selected data collection method reached almost every academic staff at the TVET colleges in Gauteng; c) The screening criteria reflected the target population and did not purposely exclude valuable sub-populations such as the academic staff of smaller campuses of the respective TVET colleges in the Gauteng Province; and d) Any potential non-response bias was minimised through the use of the appropriate survey design, and proper distribution method (Surveygizmo, 2016).

3.9 Sampling Technique

This study employed the use of simple random sampling, which is a form of probability sampling. The choice of random sampling was appropriate for this study, because it guaranteed the accuracy of the research findings, it was void of bias and allowed for the generalisability of the research findings (Saunders, Lewis & Thornhill, 2009). Random sampling helped to ensure that the sample used for the data analysis was representative of the sampling frame, in this case it referred to 8 colleges with 43 campuses which formed the population for this study.

The email addresses of all the lecturers in the 43 campuses were obtained from their respective campus managers through an official directive from the DHET. These emails were arranged alphabetically per campus and each email was assigned numbers. Using a random number generator, 10 numbers per campus were randomly generated and selected, which corresponded to 10 email addresses of lecturers per campus. The link to the research questionnaire was then emailed electronically to these selected participants for them to complete the forms. Completed responses could not be linked to any particular individual, because the online questionnaire did not collect any personal information of the participants.

3.10 Measuring Instrument

The research instrument used for this study consisted of measures from several past studies, selected and adapted to help answer the research questions for this study. The use of existing instruments for this study was defensible as these instruments had in past studies shown high levels of reliabilities and construct validity. This study made use of nine standardised and well-established instruments for data collection.

The instruments adapted were: The work overload (**WK**) questionnaire (Moore, 2000); the supportive supervisor (**SS**) and rewarding co-worker support (**RCW**) questionnaire (May, Gilson & Harter, 2004); the role clarity (**RC**) questionnaire (Rizzo, House & Lirtzman, 1970); the self-efficacy (**SE**) questionnaire (Bakker, 2014); the proactive personality (**PP**) questionnaire (Bateman & Crant, 1993); the psychological conditions (psychological meaningfulness (**PM**) and psychological availability (**PA**)) questionnaires (May, Gilson & Harter, 2004); the job engagement (**JE**) and organisation engagement (**OE**) questionnaires (Saks, 2006); the discretionary effort (**DE**) questionnaire (Lloyd, 2008); and the intention to turnover questionnaire (Colarelli, 1984).

The instruments chosen contained exact, closed-ended, “investigative questions” linked to all objectives of the research. The use of open-ended questions was avoided to save time and cost in analysis. The questions asked in the instruments were simple to understand and direct to the point. All instruments were scored using a 5-point Likert continuum ranging from 5 (*strongly agree*) to 1 (*strongly disagree*). Both composite and individual scores from each question on a given measure were examined for significance. The questionnaire used in this study (Appendix D) consisted of two sections namely: Section A: Demographic information and Section B: The research instruments.

3.11 Pretesting

Pretesting in the form of a pilot study was conducted before the main data for the research were collected. The purpose was to simulate the procedures that were used for the research study to “adapt the standardised questionnaire”, so that participants can clearly understand the questions, the data can be recorded properly, the validity and reliability of the instruments can be measured adequately, and the researcher can ensure that the research methods employed are realistic. The research instrument was pilot tested with a group of participants who were not part of the final sample population but reflective of it (namely, all academic staff members of TVET colleges in South Africa; *N* = 30). Pretesting helped the researcher ensure that participants understood and interpreted the questions correctly and also enabled the collection of the required data (Hussey, 2000; Dillman, Smyth & Christian, 2009).

3.12 Recruitment Process

An application to conduct research in public colleges was submitted to the DHET. Once the application was approved, the researcher contacted the principals of the selected colleges to brief them about the research aims and objectives. Once the principals had been briefed and their cooperation guaranteed, an internet-based self-report survey was used to collect the data from the academic staff members of the selected TVET colleges.

According to Dillman, Smyth and Christian (2009), the use of internet-based self-report surveys for research work is more popular than any other method. It offers the researcher considerable savings on cost and time when compared to traditional mail surveys (Dillman, 2000). Furthermore, using an internet-based survey provides the researcher with the opportunity to include a larger sample of the population, thus increasing the ability to generalise the research findings (Shuck, 2010).

Participants were selected randomly from all the academic staff members at the TVET colleges. The link to the questionnaire was sent via email to the randomly selected participants. No personal information was collected on the questionnaire, and so completed responses could not be linked to any particular participant. Data were automatically collated with the same online survey platform (Google Forms).

3.13 Data Collection

The email sent to the randomly selected participants contained information about the study and a link to the informed consent form on the first page of the survey tool (Google Forms). Participants were required to accept the terms of the informed consent form by clicking “agree” before they could start the survey. The files received from the campus managers containing the email addresses of the lecturers were destroyed as soon as the participants were identified and contacted. Once participants completed the survey, responses were stored inside the survey tool platform, until the target sample size was reached. Data collection ceased as soon as the targeted number of participants was reached. When the participants completed the survey, a page indicated that they had reached the end of the survey. The survey responses were then downloaded into Statistical Package for the Social Sciences (SPSS) and Mplus, where the data analysis was performed.

3.14 Data Analysis

Data analysis facilitates the generation of relevant meaning from the raw data collected from a questionnaire. It helps in breaking down existing complex factors into smaller, meaningful chunks and helps in putting together these smaller chunks in new arrangements for the purpose of interpretation (Saunders et al., 2019: 14).

All the quantitative data gathered from the participants were entered into the SPSS and were then examined for statistically significant relationships by

using correlational analysis (Hinkle, Wiersma & Jurs, 2006). Mplus version 7.5 was used to conduct confirmatory factor analysis (CFA) in a bid to evaluate the proposed model of the present study. Characteristics were analysed through the use of descriptive statistics such as frequency, mean, standard deviation, and chi-square tests of homogeneity. An alpha level of 0.05 (one-tailed) was used in testing all the hypotheses.

3.15 Preliminary Data Analysis

The researcher conducted preliminary data analysis through SPSS, version 22. Data screening, data coding, treatment of missing values, and normality of data were all performed using different statistical techniques available in SPSS. The descriptive statistics method through SPSS was used to calculate mean, frequencies, standard deviations, and correlation. After the completion of the preliminary analysis, the researcher utilised Mplus version 7.5 for CFA to test the measurement model and validate the model's goodness-of-fit and the validity of research items.

3.16 Data Screening

In order to ensure data quality required for SEM (Structural Equation Modelling), the data collected for this study were screened appropriately. Data screening is an important phase in the analysis because it allows for proper proofreading and data cleaning to get the data to the point where they are ready for further analysis. The raw data collected from the research participants were entered into SPSS, where the data screening was performed.

Van den Broeck et al. (2005) considered data screening a very important step in data analysis because it involves treatment of missing values, outliers and assessment of normality. The data collected for this study were analysed using SEM; therefore, it was crucial to ensure that all the assumptions (for example, missing data, outliers, univariate and multivariate normality, and

multicollinearity) for SEM were met, by performing a thorough examination of the data (Kline, 2005).

3.16.1 Univariate normality

According to Field (2009), univariate normality is performed by looking at the values for skewness and the values for kurtosis. Skewness shows that “the shape of a unimodal distribution is asymmetrical about its mean” (Kline, 2005). Kurtosis shows the flatness or “peakedness” of distribution (Thompson, 2004). According to Tabachnick and Fidell (1996), any absolute value of standardised skew index that is equal to or greater than 3 is an indication that the data are skewed. Kline (2005) noted that any absolute value of a standardised kurtosis index that is equal to or greater than 10 is indicative of the fact that the data may have issues related to kurtosis.

In the data for this study, the skew indices of 12 variables ranged from 0.02 to 8.90, and the kurtosis indices ranged from 0. 28 to 31.99. These indices showed that the variables had skewed distributions, and kurtosis values that bore no resemblance to that of a normal distribution. With respect to SEM assumptions for univariate normality, high kurtosis values can create severe statistical issues, because test of co-variances will be affected, while test of means is likely to be affected if there are any skewness issues in the collected data (Byrne, 2012; Decarlo, 1997). For this reason, non-normality was not treated at this stage, but instead, the assessment of multivariate normality was checked.

3.16.2 Multivariate normality

Multivariate normality comprises “the normal distribution of all the univariate distributions, the normality of all the joint distributions among the variables, and linearity and homoscedasticity” (Sung, 2017). In this study, multivariate normality of the data was examined through an omnibus test of multivariate normality using Mardia’s (1970), Small’s (1978), and Srivastava’s (1984) tests,

designed to estimate multivariate skewness or kurtosis (Ullman, 2006; Kline, 1998). After performing the tests, if the *p*-values of the coefficients are less than 0.05 ($p < 0.05$), then multivariate normality is absent (Hanusz & Tarasińska, 2012).

Furthermore, if Mardia's coefficient produces a z score with a value above 3.0 (Ullman, 2006; Bentler, 2001), then the data are believed to have issues with multivariate normality. Additionally, linearity and homoscedasticity were also evaluated. According to Field (2009), linearity denotes the direct relationships between changes in the mean value of a dependent variable and each increment of independent variables, while homoscedasticity means that the variance of the residuals or error terms across all values of predictor variables are fairly constant, namely, the error terms remains fairly constant as the value of the predictor variable changes (Field, 2009). Bivariate scatterplots in SPSS were used to evaluate linearity and homoscedasticity (Kline, 2005).

From various statistical analysis, it was determined that the data collected for the current study showed no multivariate normality, but the tests for linearity and homoscedasticity were satisfactory. It is rare in practice to have a multivariate normal distribution (Benson & Fleishman, 1994), and those rare cases hardly ever have problems with non-normality (Newsom, 2017). If the chi-square value is too large and the standard errors are too small, normality tests would show non-normality (Newsom, 2017). Due to the collated data for this study not satisfying the requirements for multivariate normality, robust maximum likelihood (MLM) was used instead of maximum likelihood (ML) estimates in analysing the data collected for this study.

3.16.3 Missing data

One key issue that needed to be assessed during data screening was the issue of missing data. Missing data can be attributed to a number of factors, such as lengthy questionnaire, employees' work-related issues, and the level of clarity

of the research questions. Missing data analysis is normally carried out in order to avoid two key issues – decreased statistical power and biased estimates of parameters (Hair et al., 2010). Researchers have long argued that missing data greater than 5% of the total data collected may be troublesome, and therefore, must be addressed (Tabachnik & Fidell, 2007).

Sekaran and Bougie (2013) suggested that data entries with about 25% missing data should be excluded from the dataset to maintain statistical power and avoid biased results. Generally, there is hardly any rule of thumb regarding the range of missing data. Missing data less than 1% are considered as normal and having an insignificant effect on results, while 1-5% missing data are considered as manageable, and 5-15% missing data would require complex statistical methods for its manipulation, while missing data equal to 15% or more of the total data would have a significant impact on data interpretation (Acuña & Rodriguez, 2004).

The issue of missing data can be addressed in one of three ways (Little & Rubin, 2002). Case/pairwise deletion, imputation, and parameter estimation (Acuña & Rodriguez, 2004; Little & Rubin, 2002). In this research study, less than 5% missing values were observed, and they were addressed by using the “replace missing value with the mean/median of nearby points” option in SPSS (Saunders, 2011).

3.16.4 Treatment of outliers

An outlier in a dataset is an observation that has a distinct distance from other observations that draws the researchers to possible errors committed during the data entry stage. Such errors should be identified and addressed properly (Hair et al., 2010). In the current research study, the researcher applied frequency analysis for the treatment of outliers, on an item-by-item basis to ensure that any detected outlier in the dataset was properly addressed.

3.16.5 Multicollinearity

According to Kline (2005), multicollinearity is considered to be present in a dataset, when some variables show high correlation (for example, r > 0.85). In SEM, multicollinearity involves “high correlations among latent exogenous constructs” (Grewal, Cote & Baumgartner, 2004: 519). Collinearity has the statistical tendency to inflate the “estimates of parameter variance” (O’Brien, 2007), and therefore, analysis requiring a regression analysis, as is the case with SEM, must ensure that the data to be analysed are void of multicollinearity issues. In SPSS, tolerance, and a variance inflation factor (VIF) are two key statistical parameters used to detect multicollinearity. High values of VIF can show numerically significant relationships between variables, even though the variables may actually have no significant relationships.

Several thresholds have been suggested by researchers for the evaluation of multicollinearity. Authors such as Kennedy (1992), Hair, Anderson, Tatham, and Black (1995), and Kline (1998) suggested tolerance values above 10% and a variance inflation factor below 10, while others (for example, Rogerson, 2001) suggested a variance inflation factor below 5. In the data for this study, VIF values among the variables were below 4, and tolerance values were mostly above 25%. Thus, the analysis revealed the absence of multicollinearity. On the basis of the VIF values and tolerance scores, it was also concluded that there were no excessive intercorrelations among the variables in the dataset.

3.17 Assumptions and Delimitations/Scope

3.17.1 Assumptions

This study made the following assumptions:

(a) All employees (including academic staff members of public TVET colleges in South Africa) have the ability to be engaged at work;
(b) People logically pursue constructive experiences at work and employees with these experiences show higher engagement levels;

(c) Employee engagement can be created and sustained;
(d) Work is an individual experience; and all public TVET colleges in South Africa are the same in terms of management style and resource provision.

3.17.2 Delimitations

The first delimitation of this study was an omission of the effect of the local, district/municipal, provincial, and national economic conditions. This study did not examine such effects even though there was a possibility that economic conditions (as an extraneous variable) might have an effect on employees' engagement. These factors were omitted because this study was aimed at investigating organisational and individual factors within the TVET colleges that could contribute to improved employee engagement levels.

The second delimitation was the omission of other external factors to this study; for example, an increase in remuneration (salary), promotion, or a new job-position. These factors could have an effect on employees' engagement levels, but these effects were not considered in this study. These factors were excluded because they are regarded as variables that could create momentary engagement that dissipates once the feelings associated with such variables are no longer present. In conclusion, the parameters of the sample population may have also been a delimitation.

The sample population for this study consisted of academic staff members of all the public TVET colleges in Gauteng, South Africa. Academic staff members of private TVET colleges were not included, because of the challenges associated with obtaining accurate and reliable data from the private TVET colleges, as well as the difficulties encountered in obtaining gatekeeper permission to conduct research in these private TVET colleges. The parameter of public TVET colleges created a limitation on who the survey would reach.

3.18 Validity and Reliability

Validity is defined as “the ability of a scale or measuring instrument to measure what it is intended to measure” (Adler & Clark, 2011: 148; Zigmund, 2003: 302). According to Zigmund (2003), the validity of research instruments is important because it offers credibility to research findings. Validity stresses the capacity of research techniques to fully capture the characteristics of the constructs being investigated, and consequently ensure that such constructs are measured correctly (Gray, 2009: 157).

Researchers, past and present identified the following types of validity:

Construct validity describes the extent to which a study is actually measuring what it is targeted to measure (Babbie, 2008: 161). For example, if an academic institution decides to test if a newly introduced intervention programme increases academic performance, the construct validity will be that the test or research must be measuring academic performance and not a related or different concept. This validity measures a theoretical construct and makes a determination on the extent to which the instrument “operationalises” the true theoretical meaning of a concept. Although the research instruments that were used for this study were standardised instruments that had been previously validated in many studies, a pilot study as well as CFAs were performed in this study, to further ensure the construct validity of the research instruments. The construct validity of the measuring instrument was further assessed on the alignment of the measuring scales, research objectives and extant literature.

Face validity is a simple form of validity based on the application of superficial and subjective assessment of whether or not a measurement procedure is serving its intended purpose, and thus, measuring what it is designed to measure (Gravetter & Forzano, 2003: 87). Face validity can be summarised to be the extent to which a measurement “appears” effective with respect to its outlined objectives. The questionnaire was analysed by an academic in the

field of study, a statistician, and a practitioner in an effort to ensure face validity. Furthermore, an exploratory factor analysis of the pre-test was performed so as to better address the validity of measures.

Content validity deals with the extent to which the content of the items adequately represents all the elements or facets of a given construct (Cooper & Schindler, 2011: 232). Succinctly described, content validity is the alignment of questions in a measuring instrument to the construct being measured. The questions in the measuring instrument should cover every component of the construct, no more and no less. The content validity of the research instruments employed in the study was assessed by matching the objectives of this study with the individual constructs identified.

Reliability refers to the degree to which a research instrument consistently reflects the construct or variable it is anticipated to measure (Field, 2009). Adler and Clark (2011: 147) define reliability as "the degree to which a measure yields consistent results". Reliability is important because it indicates that a questionnaire is stable and consistent in its measurement of a designated variable (Polit, 2006). In other words, reliability assesses the "goodness of a measure" (Bajpai & Bajpai, 2014). The reliability of the measuring instruments was important in this study, and to a great extent explained the choice of previously tested and trusted research instruments. Four methods of reliability as identified by Bhattacherjee (2012: 57) are discussed below.

Test-retest reliability involves a measure of consistency obtained from the administration of a test twice over a defined period of time to research participants.

Split-half reliability is a measure of consistency between two halves of a construct measure. Summarily, this method evaluates the degree to which all the parts of a research instrument contribute to the measurement of the construct it was designed for.

Inter-rater reliability is a measure of the agreement between two or more independent raters of the same construct. It seeks for the amount of consensus that exists in the ratings provided by different judges.

Internal consistency reliability is a measure of consistency between different items of the same construct. This method simply looks for correlations between the different items of a given construct.

In this study, internal consistency was utilised. The reliability of the research instruments was ensured by conducting reliability analyses. Cronbach's alpha was examined for each of the variables measured. Cronbach's alpha, α, is a generally recognised measure of scale reliability, as it estimates the internal consistency of questionnaire items (Kline, 2011; Gravetter & Forzano, 2012: 421). For basic research, Cronbach's alpha between 0.5 and 0.6 is considered acceptable (Nunnally, 1967). Gerbing and Anderson (1988) stated that the acceptable level of Cronbach's alpha should be 0.60, and values equal to, or greater than 0.7 are good for reliable scale, while values below 0.5 are considered unacceptable. According to Field (2009) and Kline (2011), Cronbach's alpha values of around 0.70 are widely considered as acceptable, while alpha values of around 0.80 are considered good. The nearer the Cronbach's alpha is to 1, the better the internal consistency reliability of the instrument (Babin & Zikmund, 2013: 249; Sandy, 2017).

The reliability score for workload, supportive supervisor, rewarding co-worker relations, role clarity, self-efficacy, proactive personality, psychological meaningfulness, psychological availability, job engagement, organisation engagement, discretionary effort, and intention to turnover were much higher than the acceptable value of 0.60, namely, they were 0.82, 0.89, 0.87, 0.84, 0.75, 0.75, 0.87, 0.72, 0.88, 0.91, 0.92, and 0.75, respectively.

3.19 Descriptive Statistics

Descriptive statistics are related to the development of definite indices from the collected data of the study (Kothari, 2004), which were intended to measure the following:

- Central tendency (mean, mode, median);
- Standard deviation.

3.20 Hypotheses Testing

The Statistical Package for the Social Sciences (SPSS) and Mplus were the two statistical tools used in performing a number of statistical analyses on the data collected to test the proposed research model. Preliminary hypotheses testing was performed in SPSS, while structural equation modelling was performed in Mplus to assess the causality in the hypothesised relationships among the study variables. SEM affords researchers the ability to use confirmatory factor analysis and path analysis, to identify potential causal relationships between latent variables (Ormrod & Leedy, 2010: 282). SEM also allows for the identification of mediating and moderating variables in structural relationships (Creswell, 2015: 41).

3.20.1 SEM Techniques

SEM is a statistical technique that allows for the examination of the causal relationships that exist between independent and dependent variables (Ullman, 2006; Mueller & Hancock, 2010). Furthermore, SEM is regarded as a theory-based approach, because it allows for the examination of relationships that may be present between variables in a theory-based model (Mueller & Hancock, 2010).

The present study focused on testing the theory of engagement introduced by Kahn in 1990, most especially the casual relationships among job demand, job resources, psychological states, and employee engagement (job engagement

and organisation engagement); therefore, SEM was a fitting method of data analysis for this study. Since SEM affords the researcher the ability to simultaneously assess several relationships among variables. This study adopted a comprehensive approach regarding the degree to which several organisational interventions influence psychological conditions and, in turn, result in job engagement and/or organisational engagement.

One other feature of SEM with respect to theory testing is its inclusion of both the measurement model and structural model. A measurement model is made up of observed or measured variables and a latent or unobserved variable or a "factor that explains variance in its measured variables and prompts covariance among them" (Mueller & Hancock, 2010). A structural equation model, on the other hand, examines the causal relationships between latent variables, and it directly relates to theory testing. The use of latent variables helps in reducing error variance, because it utilises multiple indicators for each factor (namely, the latent variables), and as a result, the qualities (namely, the reliabilities and validity) of the constructs used for the research can be improved considerably (Mueller & Hancock, 2010).

The structural models of this study consisted of the causal relationships between job demand (namely, workload), job resources (namely, supervisor support, rewarding co-worker relations, and role clarity), personal resources (namely, self-efficacy), individual difference (namely, proactive personality) and employee engagement (namely, job engagement and organisational engagement), between job demand, job resources, personal resources, individual differences and psychological condition (namely, psychological meaningfulness and availability); between psychological condition and employee engagement and between employee engagement and outcomes of employee engagement (namely, discretionary effort and intention to turnover). The variables in the research model were treated as latent variables, consisting of individual survey items used for the measurement of the said variables.

Using SEM analysis, the following questions were addressed appropriately: (a) “Do the parameters of the model combine to estimate a population covariance matrix (estimated structured covariance matrix) that is highly similar to the sample covariance matrix (estimated unstructured covariance matrix)?; (b) What are the significant relationships among variables within the model?; (c) Which nested model provides the best fit to the data?” (Ullman, 2006). Question “a” was concerned with the adequacy of the model, while question “b” dealt with the testing of hypotheses. Question “c” dealt with the investigation of an alternative model based on model modification.

Premised on the questions above, SEM analysis was performed in line with the following procedures:

(1) Preliminary analysis involving the computation of descriptive statistics, preliminary hypotheses testing, and the evaluation of the reliabilities and validity of the measurement instruments;
(2) Structural equation modelling to evaluate the adequacy of the developed structural model and to test the hypotheses.

The steps taken with respect to data analysis are highlighted below.

Phase 1: Preliminary Analysis

The preliminary data analysis was done in two stages.

Stage 1: Analysis of descriptive statistics, correlations, and reliabilities.

As a form of preliminary analysis, descriptive statistics, and a correlation analysis of all the variables used in the study were performed using SPSS. The descriptive statistics described the employees’ experience relating to the constructs used in the study; for example, the levels of experience with respect to job engagement, organisational engagement, psychological meaningfulness, and psychological availability. Correlation coefficients described the interrelationships between the variables, and the internal

consistency of the instruments used for this study are presented based on Cronbach's alpha coefficients.

Furthermore, preliminary testing of all the hypothesised relationships were performed using Pearson's bivariate correlation to establish whether hypothesised antecedent factors show statistically significant connections to employee engagement and ensure that the factors were appropriate for inclusion in the structural model developed for the study.

Stage 2: Measurement modelling - Confirmatory factor analysis (CFA)

In order to assess the discriminant and convergent validities of the measures used in the study, and assess the properties of the latent variables, CFA was performed. After the data screening stage, the data were exported to Mplus, a statistical software capable of structural equation modelling. A ".dat" file was imported into Mplus, and the estimation of the hypothesised model was performed using the Satorra-Bentler's Maximum Likelihood Mean Adjusted (MLM) estimator.

Maximum likelihood (ML) as a parametric estimator assumes that observed variables have multivariate normality distribution at the population level, although in practice, this assumption is often violated (Benson & Fleishman, 1994). MLM, which was suggested by Satorra and Bentler (1988; 1994), is an alternative method for the estimation of non-normal continuous variables (Newsom, 2017). MLM generates scaled chi-square and robust standard errors that are appropriate for datasets exhibiting non-normality (Hu, Bentler & Kano, 1992).

The model tested in this study consisted of workload, supervisor support, rewarding co-worker relations, self-efficacy, proactive personality, psychological meaningfulness, psychological availability, job engagement, organisation engagement, discretionary effort, and intention to turnover as

separate latent variables. In line with the suggestions by Byrne (2012), measurement model adequacy was evaluated using the "chi-square goodness-of-fit test, Comparative Fit Index (CFI) (Bentler, 1990), Tucker Lewis Index (TLI) (Tucker & Lewis, 1973), Root Mean Square Error of Approximation (RMSEA) (Steiger & Lind, 1980), and the Standardised Root Mean Square Residual (SRMR)" (Steiger & Lind, 1980; Bentler, 1995).

The chi-square value is used to assess "the magnitude of discrepancy between the sample and fitted co-variances matrices" (Hu & Bentler, 1999: 2). RMSEA is used to indicate the goodness-of-fit between the model with "optimally chosen parameter estimates" and the "population covariance matrix" (Hooper, Coughlan & Mullen, 2008). The effects of model complexity are handled by the RMSEA, because it assesses how far or how different a hypothesised model is from a perfect model (Hooper et al., 2008). CFI and TLI are incremental fit indices used to determine the extent to which a model fit has been proportionately enhanced by comparing the fit of a hypothesised model with that of a baseline model containing less restricted parameters (Byrne, 2012).

In relation to the thresholds used for the assessment of model fit, this study used 0.06 as the threshold value for RMSEA (Hu & Bentler, 1999). With respect to the other ancillary indices of global fit, a cut-off value of 0.90, as suggested by Bentler and Bonett (1980), was chosen for the TLI and CFI. To analyse the effects of specific measurement items on the model fit, a SRMR value with a cut-off value of 0.08 or lower was chosen (Hu & Bentler, 1999). Regarding the chi-square value, a non-significant *p*-value for chi-square's goodness-of-fit indicate an adequate model fit. However, the chi-square value is sensitive to sample size (Ullman, 2006), and in most practical cases, it would have a significant *p*-value, an indication that the model is inconsistent with the covariance data (Woocheol, 2014: 72; Haiyan, 2006: 62).

Chi-square is rarely used as a test of the fit of a model, because of this sensitivity to sample size as well as its stringent requirement for multivariate normality of variables (Haiyan, 2006: 62, citing Bentler & Bonett, 1980). To evaluate the fit of the hypothesised model, the chi-square value was noted but not used as the major criterion for evaluating model fit.

With respect to the model evaluation, the hypothesised model showed an acceptable fit to the data. In spite of the adequacy of the model fit, modification indices as suggested by the statistical software (Mplus) were applied for model-fit improvement. Structural equation modelling was then carried out in order to assess causality. A complete explanation of the model evaluation is presented in Chapter 4.

Phase 2: Structural Equation Modelling for Hypothesis Testing

After the full measurement model for the latent variables was confirmed, the structural model representing the relationships among the constructs in the proposed model was evaluated.

Stage 1: Evaluation and modification of structural model

The model-fit information of the structural model revealed that the model fit was satisfactory. Based on this information, the hypothesised model was identified as adequate, and therefore, the hypotheses were tested.

Stage 2: Hypotheses test

The test of hypotheses for the direct relationships between variables was based on standardised parameter estimates as suggested by Jackson et al. (2009). Path coefficients were examined for significance, with a *p*-value of less than 0.05 used as the criterion. For any statistically significant relationship between two latent variables ($p < 0.05$), the standardised parameter estimate of the relationship was evaluated in line with Kline's (2005) suggestion that

Beta (ß) values less than 0.10 depict a small effect; values around 0.30 depict a medium effect; and values greater than 0.50 depict a large effect. Furthermore, the standardised parameter estimates of the relationships among the variables are shown in a path diagram (Figure 4.1) (Mueller & Hancock, 2010) in Chapter 4.

3.21 Ethical Considerations

Ethics provide rules and behavioural expectations that guide the appropriate conduct towards, for example, experimental subjects and participants, employers, sponsors, other researchers, assistants, and students (Resnik 2011). This study was guided by ethical principles of voluntary participation, anonymity and confidentiality as well as the principle of non-maleficence outlined below.

The questionnaire used for this study was submitted to DUT's Institutional Research Ethics Committee (IREC) to obtain ethical clearance for the study prior to it being conducted. The committee reviewed the questionnaire, found it satisfactory, and ethical clearance was approved and granted, and the research conducted.

Participants were recruited without coercion, and by completing the research questionnaire and returning it to the researcher, it was acknowledged that full consent was given to the researcher in the knowledge that their responses would be used for research purposes only. Participant information was treated with utmost confidentiality, and the participants were aware that participation was voluntary and that they could have withdrawn their participation in the research at any time, by simply answering "No" to the question on the first page of the questionnaire where consent to participate was sought or simply stopped providing answers to the questions and close the webpage. Informed consent seeks to ensure the full knowledge and cooperation of participants, while also alleviating any tension, aggression, resistance, or insecurity on the

part of the participants. The researcher informed the colleges that a copy of the research report would be made available to them, at their request.

The data collected for this study were downloaded and saved on a portable external hard drive, and then locked away securely in a filing cabinet in the researcher's home office. The data, both the hard copies and the electronic copies will be kept in storage for a period of five years from the completion of the study, after which the data will be disposed of in a safe and secure manner.

3.22 Voluntary Participation

The participants in this research are people and as a result, their rights needed to be protected. The researcher, therefore, sent out questionnaires (via email) with a covering letter containing a portion for informed consent. The email contained information about the study and a link to the informed consent form on the first page of the survey tool. Participants were required to accept the terms of the informed consent form by clicking "agree" before they could start the survey.

3.23 Anonymity and Confidentiality

Anonymity means that a research participant cannot be identified from either the response or the questionnaires (Marczyk, DeMatteo & Festinger, 2010). The anonymity of the research participants was ensured by the researcher making sure that no personal information was collected in the survey that could lead to the identification of participants. The names of participants and other personal details were not required, nor printed on the questionnaires. Although the link to the questionnaire was emailed to participants, no returned response could be matched to any particular individual because the names of participants and other personal details were not required to ensure participation, nor included on the questionnaire.

Confidentiality refers to the protection of participants' personal information (Marczyk, DeMatteo & Festinger, 2010). The confidentiality of participants' personal information was ensured by not collecting any confidential information about the participants, and by keeping the information provided by the participants in a place (physical or digital) only accessible to the researcher and the research supervisors. The data provided by the participants would be destroyed after a specified period of five years.

3.24 Non-maleficence

Non-maleficence is the principle that expressly requires or dictates that no harm should befall an individual as a result of their participation in a research project (Gelling, 2015). This research ensured that no intentional harm, in whatsoever form would befall any participant. Participants were free to withdraw their participation at any point if they felt any discomfort during the research process.

3.25 Limitations of the Study

The first limitation of this research may stem from the use of self-report questionnaires. This type of questionnaire use, although advantageous to the researcher, may lead to common source method variance which might produce exaggerated correlations among the study variables (Podsakoff et al., 2003).

There was the possibility that some participants may have omitted valuable demographic information when completing the questionnaire. Some of the missing demographic information may have unintentionally introduced a bias into the study's data analysis.

This study involved the measurement of responses from individual participants. Individuals were requested to report their personal opinions and feelings in relation to their work, supervisor, co-workers, and so forth. Social

desirability bias may have had an impact on these responses seeing that participants were reporting their personal level of participation in engaging behaviours (Pearson & Porath, 2005).

The unwillingness of most TVET employees to participate in this study, even after permission had been obtained from the DHET, was a major limitation. For future surveys, it is recommended that the DHET, together with the TVET colleges, should devise ways to encourage a better participation from TVET employees.

Common source method variance was mitigated by ensuring that all constructs in the research were assessed appropriately (positively worded or negatively worded). Missing data was controlled for to avoid the introduction of bias into the study's data analysis. To mitigate against social desirability bias, participants were urged in the letter of information to be as truthful as possible in their response and were also informed that their responses would be totally anonymous and confidential.

3.26 Conclusion

This chapter discussed the research methodology which included the research design, target population, and sampling technique, research instruments, and statistical procedures used for the data collection and analysis. The chapter concluded with brief outlines on the steps taken to ensure the validity and reliability of data, anonymity, and confidentiality as well as ethical considerations. The next chapter focuses on the research findings and will be followed by Chapter 5, which covers the discussions of the findings and presents the proposed improved employee engagement framework for public TVET colleges in the Gauteng Province and beyond.

CHAPTER 4

PRESENTATION OF FINDINGS

4.1 Introduction

This chapter focuses on the analysis and interpretation of the survey data collected from the academic employees at the public TVET colleges in Gauteng, South Africa. The chapter begins by examining the descriptive statistics to provide an understanding of the participants of the study, and the variables of the study. The results of confirmatory factor analysis (CFA) are also presented, indicating the analysis of validity of the instruments used to measure the variables of the study. In addition, the results for normality of data, reliability analysis and correlation are also presented. This chapter also reports the results of the statistical data analysis detailed and explained in the previous chapter, and subsequently tested to answer the research questions. More specifically, this chapter is made up of three parts:

1. Results of the preliminary analysis;
2. Measurement modelling;
3. Structural equation modelling for hypothesis testing.

4.2 Response Rate

A response rate of 63% was achieved for this study. The actual sample size of 190 is considered an acceptable representation of the projected sample size of 300, when the Covid-19 pandemic, which occurred during the time the research was undertaken, and its negative impacts on work and well-being are taken into consideration.

4.3 Participants' Demographic Profile

The demographic variables of this study (Table 4.1 and Table 4.2) comprise age group, gender, race, educational level, marital status, home language, tenure/number of years with the TVET College, type of employment, job title and level, as well as department. As explained in Chapter 3, the survey was

conducted by sending a link to an online questionnaire to 43 campuses of the 8 public TVET colleges in Gauteng, South Africa. The researcher managed to obtain 190 fully completed responses, which were appropriate for the data analysis.

Table 4.1: Overview of Participants' Demographics

Age		Frequency	Percentage (%)
	20-29	21	11.1
	30-39	90	47.4
	40-49	63	33.2
	50-59	15	7.9
	60 or older	1	.5
Gender			
	Female	112	58.9
	Male	78	41.1
Race			
	Black	141	74.2
	Coloured	18	9.5
	Indian	13	6.8
	White	18	9.5
Education			
	Matric/Secondary	2	1.1
	Nated/N6	14	7.4
	NCV	2	1.1
	Diploma	48	25.3
	Degree	73	38.4
	Honours	35	18.4
	Masters	14	7.4
	Doctorate	2	1.1

Of the 190 participants, 112 (58.9%) are female academic employees, and 78 (41.1%) are male academic employees. While 162 (85.3%) of the participants

are permanent employees, 28 (14.7%) are temporary employees. The participants are categorised into five different age groups. The largest age category is that of between 30-39 years, having 90 (47.4%) of the participants. Age category of 40-49 years consists of 63 (33.2%) participants. The third age category is that of 20-29 years, which has 21 (11.1%) participants. Next is the age category of 50-59 years with 15 (7.9%) participants. The last and smallest age category is that of employees who are 60 years of age or older. This consists of only 1 (0.5%) participant.

Table 4.2: Overview of Participants' Demographics

Marital Status		Frequency	Percentage (%)
	Single	66	34.7
	Married	116	61.1
	Separated	3	1.6
	Divorce	5	2.6
Home language			
	IsiZulu	34	17.9
	Afrikaans	19	10.0
	Xhosa	8	4.2
	Tswana	15	7.9
	Sesotho	18	9.5
	Venda	10	5.3
	Tsonga	9	4.7
	Swati	3	1.6
	Ndebele	10	5.3
	English	42	22.1
	Sepedi	22	11.6

Number of years with TVET College		Frequency	Percentage (%)
	1-2	16	8.4
	3-5	76	40.0
	6-10	66	34.7
	11-15	22	11.6
	16-20	7	3.7
	21-25	2	1.1
	More than 25	1	.5
Type of employment			
	Permanent	162	85.3
	Temporary	28	14.7
Job title and level			
	Lecturer	119	62.6
	Senior Lecturer	66	34.7
	HOD	5	2.6
Department			
	Engineering Studies	103	54.2
	Business Studies	50	26.3
	Utility Studies	23	12.1
	Occupational Programmes	14	7.4
	Total	190	100.0

The majority (116 or 61.1%) of the participants were married, while 66 (34.75) were single, 5 (2.6%) were divorced and 3 (1.6%) of the participants were separated. A total of 42 (22.1%) of the participants spoke English as their home language, 34 (17.9%) spoke IsiZulu and 22 (11.6%) spoke Sepedi. While 19 (10%) of the participants spoke Afrikaans, 18 (9.5%) spoke Sesotho, 15 (7.9%) spoke Tswana, 10 participants (5.3%) spoke Venda, and another 10 (5.3%) stated that they spoke Ndebele as their home language. As the sample comprised of academics living in Gauteng, it was not surprising that only 9 (4.7%) were Tsonga speaking, Xhosa speakers were 8 (4.2%) and only 3 (1.6%) of the total participants were Swati speakers.

In terms of race, the majority (141, 74.2%) were black, 18 (9.5%) were coloured, and another 18 (9.5%) were white. Indian participants were represented by 13 (6.8%) individuals. The majority of the participants (73, 38.4%) had a BA degree, while 48 (25.3%) were in possession of a diploma qualification, 35 participants (18.4%) had an honours degree, 14 (7.4%) had a Master's degree, and another 14 (7.4%) had a Nated (N6) qualification, while 4 of the participants (2.2%) held a Doctorate degree.

The majority of the participants (103, 54.2%) were in the Engineering department, and 50 (26.35) were in the Business Studies department; 23 participants (12.1%) stated they were working in the Utility Studies department, and 14 (7.4%) were in the Occupational Programmes department.

Most of the participants had worked in their current department for between 3-5 years, with 76 (40%) falling into this category, while 66 (34.7%) of the participants fell into the category of 6-10 years' tenure, and 22 (11.6%) participants had been in the same job for between 11-15 years. Only a small percentage (16 participants or 8.4%) indicated that they had been in the same job for between 1-2 years, while 7 (3.7%) stated they had been working in the same TVET for as long as 16-20 years, and. 2 participants (1.1%) stated they had been with their college for between 21-25 years, while 1 participant (0.5%) had been working with the same college for more than 25 years

While 119 (62.6%) of the participants fall in the category of lecturers (PL1), 66 (34.7%) were senior lecturers (PL2), and 5 (2.6%) participants indicated that they were head of departments (PL3).

4.4 Descriptive Analysis

A descriptive analysis (means and standard deviations) was performed with SPSS version 22 to understand employees' perceptions regarding the

research variables, the correlations between the variables, and the reliability of the measurement instruments used for the study.

The results obtained from the descriptive analysis are highlighted in Table 4.3. The psychological meaningfulness variable has the highest mean (M = 4.12), while the intention to turnover variable has the lowest mean (M = 2.33). The reliability results indicate that all the scales measuring the 14 variables used in the study have strong internal consistencies, ranging from 0.71 to 0.92 (α > 0.70) (Kline, 2005).

In order to determine the direction and strength of the relationship between each hypothesised antecedents, job engagement, organisation engagement and outcomes of engagement, and verify the possible causality between independent and dependent variables, the hypotheses were initially tested using bivariate correlation analysis. The results show that most of the relationships postulated in the hypotheses are shown to be positive and significant, while some are negative and significant. The results are summarised in Table 4.4.

In order to determine the causality between the hypothesised antecedents and employee engagement, SEM was performed. To establish the absence of multicollinearity (one of the assumptions of SEM), between exogenous latent variables, correlation analysis was performed, and the correlation coefficients were assessed to ensure the absence of multicollinearity.

Correlation coefficients between most of the independent variables are less than 0.70 as suggested by Tabachnick and Fidell (1996), except for the correlation between rewarding co-worker relations and role clarity (r = .84). However, this correlation is still below the threshold value (r >. 85 (Kline, 2005). The variance inflation factor (VIF) scores are below 10, as suggested by Marquardt (1970) and Kline (2005), and even below 4.0, as recommended by O'Brien (2007).

Based on this assessment, the researcher concludes that the data have no multicollinearity issue, and therefore, further analysis for hypotheses testing was conducted.

Table 4.3: Descriptive Statistics

	Mean	SD	SS	RCW	RC	PM	PA	SE	PP	WK	JE	OE	DE	IT
SS	3.23	.74	1											
RCW	3.36	.69	.49**	1										
RC	3.62	.62	.43**	.84**	1									
PM	4.12	.60	.37**	.31**	.34**	1								
PA	3.92	.53	.10	.16*	.22**	.33**	1							
SE	3.63	.63	.078	.21**	.13	.15*	.16*	1						
PP	3.86	.84	.03	-.02	.04	.06	.09	.05	1					
WK	2.74	.97	.08	.07	.13	.02	.21**	.34**	-.05	1				
JE	3.66	.70	.45**	.36**	.38**	.61**	.16*	-.04	-.03	-.27**	1			
OE	3.82	.65	.60**	.52**	.45**	.57**	.19**	-.10	-.01	-.19**	.63**	1		
DE	3.97	.56	-.02	.23**	.26**	.39**	.26**	.14*	.02	-.01	.37**	.13	1	
IT	2.32	.88	-.50**	-.35**	-.40**	-.53**	-.25**	.11	-.07	.01	-.64**	-.58**	-.16*	1

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

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

Table 4.4: Preliminary Testing – Bivariate Correlation Analysis

Research Question	Hypothesis	Results
RQ1	H1A: Workload is negatively related to psychological meaningfulness.	Not supported
	H1B: Workload is negatively related to psychological availability.	Not supported
	H1C: Workload is negatively related to job engagement.	**Supported**
	H1D: Workload is negatively related to organisational engagement.	**Supported**
	H2A: Supportive supervisor is positively related to psychological meaningfulness.	**Supported**
	H2B: Supportive supervisor is positively related to psychological availability.	Not supported
	H2C: Supportive supervisor is positively related to job engagement.	**Supported**
	H2D: Supportive supervisor is positively related to organisational engagement.	**Supported**
	H2E: Rewarding co-worker is positively related to psychological meaningfulness.	**Supported**
	H2F: Rewarding co-worker is positively related to psychological availability.	**Supported**
	H2G: Rewarding co-worker is positively related to job engagement.	**Supported**
	H2H: Rewarding co-worker is positively related to organisational engagement.	**Supported**
	H2I: Role clarity is positively related to psychological meaningfulness.	**Supported**
	H2J: Role clarity is positively related to psychological availability.	**Supported**
	H2K: Role clarity is positively related to job engagement.	**Supported**

Research Question	Hypothesis	Results
	H2L: Role clarity is positively related to organisational engagement.	**Supported**
	H3A: Self-efficacy is positively related to psychological meaningfulness.	**Supported**
	H3B: Self-efficacy is positively related to psychological availability.	**Supported**
	H3C: Self-efficacy is positively related to job engagement.	Not supported
	H3D: Self-efficacy is positively related to organisational engagement.	Not supported
	H4A: Proactive personality is positively related to psychological meaningfulness.	Not supported
	H4B: Proactive personality is positively related to psychological availability.	Not Supported
	H4C: Proactive personality is positively related to job engagement.	Not supported
	H4D: Proactive personality is positively related to organisational engagement.	Not supported
RQ2	H5A: Psychological meaningfulness is positively related to job engagement.	**Supported**
	H5B: Psychological availability is positively related to job engagement.	**Supported**
	H5C: Psychological meaningfulness is positively related to organisational engagement.	**Supported**
	H5D: Psychological availability is positively related to organisational engagement.	**Supported**
RQ3	H6A: Job engagement will be positively related to discretionary effort.	**Supported.**
	H6B: Job engagement will be negatively related to turnover intention.	**Supported.**
	H6C: Organisation engagement will be positively related to discretionary effort.	Not Supported.

Research Question	Hypothesis	Results
	H6D: Organisational engagement will be negatively related to turnover intention.	**Supported**

4.5 Measurement Modelling

Prior to testing the hypothesised relationships, a confirmatory factor analysis (CFA) was performed in a bid to evaluate the construct validity and factor-structure validity. The measurement model hypothesised and tested consisted of 12 latent variables and 59 observed variables.

Robust maximum likelihood (MLM) was used in estimating the measurement model, as the research data did not satisfy the requirements for multivariate normality. A number of fit indices were used in evaluating the data's goodness-of-fit; for example, the chi-square goodness-of-fit test, Comparative Fit Index (CFI), Tucker Lewis Index (TLI), Root Mean Square Error of Approximation (RMSEA), and Standardised Root Mean Square Residual (SRMR).

The results of CFA (Table 4.5) reveal that the tested model has a reasonable fit (CFI > 0.90 and TLI > 0.88, SRMR < 0.80, and RMSEA ≤ 0.06, cut-offs as discussed in Chapter 3) with all the items showing satisfactory factor loadings onto 12 latent variables (ranging from 0.48 to 0.96, $p < .001$). In spite of the adequate model fit, the modification indices in the analysis output generated by M*plus* reveal that if a correlation of disturbances for some of the latent variables were permitted, the model would improve considerably. The initial model was modified based on the suggestions, and the modified measurement model (Table 4.5) shows a slightly preferable fit over the initial model, CFI = 0.92, TLI = 0.91, RMSEA = 0.048, SRMR = 0.076.

Item factor loadings for the different constructs are reasonable and range from 0.48 to 0.95. Besides the potential improvements made to the model fit (as

revealed by the modification indices), the addition of the parameters between the residuals are drawn from the research-based recommendations made by Markel and Frone (1998) who noted that items that are worded in a similar manner can ultimately lead to non-construct common causes of responses within scales. For example, the items measuring supportive supervisor and rewarding co-worker support, or those measuring job engagement and organisational engagement could be interpreted as being similar or the same by the participants when giving their responses.

A common or one-factor model was created by loading all the observed variables onto one latent variable. The model fit (Table 4.5) was created (Harman, 1976) to examine the possibility of common method variance. There are numerous reasons why common method bias can be observed in research results (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Since the current study used an online survey with a common scale format (namely, a self-report, five-point Likert scale), for the collection of data, it was essential to safeguard common method biases in the collected data.

Since the one-factor model exhibits a poor fit, CFI = 0.79, TLI = 0.76, RMSEA =0.073, the researcher determined that common method variance is absent in the research data. As a result, Model B that shows the best fit was used for the testing of all proposed hypotheses. Table 4.5 highlights the model fit indices of all the models analysed in the study (namely, the initial, revised, and one-factor models). Item factor loadings for all the constructs in the revised model are highlighted in Table 4.6.

Table 4.5: Measurement Model – Fit Indices from Confirmatory Factor Analysis

	χ2	*df*	CFI	TLI	RMSEA [90% CI[d]]	SRMR
Model A: Initial model	3345.477*	1528	0.72	0.70	0.079	0.109
Model B: Modified model	817.045*	569	0.92	0.91	0.048	0.076
Model C: One-factor model	2827.222*	1470	0.79	0.76	0.070	0.073

Note: [a]hypothesised model; [b]revised model using modification indices; [c]single factor model to assess the absence or presence of common method variance; [d]90% confidence interval of the RMSEA. *$p < 0.001$.

Table 4.6: Standardised Factor Loadings of the Items onto Corresponding Constructs - Result of the CFA

Construct	**Item**	**Standardised Estimate (Standard Error)**
Supervisor Support	1. My supervisor encourages me to develop new skills.	0.76 (0.03)
	2. My supervisor encourages employees to speak up when they disagree with a decision.	0.77 (0.03)
	3. Employees are treated fairly by my supervisor.	0.85 (0.02)
	4. My supervisor is committed to protecting my interests.	0.86 (0.02)
	5. My supervisor does what he/she says he/she will do.	0.69 (0.04)
	6. I trust my supervisor.	0.87 (0.02)

Construct	Item	Standardised Estimate (Standard Error)
Rewarding Co-worker Relations	1. I sense a real connection with my co-workers.	0.95 (0.02)
	2. I feel a real 'kinship' with my co-workers.	0.77 (0.03)
	3. I feel worthwhile when I am around my co-workers.	0.80 (0.03)
Role Clarity	1. I feel certain about how much authority I have.	0.76 (0.04)
	2. Clear, planned goals and objectives exist for my job.	0.79 (0.03)
	3. I know exactly what is expected of me.	0.79 (0.04)
Self-Efficacy	1. I am confident that I could deal effectively with unexpected events.	0.79 (0.04)
	2. If I am in trouble, I can usually think of a good solution.	0.82 (0.04)
Proactive Personality	1. If I see something I do not like, I fix it.	0.74 (0.08)
	2. I am always looking for better ways to do things.	0.54 (0.10)
	3. I am constantly on the lookout for new ways to improve my life.	0.50 (0.10)
Workload	1. I feel that the number of requests, problems, or complaints I deal with is more than I expected.	0.78 (0.03)
	2. I feel pressured.	0.90 (0.04)
Psychological Meaningfulness	1. The work I do on this job is very important to me.	0.81 (0.03)
	2. My job activities are personally meaningful to me.	0.89 (0.02)
	3. The work I do on this job is meaningful to me.	0.90 (0.02)

Construct	Item	Standardised Estimate (Standard Error)
	4. I feel that the work I do on my job is valuable.	0.81 (0.03)
Psychological Availability	1. I am confident in my ability to deal with problems that come up at work.	0.48 (0.07)
	2. I am confident in my ability to think clearly at work.	0.86 (0.09)
	3. I am confident that I can handle the physical demands at work.	0.55 (0.07)
Job Engagement	1. I really 'throw' myself into my job.	0.89 (0.02)
	2. Sometimes I am so into my job that I lose track of time.	0.88 (0.02)
	3. This job is all consuming; I am totally into it.	0.74 (0.04)
Organisation Engagement	1. Being a member of this organisation makes me come alive.	0.89 (0.02)
	2. Being a member of this organisation is exhilarating for me.	0.89 (0.03)
	3. I am highly engaged in this organisation.	0.85 (0.03)
Discretionary Effort	1. I finish a job even if it means sacrificing breaks or lunches.	0.84 (0.04)
	2. I do more than is expected of me.	0.84 (0.04)
	3. I voluntarily put in extra hours to achieve a result faster.	0.78 (0.05)
Intention to Turnover	1. I frequently think of quitting my job.	0.94 (0.03)
	2. I am planning to search for a new job during the next 12 months.	0.71 (0.05)

4.6 Structural Equation Modelling: Hypothesis Testing

In this study, the relationships between antecedents of job and organisation engagement were examined. The antecedents were divided into five categories: (a) job demand (workload); b) job resources (supervisor support, rewarding co-worker relations, role clarity); c) personal resources (self-efficacy); d) individual differences (proactive personality); and (e) psychological conditions (psychological meaningfulness, psychological availability), and participants' job and organisational engagement. Structural equation modelling (based on measurement model B obtained through CFA) was used to test all the hypotheses proposed in the study.

4.7 Assessment of the Structural Model Fit

As highlighted in Table 4.7, the overall fit statistics reveal that the hypothesised model provides an adequate and satisfactory model fit. Despite the significance of the chi-square value, other fit indices satisfy the general guidelines for model assessment (Bentler & Bonett, 1980; Bentler, 1992; Hu & Bentler, 1999; Byrne, 2012). Due to the fact that large sample size studies tend to fail the chi-square test, the structural model is appropriate for the testing of all proposed hypotheses.

Table 4.7: Overall Model Fit

	χ2	*df*	CFI	TLI	RMSEA [90% CI[d]]	SRMR
Proposed model	816.197*	568	0.92	0.91	0.048	0.076

Note: 90% confidence interval of the RMSEA.

*$p < .001$.

4.8 Regression Estimates for Hypothesised Relationships

In an attempt to provide answers to the research questions about the relationships between the research variables, regression estimates were computed. SEM makes use of regression analysis in the estimation of causal relationships that may exist between variables. To assess the extent of the relationship between the variables, the magnitude and implications of the standardised parameter estimates were evaluated. Tables 4.8 to 4.11 highlight the results of the analysis based on the hypothesised model (the revised model in CFA).

Research Question 1

Relationships between Job Demand, Job Resources, Personal Resources, Individual Differences, and Psychological States

The first research question addressed by the study focused on the relationships between job demand (workload), job resources (supervisor support, rewarding co-worker relations, role clarity), personal resources (self-efficacy), individual differences (proactive personality) and psychological states (psychological meaningfulness and psychological availability). The following questions were asked:

a) What is the relationship between workload and psychological states (psychological meaningfulness and psychological availability)?

b) What is the relationship between job resources (supervisor support, rewarding co-worker relations, role clarity) and psychological states (psychological meaningfulness and psychological availability)?

c) What is the relationship between personal resources (self-efficacy) and psychological states (psychological meaningfulness and psychological availability)?

d) What is the relationship between individual differences (proactive personality) and psychological states (psychological meaningfulness and psychological availability)?

The results of the structural equation modelling (Table 4.8) reveal that the relationship between workload and psychological meaningfulness is not significant. However, the relationship between workload and psychological availability is positive and significant ($\beta = 0.28$, $p < 0.003$). Supervisor support has a positive and significant relationship with psychological meaningfulness ($\beta = 0.27$, $p < 0.003$), while its relationship with psychological availability is not significant. The relationships between rewarding co-worker relations and both psychological meaningfulness and psychological availability are not statistically significant. Role clarity has a positive and significant relationship with psychological availability ($\beta = 0.43$, $p < 0.000$), while its relationship with psychological meaningfulness is not statistically significant.

Self-efficacy has a positive and significant relationship with psychological meaningfulness ($\beta = 0.24$, $p < 0.015$), while its relationship with psychological availability is not statistically significant. Proactive personality has a positive and significant relationship with psychological availability ($\beta = 0.17$, $p < 0.019$), while its relationship with psychological meaningfulness is not statistically significant.

Overall, hypotheses 1B, 2A, 2J, 3A and 4B are statistically supported, while hypotheses 1A, 2B, 2E, 2F and 2I, 3B and 4A are not statistically supported in this study.

Table 4.8: Estimates of Standardised Path Coefficients

Direct Relationship	Standardised Estimate	Standard Error	Significance (*p*)
Psychological meaningfulness **ON** Workload	-0.09	0.08	0.26
Psychological availability **ON** Workload	0.28**	0.09	0.00
Psychological meaningfulness **ON** Supervisor Support	0.27**	0.09	0.00
Psychological availability **ON** Supervisor Support	-0.18	0.11	0.10
Psychological meaningfulness **ON** Rewarding co-worker relations	-0.02	0.10	0.81
Psychological availability **ON** Rewarding co-worker relations	-0.02	0.11	0.85
Psychological meaningfulness **ON** Role clarity	0.17	0.10	0.08
Psychological availability **ON** Role clarity	0.43**	0.10	0.00
Psychological meaningfulness **ON** Self-efficacy	0.24*	0.10	0.02
Psychological availability **ON** Self-efficacy	0.07	0.11	0.55
Psychological meaningfulness **ON** Individual differences	-0.02	0.06	0.75
Psychological availability **ON** Individual differences	0.17*	0.07	0.02

* $p < .05$, ** $p < .001$.

Relationships between Job Demand, Job Resources, Personal Resources, Individual Differences and Employee Engagement

As highlighted in Table 4.9, regarding the effects of job demand (workload) on job engagement, the relationship between workload and job engagement is significant and negative (β = -0.32, p < 0.000), and the relationship between workload and organisational engagement is also significant and negative (β = -0.37, p < 0.000). On the other hand, supervisor support has a positive and significant relationship with job engagement (β = 0.35, p < 0.000), and also has a positive and significant relationship with organisational engagement (β = 0.23, p < 0.000).

Rewarding co-worker relations has a positive and significant relationship with job engagement (β = 0.22, p < 0.000), and also a positive and significant relationship with organisational engagement (β = 0.21, p < 0.010). Role clarity has a positive and significant relationship with job engagement (β = 0.23, p < 0.000), but its relationship with organisational engagement is not significant. Thus, hypotheses 1C, 1D, 2C, 2D, 2G, 2H, 2K and 3C are statistically supported, while hypotheses 2L, 3D, 4C and 4D are not supported.

Research Question 2

Relationships between Psychological States and Employee Engagement

The second question addressed by this research focuses on the relationships between psychological states (psychological meaningfulness and psychological availability) and employee engagement (job engagement and organisation engagement).

The results of the structural equation modelling (Table 4.10) reveal a positive and significant relationship between psychological meaningfulness and job engagement (β = 0.30, p < 0.000), as well as a positive and significant relationship with organisational engagement (β = 0.11, p < 0.050).

Psychological availability has a positive and statistically significant relationship with job engagement (β = 0.30, p < 0.000), while its relationship with organisational engagement is not statistically significant. Overall, the results of the analysis support hypotheses 2A, 2B and 2C, but do not support hypothesis 2D.

Table 4.9: Estimates of Standardised Path Coefficients

Direct Relationship	**Standardised Estimate**	**Standard Error**	**Significance (*p*)**
Job engagement **ON** Workload	-0.32**	0.05	0.00
Organisation engagement **ON** Workload	-0.37**	0.05	0.00
Job engagement **ON** Supervisor support	0.35**	0.06	0.00
Organisation engagement **ON** Supervisor support	0.23*	0.10	0.03
Job engagement **ON** Rewarding co-worker relations	0.22**	0.06	0.00
Organisation engagement **ON** Rewarding co-worker relations	0.21*	0.08	0.01
Job engagement **ON** Role clarity	0.23**	0.06	0.00
Organisation engagement **ON** Role clarity	0.02	0.07	0.82
Job engagement **ON** Self-efficacy	-0.19**	0.05	0.00
Organisation engagement **ON** Self-efficacy	-0.09	0.07	0.19
Job engagement **ON** Individual differences	0.06	0.05	0.22
Organisation engagement **ON** Individual differences	0.02	0.05	0.75

* p < .05, ** p < 0.001.

Table 4.10: Estimates of Standardised Path Coefficients

Direct Relationship	Standardised Estimate	Standard Error	Significance (*p*)
Job engagement **ON** Psychological meaningfulness	0.30**	0.05	0.00
Job engagement **ON** Psychological availability	0.11*	0.06	0.05
Organisational engagement **ON** Psychological meaningfulness	0.50**	0.05	0.00
Organisational engagement **ON** Psychological availability	0.07	0.07	0.32

* $p < .05$, ** $p < 0.001$.

Research Question 3

Relationships between Employee Engagement and Discretionary Effort and Intention to Turnover

Research Question 3 addresses the causal relationships between employee engagement (job engagement and organisational engagement), discretionary effort and intention to turnover. The parameter estimates (Table 4.11) reveal a positive and statistically significant relationship between organisational engagement and discretionary effort ($\beta = 0.36$, $p < 0.003$), and a negative and statistically significant relationship between organisational engagement and intention to turnover ($\beta = -0.56$, $p < 0.000$). There is no significant relationship between job engagement and discretionary effort, but a negative and statistically significant relationship ($\beta = -0.32$, $p < 0.000$) between job engagement and intention to turnover. Hence, hypotheses 3B, 3C and 3D are statistically supported, while no support is found for hypothesis 3A.

Table 4.11: Estimates of Standardised Path Coefficients

Direct Relationship	Standardised Estimate	Standard Error	Significance (*p*)
Discretionary effort **ON** Job engagement	-0.14	0.13	0.28
Intention to turnover **ON** Job engagement	-0.32**	0.09	0.00
Discretionary effort **ON** Organisational engagement	0.36**	0.12	0.00
Intention to turnover **ON** Organisational engagement	-0.56**	0.08	0.00

* $p < 0.05$, ** $p < 0.001$.

4.9 A Summary of Results

This chapter covered the presentation of the results obtained from the data analysis. Pearson's correlation analysis and structural equation modelling were used to test the formulated hypotheses to provide the answers to the research questions. The results of the preliminary analysis are highlighted in Table 4.4. Final results of the hypothesised relationships using SEM are summarised in Table 4.12.

Table 4.12: Summary of the Final Hypothesis Testing: Results of SEM

Research Question	**Hypothesis**	**Results**
RQ1	H1A: Workload is negatively related to psychological meaningfulness	Not supported
	H1B: Workload is negatively related to psychological availability	**Supported**
	H1C: Workload is negatively related to job engagement	**Supported**
	H1D: Workload is negatively related to organisational engagement	**Supported**

Research Question	Hypothesis	Results
	H2A: Supportive supervisor is positively related to psychological meaningfulness	**Supported**
	H2B: Supportive supervisor is positively related to psychological availability	Not supported
	H2C: Supportive supervisor is positively related to job engagement	**Supported**
	H2D: Supportive supervisor is positively related to organisational engagement	**Supported**
	H2E: Rewarding co-worker is positively related to psychological meaningfulness	Not supported
	H2F: Rewarding co-worker is positively related to psychological availability	Not supported
	H2G: Rewarding co-worker is positively related to job engagement	**Supported**
	H2H: Rewarding co-worker is positively related to organisational engagement	**Supported**
	H2I: Role clarity is positively related to psychological meaningfulness	Not supported
	H2J: Role clarity is positively related to psychological availability	**Supported**
	H2K: Role clarity is positively related to job engagement	**Supported**
	H2L: Role clarity is positively related to organisational engagement	Not supported
	H3A: Self-efficacy is positively related to psychological meaningfulness	**Supported**
	H3B: Self-efficacy is positively related to psychological availability	Not supported
	H3C: Self-efficacy is positively related to job engagement	**Supported**
	H3D: Self-efficacy is positively related to organisational engagement	Not supported

Research Question	Hypothesis	Results
	H4A: Proactive personality is positively related to psychological meaningfulness	Not supported
	H4B: Proactive personality is positively related to psychological availability	**Supported**
	H4C: Proactive personality is positively related to job engagement	Not supported
	H4D: Proactive personality is positively related to organisational engagement	Not supported
RQ2	H2A: Psychological meaningfulness is positively related to job engagement	**Supported**
	H2B: Psychological availability is positively related to job engagement	**Supported**
	H2C: Psychological meaningfulness is positively related to organisation engagement	**Supported**
	H2D: Psychological availability is positively related to organisational engagement	Not supported
RQ3	H3A: Job engagement will be positively related to discretionary effort	Not supported
	H3B: Job engagement will be negatively related to turnover intention	**Supported**
	H3C: Organisational engagement will be positively related to discretionary effort	**Supported**
	H3D: Organisational engagement will be negatively related to turnover intention	**Supported**

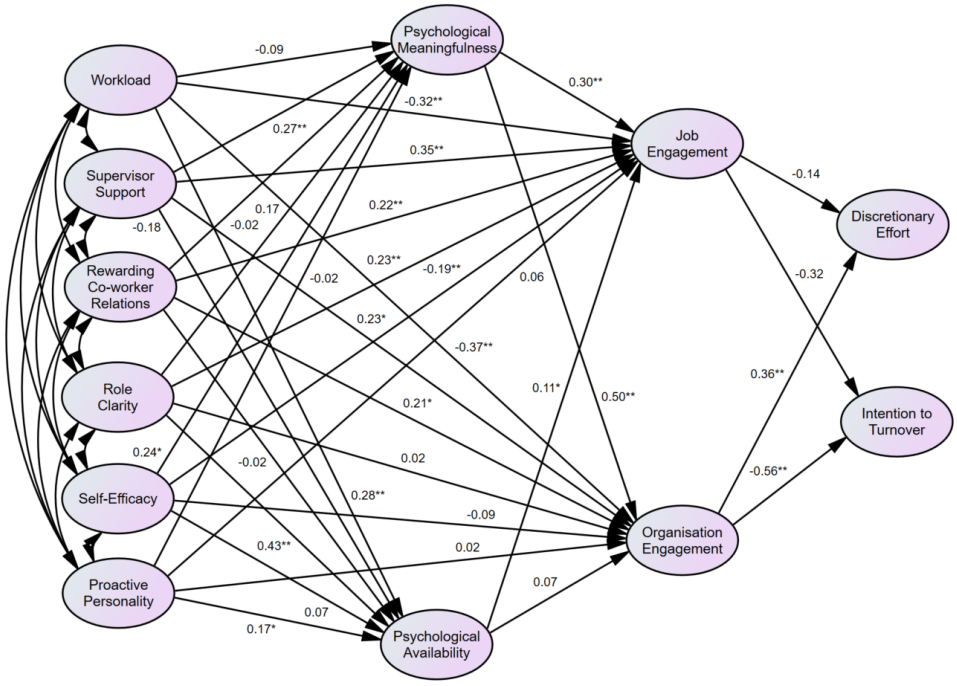

Figure 4.1: Overall Path Analysis Diagram

Figure 4.1 provides the overall path analysis for this research, obtained from structural equation modelling, showing all the statistically significant paths and all the paths that are not statistically significant.

4.10 Conclusion

The empirical findings of this research work are outlined in this chapter. The demographic characteristics of the research participants are enumerated. The descriptive statistics of the latent factors were presented, followed by the assessment of the measurement model and structural model developed for the study. In the process, the construct validity of the research instruments was validated. The internal validity of the research instruments was also reported, and all were within an acceptable range. The chapter concluded with the results of the path analysis from the SEM. The results shown in the tables revealed that most of the hypothesised relationships were supported by the data. Overall, the hypothesised model received considerable statistical

backing. The next chapter will address the results of the research and will end with a proposed improved employee engagement framework derived from the research.

CHAPTER 5

DISCUSSION

5.1 Introduction

The study examined the antecedents and outcomes of employee engagement through the lenses of the JD-R model, Kahn's theory of employee engagement, and Sak and Gruman's (2014) integrative framework of employee engagement. The study utilised these theories to develop a model with the capacity to offer more clarity on important relationships relating to employee engagement. Although the current study referred back to seminal and early studies on employee engagement (for example, Kahn, 1990; Bakker & Demerouti, 2008; Saks & Gruman, 2014; Albrecht et al., 2015) that had attempted to integrate diverse theories in explaining employee engagement, its uniqueness and originality stems from it being the first to empirically test its proposed model among public TVET college lecturers in Gauteng, South Africa. In so doing, this research addressed the relationships between employee engagement, job demand, job resources, personal resources, individual differences, psychological conditions and outcomes of employee engagement, a topic that many researchers had suggested should have been examined.

The relationships between the various factors were reflected in the three research questions addressed by this study. The relationships were investigated by formulating six hypotheses, all of which are indicated on the study's theoretical model (see Figure 4.1). The following is a discussion of the study's important findings. This section begins by highlighting and interpreting the main findings of the study, while comparing them to other studies in the literature. It is then followed by the description of the proposed model for the public TVET colleges, before covering the theoretical and practical implications of the findings of the study. The chapter concludes with suggestions of areas for further research.

5.2 Discussion of Findings

This study presented additional empirical support for the theory of engagement as noted by Kahn (1990). The roles of job demand, job resources, personal resources, individual differences, and psychological conditions in predicting job engagement and organisational engagement was investigated, and the results of the data analysis provided the statistical evidence in line with Kahn's (1990) propositions.

Regarding the relationships between job demand, job resources, personal resources, individual differences and both psychological conditions and employee engagement, a number of interesting discoveries were made in the present study. As Saks and Gruman (2014) propose, different resources may predict different types of psychological states and different types of engagement, while different psychological states may predict different types of engagement.

5.2.1 Research Question 1

The direct effects of the proposed antecedent variables on psychological conditions and employee engagement was addressed by the first research question of this study. The antecedent variables were classified into four groups – job demand, job resources, personal resources, and individual differences. The job demand group included workload; job resources consisted of supervisor support, rewarding co-worker relations and role clarity; personal resources consisted of self-efficacy; while individual differences consisted of proactive personality.

The results showed that workload had a statistically significant positive and direct effect on psychological availability, and a statistically significant negative effect on job engagement and organisational engagement. The positive relationship between workload and psychological availability was consistent with the thinking of Schaufeli and Bakker (2004: 296), who noted that job

demands are certainly not always negative. However, Schaufeli and Bakker (2004) cautioned that if not managed properly, job demands might turn out to become job stressors if fulfilling them required extremely high or additional effort from the employees.

Regarding the negative relationships between workload and both job engagement and organisational engagement, the findings of the study were consistent with those of Schaufeli, Bakker and Van Rhenen (2009: 906), who found in their research that increased job demands and decreased job resources can lead to burnout and consequently, reduced engagement. The findings of this study also supported those of Macey and Schneider (2008: 25), who found that too much mental exertion, in a bid to fulfil the requirements of a high workload, negatively impacted on engagement. The findings of this study also lent support to the works of Bakker, Demerouti and Verbeke (2004: 87), Salanova (2007: 141), Demerouti, Taris and Bakker (2007: 207), who all found that excessive job demands can lead to reduced engagement.

In this study, workload did not show any statistically significant relationship with psychological meaningfulness. This may largely be due to the sample size used for this research, especially because very large sample sizes tend to produce statistical significance. It could also be due to the fact that a stressful workload naturally diminishes in meaning to employees, because of the extra mental exertion required to fulfil the demands of such work burden (Schaufeli, Bakker, & Van Rhenen, 2009:906). However, it could also be due to the research participants already having too great a workload which had diminished the work's meaningfulness, and as a result the proposed relationship did not reach any statistical significance.

The results of this study also revealed that supervisor support had a statistically significant positive relationship with psychological meaningfulness, job engagement and organisational engagement. This means that when supervisors, senior lecturers or heads of department offer positive support to

their lecturers, the lecturers find more meaning in what they do, and as a result they tend to devote their best self to their jobs and the organisation at large. The findings of this study were consistent with those of Demerouti et al. (2001), Klusmann et al. (2008), Nafei, Khanfar and Kaifi (2012: 3), Gruman and Saks (2011: 133), Suharti and Suliyanto (2012: 131), who all found that supportive leadership has the capacity to activate feelings of meaningfulness for employees, and consequently, those employees are inspired to return the favour by being loyal and strongly engaged with the organisation. However, in this study, no statistically significant relationship was found between supervisor support and psychological availability. The absence of this relationship is not consistent with popular findings that had indicated supervisor support to be a positive predictor of psychological availability. This absence of a statistically significant relationship may be attributed to the sample from which the research participants were drawn, and to the difference in perception of this relationship by employees at the various campuses from where the participants were selected.

In this study, rewarding co-worker relations was found to have no statistically significant relationship with either psychological meaningfulness or psychological availability, a result which was likely due to the sample used for this research, or possibly the absence of a rewarding co-worker relationship in the colleges under investigation. The absence of a statistical significance could also be due to the fact that in this study's context, where other resources were at play, rewarding co-worker relations was not a key factor for driving psychological meaningfulness and psychological availability.

However, in this study, a statistically significant positive relationship was found between rewarding co-worker relations, and both job engagement and organisational engagement. This result supported the findings of Coomber and Barriball (2007) and Hayes et al. (2006), who also noted that rewarding co-worker relations enhance engagement in the workplace. Furthermore, the results of this study gave credence to the work of Sarti (2014: 229), Freeney

and Tiernan (2006), who showed that recognition and positive connections among co-workers as well as support reciprocity among colleagues were primary factors in the creation of a positive workplace and the promotion of employees' engagement.

With respect to role clarity, a statistically significant positive relationship was found between the variable and both psychological availability and job engagement. This result aligned with that in the seminal findings of Rizzo, House and Lirtzman (1970), who noted that better role clarity led to decreased necessity for coping attempts, problem solving, role strain, confusion and disengagement. The results also supported the work of Fried et al. (2003), whose longitudinal field study revealed that role clarity is a significant predictor of employee performance and engagement, as well as the work of Tang and Chang (2010), who noted that role ambiguity or the lack of role clarity, can hinder employees' creativity and thereby form a barrier to engagement.

No statistically significant relationship was found between role clarity and psychological meaningfulness or organisational engagement. The absence of these relationships could be due to the presence of stronger predictors in the model investigated. This could also imply that within the context of this study, role clarity was not a key driver of psychological meaningfulness and organisation engagement. Furthermore, the fact that role clarity did not predict organisational engagement could be due to the fact that employees considered their roles to be more job-based than organisation-focused, a belief, which if true, needed to be addressed by the management of the different TVET campuses.

The positive association between job resources and both psychological conditions as wells as employee engagement was a result consistent with the majority of studies in this area (Saks, 2006; Salanova & Schaufeli, 2008; Van den Broek et al., 2008; Alfes et al., 2013; Shantz et al., 2013; Yalabik et al.,

2013; Caesens & Stinglhamber, 2014; Rayton & Yalabik, 2014; Schaufeli et al., 2017).

Regarding personal resources, this study found a statistically significant positive relationship between self-efficacy and psychological meaningfulness, as well as between self-efficacy and job engagement. The findings lent support to the studies by other authors (Federici & Skaalvik, 2011; Breevaart, Bakker, & Demerouti, 2014; Schaufeli & Taris, 2014), who had stated that personal resources have a significant impact on employees' perception of their job. The results of this study also supported those of a number of other authors (Luthans & Peterson, 2002; Hobfoll et al., 2003; Xanthopoulou et al., 2007; Bakker & Demerouti, 2008; Xanthopoulou et al., 2009a; Sweetman & Luthans, 2010; Bakker, Albrecht, & Leiter, 2011; Warshawsky, Havens, & Knafl, 2012) who discovered that feelings of self-efficacy, self-confidence, optimism promote employee engagement.

However, this study found no statistically significant relationship between self-efficacy and psychological availability, or between self-efficacy and organisational engagement. The absence of this significant relationship could possibly be ascribed to the study's sample size, the composition of the research participants, and it could be an indication that within the context of this study, self-efficacy was not a key driver of psychological availability and organisational engagement. Self-efficacy not predicting organisational engagement could also mean that there was not much room for self-efficacy being applied in a strictly controlled curricular environment, or it could be attributed to the possibility that employees who believe more in themselves would do their best to succeed in their job, creating the perfect resume for career progression or career change, either within their current organisation or with another organisation.

Regarding the association between individual differences and psychological conditions, the study showed that the variable proactive personality had a

statistically significant positive relationship with psychological availability, a discovery supported by Bateman and Crant (1993), Seibert, Crant & Kraimer (2001), and Bakker, Tims & Derks (2012). The results of this study also supported those of Caniëls, Semeijn and Renders (2017), Wang et al. (2017), and McCormick et al. (2018), who affirmed that proactive personality had a statistically significant influence on psychological states. However, proactive personality showed no statistically significant relationship with psychological meaningfulness, job engagement or organisational engagement.

Proactive personality (individual differences) not predicting psychological meaningfulness, job engagement or organisational engagement may be due to the presence of other stronger predictors in the model, an implication that proactive personality was not a key driver of psychological meaningfulness, job engagement or organisational engagement within the context of this study. It is also possible that this finding could have been due to the composition of the research participants, giving that in the past, researchers found statistically significant relationships between these variables. As a result, further exploration of these variables is recommended for future work.

Overall, the study findings were consistent with the concept that job demand, job resources, personal resources and individual differences can influence the psychological conditions and employees' engagement, and that psychological conditions can influence employees' engagement, as well as the fact that employees' engagement can influence a number of other work-related outcomes. This study has shown that supervisor support, rewarding co-worker relations, role clarity, self-efficacy and proactive personality influence the psychological conditions and engagement of employees in an organisation, and that psychological conditions have a direct impact on employees' engagement. It was also shown that employees' engagement was a significant predictor of a number of organisational outcomes.

These findings implied that through proper supervisory support, the presence of healthy, positive co-worker relations and role clarity, employees are more likely to develop positive emotions or harness their personal resources, and exhibit individual characteristics that can influence their psychological states, and consequently, their engagement. Similarly, when employees commit to or are engaged in their job and organisation, they are more likely to have positive emotions that would propel them to invest more effort in their work, and go 'the extra mile' beyond what was required of them, and commit their services longer to the organisation.

These findings indicated that the results in the South African context resembled prominent results from past researches conducted in Western countries. Therefore, the country context was likely not a factor that had any interference in the relationship between employee engagement and other variables.

With the position of personal resources in the JD-R model still being debated (for example, Salanova et al., 2010; Saks & Gruman, 2014), the results of this study affirmed that personal resources ought to be considered as antecedents to employee engagement in any model explaining employee engagement. This finding addresses the overall research question about the relationship between personal resources and employee engagement.

Research Question 2

The second research question examined the relationships between psychological conditions and employees' engagement. The findings of this study supported the view that psychological conditions were positive antecedents of employee engagement. Psychological meaningfulness was found to be positively related to job engagement and organisational engagement, while psychological availability was found to be positively related to job engagement, but not to organisational engagement. The results of this

study aligned with those of May, Gilson, and Harter (2004), Matsuka and Christiansen (2008), Rothmann and Rothmann (2010), Chang and Tay (2010), Fairlie (2011), and Rothmann and Buys (2011), who all reported that psychological meaningfulness is a statistically significant predictor of employees' engagement.

The results of this study further lent support to the work of Soane et al. (2013), who found that meaningfulness had a significant effect on engagement. Soane et al. (2013) investigated "the relationship between meaningfulness and employees' engagement by using a sample of 625 employees" who work in a service organisation in the United Kingdom. In their results, meaningfulness was found to have a strong effect on engagement ($\beta = 0.69$, $p < 0.05$) after they controlled for gender, age, and the survey method.

The results of the present study were consistent with results from the study conducted by Fairlie (2011). Fairlie investigated the effects that meaningful work, intrinsic and extrinsic rewards, leadership, supervisor and co-worker relationships, organisational support, work demands, and work-life balance had on engagement. The study observed that meaningful work had a positive and unique effect on engagement and showed the regression coefficient (β) of meaningful work to be 0.64 ($p < 0.001$), a suggestion that engagement was strongly predicted by meaningful work.

The absence of a statistically significant relationship between psychological availability and organisational engagement could be due to most lecturers in the TVET space associating engagement solely with their job, and that they would devote extra effort to organisational affairs outside their scope of work only under mandatory circumstances. It is not uncommon for employees being 'loaded' with many extra tasks of their job, and asked to get involved in organisational activities not directly linked to their job, and no compensation being offered (Rothmann & Welsh, 2013) for that extra effort.

Working in the TVET arm of the higher education sector as an academic requires working in a mentally tasking atmosphere. The ability to be effective in this job would normally depend on faculty having the right resources, and the right state of mind to cope with the associated demands. This could explain the reason for the positive predictive results of job resources, personal resources and psychological conditions related to employees' engagement. This indicated why these resources as conditions were prominent in this context, while these resources and the employees' psychological states may not be as important in other contexts, where the job is not so mentally draining, and exertion of energy is linked to a more physical job.

Research Question 3

The third and last research question of this study investigated the relationship between employees' engagement and the outcome variables of discretionary effort and intention to turnover. The results of the study were consistent with the concept that employees' engagement can influence positive employee intention and behaviour in an organisation. Organisational engagement and job engagement were found to have a statistically significant negative relationship with intention to turnover.

Engagement being negatively associated with turnover intention implies that engaged employees are more likely to commit their services long-term to their organisation compared to unengaged employees. These findings echoed the results from many other academic studies (Saks, 2006; Shuck, Reio & Rocco, 2011; Wefald, Reichard & Serrano, 2011; Soane et al., 2012; Kim, 2012; Yalabik et al., 2013; Mxenge, Dywili & Bazana, 2014; Takariwa et al., 2014). This study revealed that employees who were engaged with their jobs and the organisation, found meaning in the work they did, and were confident that they had the right resources to do their work; therefore, they were less likely to have any intention to leave the organisation.

This study also found a statistically significant positive relationship between organisational engagement and discretionary effort, and a non-statistically significant relationship between job engagement and discretionary effort. Engaged employees demonstrated not only duty-bound behaviours in the execution of individual and organisational tasks, but also displayed discretionary behaviours, in a bid to ensure the organisation's success (Demerouti & Cropanzano, 2010). The results of this study aligned with those of a number of other authors (Saks, 2006; Kular et al., 2008; Lloyd, 2008; Reychav & Sharkie, 2010; Shuck, 2010; Shuck, Reio & Rocco, 2011; Zigarmi et al., 2012), who all found that employees' *organisational* engagement was a statistically significant predictor of discretionary effort.

The absence of a statistically significant relationship between *job* engagement and discretionary effort was consistent with the findings of Shuck (2010), who reported that even though there was a positive correlation between employees' organisational engagement and discretionary effort (as was also the case in this study), no statistically significant association was found between job engagement and discretionary effort. This lack of statistically significant relationship could be due to the sample size and sample composition, or even the choice of research instruments used in the study.

The inconsistency may also be due to the fact that job engagement and discretionary effort are outputs of psychological conditions as opposed to job engagement, which is a mediator variable in the relation between psychological conditions and discretionary effort; thus, with the optimal positive psychological conditions, employees tend to be more likely to display both higher levels of job engagement and discretionary effort. However, this finding opened up the need for further research into this relationship.

Using the model proposed in this study, it could be explained that an engaged employee would have experienced meaningfulness in their job, based on the availability of job resources, personal resources and individual resources, thus

making the employees more keen to do their job to the best of their ability, giving the best of themselves towards the success of their organisation, and going ‘the extra mile’ beyond what was required of them. This can enable the employee being able to face and cope with difficulties at work, which otherwise would have made them re-evaluate their employment.

Additionally, engaged employees are more likely to complete their job with feelings of satisfaction, and therefore, have no reason to feel that they need to find another job. When employees enjoy their work, they tend to devote themselves to that job. Instead of a constant desire to change employers and seek a new job adventure elsewhere, they will rather focus on what to do now, and how they can improve their performance. They will be far less likely to resign from their current employer.

5.3 Proposed Model

The proposed model derived from this study and recommended for adoption by the public TVET colleges is shown in Figure 5.1.

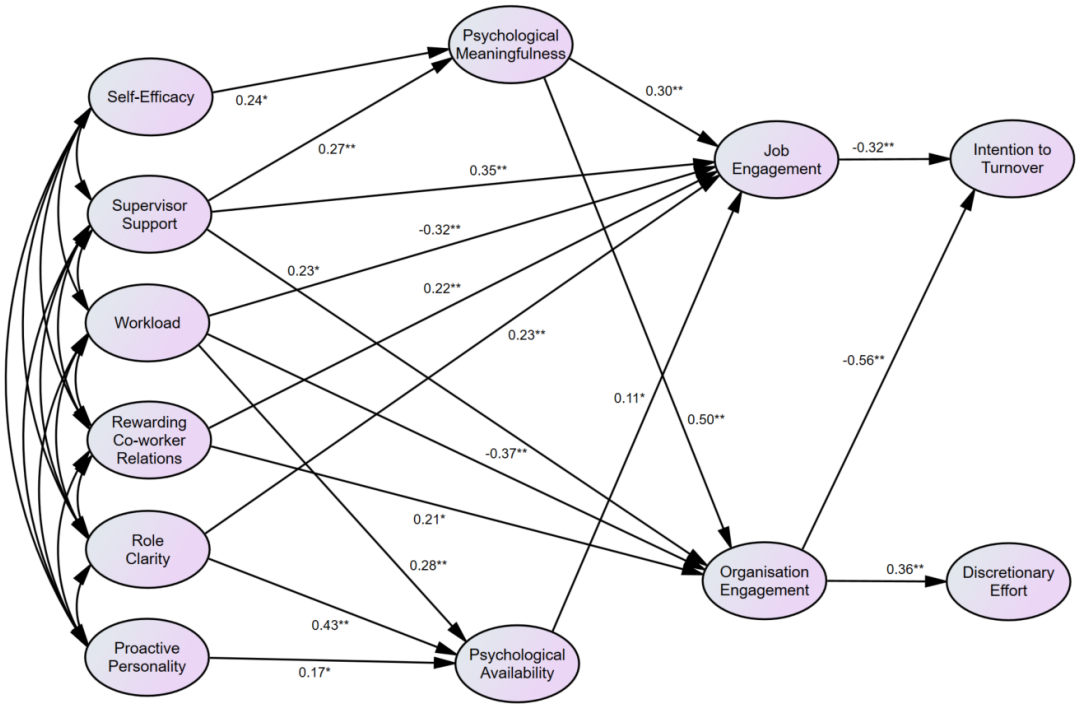

Figure 5.1: Proposed Model for the TVET Colleges

This study, in line with the proposition by Sak and Gruman (2014), who stated that different resources might predict different psychological conditions and different engagement, while different psychological conditions might predict different types of engagement, found some interesting relationships and therefore, the following is proposed:

- The public TVET colleges need to provide job resources that will enhance their employees' personal resources, while allowing for the expression of positive individual differences. This will lay the foundation for employees' engagement within the different campuses investigated.
- In order to promote a healthy, positive working environment and psychological meaningfulness among the employees of the TVET colleges, this study recommends that every effort should be made by these colleges to provide positive supervisor support, and leaders who encourage employees to seek personal and organisation-based avenues that promote

self-efficacy, because both were found to be positive predictors of psychological meaningfulness.

- To promote psychological availability, this study proposes that lecturer workload be constantly reviewed to prevent the workload from becoming job stressors, and as a result eliminate the possibility of burnout and disengagement. The role of lecturers with respect to their jobs and within the organisation, namely, at campus level, should be well spelled out, so that there is no room for ambiguity, which could lead to disengagement.
- The study also proposes that the TVET colleges create an environment that allows lecturers to be able to express their individual proactive input, a proposal based on the findings that proactive personality positively predicted psychological availability in this study. These proposals are premised on the discovery that workload, role clarity and proactive personality positively predicted psychological availability in this study.
- In this study, job engagement was predicted by supervisor support, rewarding co-worker relations, role clarity, workload, psychological meaningfulness, and psychological availability. It is, therefore, proposed that a conscious effort be made by the TVET colleges to promote positive supervisor support, encourage rewarding co-worker relations, clearly define employees' roles, and constantly review the workload of the lecturers to promote higher levels of job engagement. Psychological meaningfulness as a predictor of job engagement was predicted by self-efficacy and supervisor support, while psychological availability as a predictor of job engagement, was predicted by workload, role clarity and proactive personality, as mentioned earlier.
- Organisational engagement, as found in this study, is predicted by supervisor support, rewarding co-worker relations, workload, and psychological meaningfulness. It is, therefore, recommended that the TVET colleges ensure that efforts are made to have all essential resources readily available to their lecturers. Campus managers should be supportive of heads of departments (HODs), HODs should be supportive of senior

lecturers, and senior lecturers should be supportive of lecturers. A culture of rewarding co-worker relations should be encouraged. Supervisors should be willing to provide the relevant and appropriate support to their subordinates, over and above what is required, so that the subordinates can find meaning in the role they play as lecturers.

- Finally, from the findings of this study, the researcher believes that if the right resources and psychological conditions are in place, and job engagement and organisational engagement are high enough, the TVET colleges will reap the benefits of such high engagement levels. For example, intention to turnover will be reduced significantly, and discretionary effort will improve considerably. This proposition is based on the fact that in this study, job engagement and organisational engagement both predicted intention to turnover, while organisational engagement also predicted discretionary effort.

Table 5.1: Summary of Research Propositions

Independent Variable (Predictor)	Dependent Variable
Self-Efficacy Supervisor Support	Psychological Meaningfulness
Workload Role Clarity Proactive Personality	Psychological Availability
Supervisor Support Rewarding Co-worker Relations Role Clarity Workload Psychological Meaningfulness Psychological Availability	Job Engagement
Supervisor Support Rewarding Co-worker Relations Workload Psychological Meaningfulness	Organisation Engagement
Job Engagement Organisation Engagement	Intention to Turnover
Organisation Engagement	Discretionary Effort

5.4 Conclusion

This chapter presented the discussion of the findings from Chapter 4. The various relationships uncovered in this research were explained, and based on the results of the study, a revised model was proposed for the public TVET colleges included in this study. As suggested by Sak and Gruman (2014), this study included a mix of variables, included to uncover the variables that will predict different psychological states and different types of engagement. Table 5.1 shows the findings of this study. While this study found antecedents to employee engagement that were consistent with engagement research, there were a few findings that differed. As a result, further research is necessary to validate the relationships proposed in the study.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

6.1 Implications for Scholars

Literature delivered considerable evidence supporting and extending Kahn's (1990) model of employee engagement, through the provision of empirical evidence that employee engagement was linked with the antecedent and outcome variables also investigated in this study. The results obtained in this study offer additional evidence for Kahn's theory of engagement, which contends that an employee's level of engagement increases, or decreases based on the employee's experience and psychological conditions that are influenced by contextual, job and personal factors.

With regard to implications for scholars, this study extended the employee engagement body of work or literature by the validation of the proposed conceptual research framework and the confirmation of the structural relationships between employee engagement and its antecedent and outcome variables within the South African public TVET college contexts, with particular focus on Gauteng Province. The study established that employee engagement is a relevant concept for public TVET colleges in Gauteng, South Africa. It also established that employees' engagement could be improved upon and more effectively managed through the combined efforts of campus managers, HODs, senior lecturers and the lecturers (for example, the individual employees' discretionary efforts and intention to turnover) within the different campuses to generate more positive outcomes for the organisations.

The results of this study presented empirical evidence that components of the employee engagement model have relational and predictive value, while certain results contradict those from some past studies. Worthy of note, particularly in relation to theory formation is the absence of a predictive relationship between (1) rewarding co-worker relations and psychological meaningfulness, (2) rewarding co-worker relations and psychological

availability, (3) role clarity and psychological meaningfulness, (4) role clarity and organisation engagement, (5) self-efficacy and psychological availability, (6) self-efficacy and organisation engagement, (7) psychological availability and organisation engagement, and (8) between discretionary effort and job engagement, as suggested by past researchers (Towers Perrin, 2007; Kular et al., 2008; CLC, 2004; Maslach et al., 2001).These results contradict results

As there is only a few past studies on employee engagement within the TVET sector in South Africa, more research efforts into the conceptualisation and examination of employee engagement might be necessary. For example, researchers in the HRD and OD domains in South Africa could invest in further studies through the replication and modification of the current study in different academic settings (for example, public TVET colleges in Gauteng or the other provinces in South Africa). Furthermore, researchers could build on the results of this study by including other possible antecedents (for example, leadership behaviour, opportunities for professional development, performance feedback, and so forth) and outcome variables (for example, job satisfaction, creativity, and organisational commitment) related to employee engagement. Future research could also focus on some of the relationships that are not statistically significant in this study, to better explain the absence or presence of such relationships.

This study provides evidence of relationships at the zero-order correlational level for these variables, but these relationships become non-significant in the structural equation model. These conflicting findings present opportunities for future research, because from all indications, the conceptual model or framework of employee engagement will benefit from further modification.

6.2 Implications for Practitioners

Employers, their employees, HRD and OD practitioners still grapple with the concept of employee engagement in spite of its growing relevance and

importance. It appears as though they are still learning to understand the concept. For example, some employees' understanding of engagement is similar to their understanding of job performance or job satisfaction, and they do not seem to understand the difference between engagement and these other constructs. It is, therefore, imperative for HRD and OD practitioners to give more attention to interventions at the individual level as part of the organisational effort to educate employees about employee engagement, and to help these employees understand why personal and organisational engagement are beneficial. Without this education, change efforts initiated by the organisation may face employee resistance and wasting the organisation's resources.

Although more research is required to advance knowledge in this field, the results from this study provide important and strategic leverage points for HRD and OD professionals between specific or grouped antecedent variables, employee engagement, and outcome variables of discretionary effort and turnover intentions.

Within the TVET context, results from this study suggests that job resources (in the form of supervisor support, rewarding co-worker relations and role clarity) and psychological conditions (in the form of psychological meaningfulness) should be provided in order to increase employee engagement (in the form of job engagement and organization engagement). Furthermore, personal resources (in the form of self-efficacy) should be explored in other to increase psychological meaningfulness experienced by the lecturers. To promote psychological availability, job resources (in the form of role clarity), individual differences (in the form of proactive personality) and positive workload (i.e. workload backed with adequate job resources) should be provided.

However, based on discussions with key stakeholders, it is clear that the concept of employee engagement is not receiving sufficient attention at public TVET colleges. HRD and OD practitioners within the TVET colleges could develop and implement training programmes in the form of workshops to support and facilitate employee engagement in their different campuses. These training programmes would include a clear outline of the training content, a clear definition of the terms and the desired training outcomes.

For example, the HR department would need to define and clearly outline what employee engagement means to their campuses, either through the adoption of one of the existing definitions of employee engagement or by devising a definition suitable for their campuses. HR managers within the campuses could create and implement short but detailed workshops to present and explain the concept, by clearly outlining the following: (a) How the campus defines and operationalises employees engagement with its sub-dimensions (for example, job engagement, and organisation engagement); (b) differentiating between employee engagement and similar concepts (for example, job performance and job satisfaction); (c) the relevance and benefits of employee engagement to both individual employees and the campus; (d) the availability of resources that could enable the employees to improve their engagement (for example, job and personal resources); and (e) what job demands or workplace factors need to be changed to avoid burnout and disengagement.

Furthermore, in light of the fact that personal resources such as self-efficacy could contribute to improved employee engagement, HR practitioners should consider developing and implementing training programmes or seminars focused on positive behaviour, stress management, and the management and improvement of employees' self-efficacy. Using these interventions, HR practitioners can help to develop among the lecturers a buy-in regarding positive and meaningful involvement in their jobs and the campus, thus also

developing employee engagement across the entire college. In doing so, employees can fully buy into the corporate vision.

Senior management should be made aware of the benefits they will reap when they lead the charge for employee engagement (for example, the enhancement of individual and team performance, creation of collaborative synergy and the reduction in employees' turnover rate). Special focus should also be on the HOD-senior lecturer relationships, as well as the senior lecturer-lecturer relationships, with respect to what support can be provided regarding job resources, creating a healthy workplace, and reviewing subordinates' working conditions.

Additionally, based on the relevance of job resources (as seen in the results of this study), HR practitioners could work together with supervisors, managers, and top management in the identification of relevant job resources (supervisor support, rewarding co-worker relations and role clarity) required for each level of the organisation (namely, individual employees or teams/groups) to realise their set outcomes. In identifying these resources, the campuses should consider three categories of resources: (a) immediately accessible job resources; (b) potentially accessible resources (namely, available resources not currently leveraged); and (c) deficient job resources (Hakanen & Roodt, 2010).

Concerning the categories of immediately and potentially accessible job resources, HR practitioners should lend more support and encouragement in the identification and thereafter utilisation of all available resources to enable employees to have full access to better resources for the achievement of set targets and goals. Regarding deficient job resources, HRD/OD practitioners in collaboration with top management should deliberately work towards making those resources available to its workforce or as short-term plan, find alternative ways to minimise the gaps created by these deficient resources.

The results of this study can be adopted by HRD and OD practitioners for the establishment and implementation of HR policies, capable of boosting employee engagement within the organisation. If closely related policies exist, HRD/OD practitioners should consider modifying such policies to align with their vision for employee engagement, and to continuously support and enable employee engagement. An evaluation of individual and team actions taken to sustain such engagement should also be part of the conversation. The HODs and/or senior lecturers can then hand over the report of the meetings to the HR department, with the inclusion of the action plans that their departments or teams will take and the support required from the college. If found that some teams or departments (through collective effort) have shown significant progress in terms of engagement levels, some sort of remuneration or reward should be made available to these teams or departments and such progress should be communicated to the rest of the college as a form of college-wide best practices. These best practices can be incorporated into HR policies to further add credence to the organisation's effort to drive employee engagement.

HRD/OD practitioners should consider monitoring employee engagement levels periodically, by using or adapting any of the available employee engagement measurement, or by coming up with a measurement scale specifically designed for their organisation. With many organisations in the habit of conducting annual employee opinion surveys, particularly in relation to employees' feelings about their job and the organisation at large, HRD/OD practitioners should consider integrating employee engagement-related items into those opinion surveys. This would afford them the opportunity to understand and deal with relevant issues regarding employee engagement over time and uncover relationships between employee engagement and other organisational interests. More importantly, the results of the opinion surveys could be a vital tool providing relevant insights, based on the shared opinions of the employees, and which HR practitioners can use to develop and implement organisational interventions.

The results of this study can be very beneficial to the South African government who is the major stakeholder of TVET colleges. The South African government, through the department of higher education and training should take proactive steps to engage the management of public TVET colleges so as to better understand the reasons for low levels of engagement. This study has shown for example, that excessive workload, supervisor and co-worker support, rewarding co-worker relations and role clarity are significant of employee engagement, therefore the government should ensure that DHET in a managerial/supervisory capacity ensures that the TVET colleges are adequately resourced and managed in other to reduce negative job demands and increase the provision of adequate job resources. For example, the government can ensure its vision for the public TVET colleges succeeds by implementing actions that mandates the management of public TVET to pay attention to the workload of the lecturers, provide adequate job resources, deploy strategies that promote workplace support, work with their HR department to improve recruitment policies and provide clear job descriptions for current and prospective employees. Improved employee engagement levels at these colleges will translate to high quality teaching which will translate to better student throughput and thus the availability of a qualified and competent workforce that will contribute valuably to the South African economy, as envisioned by the government.

In summary, organisations with the desire to increase performance and competitiveness should consider shifting their focus to the development of employee engagement as a core competence. This study is rich in support for the utilisation of each of the variables investigated in the study, in the development of concrete and strategic interventions around employee engagement. HR and OD practitioners can play a crucial role in the design and implementation of these interventions in ways that increase employee engagement and will have a positive impact on the organisational outcomes.

6.3 Recommendations/Directions for Future Studies

Despite the similarity between the results of this study and those from past engagement research, there exists a wide gap in what is known and what is not known about employee engagement. There are many areas of the concept that can be addressed by future studies to close the gap between the known and the unknown, and as a result enhance the understanding of the concept, its antecedents and its outcomes. Below is a discussion of recommendations for future studies.

Researchers are encouraged to further test this model of employee engagement and the antecedent and outcome variables used in this study on diverse organization settings and population. Furthermore, several potential antecedents need to be investigated to understand the extent to which they predict employee engagement. In spite of the momentum the concept of employee engagement is gaining among researchers, published results still did not cover all the possible aspects of the concept. What drives engagement, when and where does it start? How many types of engagement are there? What are the antecedents and outcomes of engagement? These are all valid questions that have been addressed partially by past research. In the quest to fully understand the concept of employee engagement, research on the concept must reach a point of convergence. The antecedents that have been investigated in previous research need to be further explored to address the contradictory results of certain factors. In addition, potential antecedents that are yet to be investigated need to be explored using theory-driven, robust models.

This study can be replicated for private TVET colleges in Gauteng to enable a comparison between the engagement levels at private TVET colleges and those of public TVET colleges. If variances are found with the engagement levels, the reasons for such variance would make for an interesting study. Future research could also consider exploring the non-significant relationships

found in this study to better understand if such non-significance was due to sample size, the composition of the research participants, or some error(s) unaccounted for in this study.

The number of research studies exploring the concept of employee engagement using a qualitative approach needs to increase (Kim et al., 2013; Shuck, 2013). The number of past research on employee engagement, conducted via a quantitative approach far outnumbers those conducted using a qualitative methodology conducted (Kim et al., 2013). As Shuck (2013) notes, the engagement construct is one that requires a thorough investigation through both qualitative and quantitative research.

Finally, this study was a cross-sectional study that was conducted at a particular period in time. A limitation of cross-sectional studies is that it only addresses cause and effect relationships uni-directionally. Employee engagement can vary over time, based on a number of factors such as the availability or absence of job resources. A longitudinal study may, therefore, be able to uncover if such changes in engagement occur. Engagement researchers such as Biggs, Brough, and Barbour (2014), Schaufeli, Bakker, and Van Rhenen (2009), and Hakanen, Schaufeli and Ahola (2008) used longitudinal designs in their studies, and therefore opened the door to more longitudinal studies in the future.

6.4 Contribution to Knowledge

This study was conducted because of the very few number of studies available on employee engagement within the TVET sector in South Africa (Beukes, 2019; Jeremiah, 2018; Buthelezi, 2018; Mmako, 2016; Jonker, 2016), and because of the knowledge gap that existed as a result. Furthermore, the need for lecturers at public TVET colleges to display high levels of engagement in other to fulfil their government-defined mission of serving as "*a critical medium that can significantly aid the growth of businesses and contribute immensely*

to economic development in South Africa" contributed to the need for this study. However, a number of factors such as excessive workload, inadequate job resources and the absence of a healthy workplace prevents public TVET college lecturers from fully engaging with their job and the organization at large. This study focused on specific organisational and individual factors that could contribute to the promotion of employee engagement among academic staff at public TVET colleges in the Gauteng Province, as well as specific factors that are influenced by an increased level of employee engagement.

A significant achievement of this study was contributing to engagement research by theoretically explaining and empirically supporting the position of (1) job demand, job resources, personal resources and individual differences as antecedents of psychological conditions within the public TVET college setting and (2) job demand and job resources as antecedents of employee engagement within the public TVET college setting.

Another contribution of this study is the establishment that psychological conditions, i.e. psychological meaningfulness and psychological availability are statistically significant predictors of employee engagement within the public TVET College setting. Furthermore, theoretical link between employee engagement and the outcome variables of (1) discretionary effort and (2) turnover intention within the public TVET context was also established.

Additionally this study adds literature on employee engagement in South African higher education sector, particularly the technical and vocational education and training sector. The findings should also help TVET colleges develop an improved employee engagement framework and consequently provide a clearer insight to practitioners and researchers, guiding the development of appropriate strategies needed to foster employee engagement locally, and particularly in TVET colleges in Gauteng and South Africa as a whole.

Finally, the findings of this study have been largely consistent with those of past studies conducted in different organizational settings across the globe, an indication that employee engagement as a construct was not affected by the context of this study. The consistency of results also reduces the notion that cultural or political diversity influence the nature of employee engagement.

6.5 Conclusion

As indicated by the results of this study, employee engagement was found to cause strong and important consequences for organisations; therefore, the leaders of organisations must strive to consciously create the conditions conducive for the development and growth of employee engagement. As the expansion in the field of HRD/OD continues, employee engagement provides a means by which HRD/OD practitioners can help employees cope and thrive within the confines of an ever-changing workplace or organisation. Therefore, the development of a highly engaged workforce is important for all organisations that want to achieve a positive working environment, where employees are motivated, engaged and loyal to the organisations, and willing to go the extra mile beyond what is expected of them.

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APPENDICES

Appendix A

LETTER OF INFORMATION

Title of the Research Study: Developing measures to improve employee engagement in public Technical Vocational and Educational Training (TVET) Colleges in Gauteng Province, South Africa – An investigation of antecedent and outcome variables.

Principal Investigator/researcher: National Diploma, BTech (Honours) - Electrical and Electronic Engineering, MTech - Electrical Engineering, Master of Business Administration (MBA).

Supervisor:

Brief Introduction and Purpose of the Study: The purpose of this study is to develop measures to improve employee engagement in public Technical Vocational and Educational Training (TVET) Colleges in Gauteng Province, South Africa, by investigating relevant antecedent and outcome variables.

Outline of the Procedures:

An application to conduct research in public colleges will be submitted to the Department of Higher Education and Training. Once the application is approved, the researcher will contact the principals of the selected colleges to brief them about the research aims and objectives. Once the principals have been briefed and their cooperation guaranteed, an internet-based self-report

survey will be used to collect data from the academic staff members of the TVET colleges.

As a research participant, you will be selected randomly from all the academic staff members at the public TVET colleges in the Gauteng Province, and then contacted via email. The email will contain information about the study and a link to the informed consent form on the first page of the survey tool. You will be required to accept the terms of the informed consent form by clicking agree before you can start the survey. Once you complete the survey, responses will be stored inside the survey tool until the target sample size is reached. When you complete the survey, a page will indicate that you have reached the end of the survey. The survey responses will then be downloaded into SPSS or R, in which the data analysis will be performed.

Risks or Discomforts to the Participant: The researcher will explain that you can choose not to respond to questions if you feel that the questions expose you to unnecessary discomfort. There are no foreseeable risks or discomforts to the participants.

Benefits: The benefits of this research are numerous. The research will enrich the field of management studies and assist the DHET as well as the management of TVET colleges to understand factors and design appropriate interventions that could significantly improve the engagement levels of academic staff members at TVET colleges. This research will also result in academic publications, thus contributing to the body of knowledge on the concept of employee engagement, particularly in a TVET context.

Reason/s why the Participant May Be Withdrawn from the Study: In the event that you are incapacitated, you may be withdrawn from participating in the research. Also, participation is voluntary and you may withdraw from the research at any time and for any reason.

Remuneration: Participation In this research is strictly voluntary, and as a result, there is no remuneration for participation.

Costs of the Study: No cost will be incurred by you for your participation in this research.

Confidentiality: All the information collected will be kept confidential. Your personal details and that of your college will not be disclosed, except when permission to publish name is granted. Data that may be reported in scientific journal will exclude information that might lead to the identification of research participants.

Research-related Injury: No research-related injury is anticipated while conducting this research.

Persons to Contact in the Event of Any Problems or Queries:
Please contact the researcher (.), my supervisor () or the Institutional Research Ethics administrator on 031 373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, Prof S. Moyo on 031 373 2577 or moyos@dut.ac.za.

Appendix B

CONSENT

Statement of Agreement to Participate in the Research Study:

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

_____ _____ _____

Full Name of Participant **Date** **Time**

_____

Signature / Right Thumbprint

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

_____	_____	_____
Full Name of Researcher	**Date**	**Signature**

_____	_____	_____
Full Name of Witness (If applicable)	**Date**	**Signature**

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

Appendix C

Cover Letter

Faculty of Management Sciences
Department of Public Management & Economics
Date

Dear Participant

I, , a PhD student at Durban University of Technology (DUT), invites you to participate in a research titled: Developing measures to improve employee engagement in public Technical Vocational and Educational Training (TVET) Colleges in Gauteng Province, South Africa – An investigation of antecedent and outcome variables.

Participation in this research will assist to gather data on antecedent and outcome variables of employee engagement that could be harnessed to help improve the engagement levels of TVET lecturers in the Gauteng Province. The research findings will be published in local and international journals, presented at local and international conferences, and will be used to develop strategic interventions that will improve employee engagement of lecturers at the TVET colleges in Gauteng.

Kindly note that you have the right to decline participation in this research. Participation is voluntary and does not include any monetary benefit from the researcher to the participants. The researcher will keep all the names of the

participants and organisation as pseudonym or disguised as a matter of confidentiality and anonymity.

If you have any questions or concerns about completing the questionnaire, you can contact the researcher on 073 186 1752. Completing the questionnaire will take about 20 minutes to 30minutes.

Thank you for your participation.

Sincerely;

_____

Student Contact Details –

_____

Professor
Supervisor / Promoter
Contact Details –

Appendix D

Research Questionnaire

A. Demographic Information

1. **Age**
   - ☐ 20 – 29 years old
   - ☐ 30 – 39 years old
   - ☐ 40 – 49 years old
   - ☐ 50 – 59 years old
   - ☐ 60 years or older

2. **Gender**
   - ☐ Male
   - ☐ Female

3. **Race**
   - ☐ African/Black
   - ☐ Coloured
   - ☐ Indian
   - ☐ White

4. **Education**
   - ☐ Matric/Secondary
   - ☐ Nated (N6)
   - ☐ National Certificate Vocational (Level 4)
   - ☐ Diploma
   - ☐ Degree
   - ☐ Honours
   - ☐ Masters
   - ☐ Doctorate

5. **Marital status**

- ☐ Single
- ☐ Married
- ☐ Separated
- ☐ Divorced
- ☐ Prefer not to answer

6. **Home language**

- ☐ IsiZulu
- ☐ Afrikaans
- ☐ Xhosa
- ☐ Tswana
- ☐ Sesotho
- ☐ Venda
- ☐ Tsonga
- ☐ Swati
- ☐ Ndebele
- ☐ English
- ☐ Sepedi

7. **Number of years with the TVET college**

- ☐ 1 – 2 years
- ☐ 3 – 5 years
- ☐ 6 – 10 years
- ☐ 11 – 15 years
- ☐ 16 – 20 years
- ☐ 21 – 25 years
- ☐ More than 25 years

8. **Type of employment**

- ☐ Permanent
- ☐ Temporary

9. Job title and level

- ☐ Head of Department (PL3)
- ☐ Senior Lecturer (PL2)
- ☐ Lecturer (PL1)

10. Department

- ☐ Engineering studies
- ☐ Business studies
- ☐ Utility studies
- ☐ Occupational programmes

B. Research Variables/Constructs

Please read the statements below and indicate (with “x”) to what extent you agree or disagree with each statement.

Questions	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Workload/overload scale	**5**	**4**	**3**	**2**	**1**
1. I feel that the number of requests, problems, or complaints I deal with is more than expected.					
2. I feel that the amount of work I do interferes with how well it is done.					
3. I feel busy or rushed.					
4. I feel pressured.					
Supportive supervisor relations scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. My supervisor helps me solve work-related problems.					
2. My supervisor encourages me to develop new skills.					
3. My supervisor keeps informed about how employees think and feel about things.					
4. My supervisor encourages employees to participate in important decisions.					
5. My supervisor praises good work.					

6. My supervisor encourages employees to speak up when they disagree with a decision.					
7. Employees are treated fairly by my supervisor.					
8. My supervisor is committed to protecting my interests.					
9. My supervisor does what he/she says he/she will do.					
10. I trust my supervisor.					
Rewarding co-worker relations scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. My interactions with my co-workers are rewarding.					
2. My co-workers value my input.					
3. I believe that my co-workers appreciate who I am.					
4. I sense a real connection with my co- workers.					
5. My co-workers and I have mutual respect for one another.					
Role clarity scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. I feel certain about how much authority I have.					
2. Clear, planned goals and objectives exist for my job.					

3. I know that I have divided my time properly.					
4. I know what my responsibilities are.					
5. I know exactly what is expected of me.					
6. Explanation is clear of what has to be done.					
Proactive personality scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. I am constantly on the lookout for new ways to improve my life.					
2. If I see something I do not like, I fix it.					
3. I excel at identifying opportunities.					
4. I am always looking for better ways to do things.					
5. If I believe in an idea, no obstacle will prevent me from making it happen.					
Psychological condition scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Meaningfulness scale					

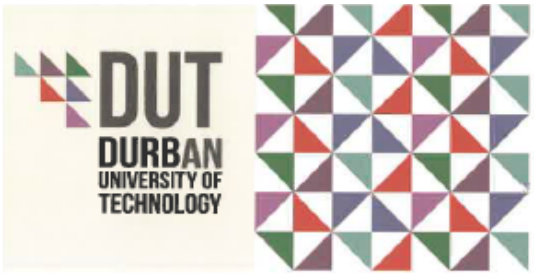
1. The work I do on this job is very important to me.					
2. My job activities are personally meaningful to me.					
3. The work I do on this job is worthwhile.					
4. My job activities are significant to me.					
5. The work I do on this job is meaningful to me.					
6. I feel that the work I do on my job is valuable.					
Psychological availability					
1. I am confident in my ability to handle competing demands at work.					
2. I am confident in my ability to deal with problems that come up at work.					
3. I am confident in my ability to think clearly at work.					
4. I am confident in my ability to display the appropriate emotions at work.					
5. I am confident that I can handle the physical demands at work.					
Self-efficacy	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**

1. I am confident that I could deal effectively with unexpected events.					
2. Thanks to my resourcefulness, I can handle unforeseen situations.					
3. If I am in trouble, I can usually think of a good solution.					
4. I can handle whatever comes my way.					
Employee engagement scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
Job engagement scale					
1. I really “throw” myself into my job.					
2. Sometimes I am so into my job that I lose track of time.					
3. This job is all consuming; I am totally into it.					
4. My mind often wanders and I think of other things when doing my job (R).					
5. I am highly engaged in this job.					
Organisation engagement scale					
1. Being a member of this organisation is very captivating.					

2. One of the most exciting things for me is getting involved with things happening in this organisation.					
3. I am really not into the “goings-on” in this organisation (R).					
4. Being a member of this organisation make me come “alive.”					
5. Being a member of this organisation is exhilarating for me.					
6. I am highly engaged in this organisation.					
Discretionary effort scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
I really exert myself to the fullest, beyond that what is expected.					
2. I finish a job even if it means sacrificing breaks or lunches.					
3. I do more than is expected of me.					
4. I voluntarily put in extra hours to achieve a result faster.					
5. I persist in overcome obstacles to complete an important task.					
6. I put in extra effort when I find it necessary.					

7. I work harder that expected to help my organisation be successful.					
Intention to turnover scale	**Strongly Agree**	**Agree**	**Neutral**	**Disagree**	**Strongly Disagree**
1. I frequently think of quitting my job.					
2. I am planning to search for a new job during the next 12 months.					
3. If I have my own way, I will be working for this organisation one year from now (R).					

Appendix E



Institutional Research Ethics Committee
Research and Postgraduate Support Directorate
2nd Floor, Berwyn Court
Gate 1, Steve Biko Campus
Durban University of Technology

P O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2375
Email: lavishad@dut.ac.za
http://www.dut.ac.za/research/institutional_research_ethics

www.dut.ac.za

8 June 2018

IREC Reference Number: **REC 174/17**

Mr A O Amoo
Unit 31
The Cedars
58 Cecil Auret Road
Lliondale
1609

Dear Mr Amoo

Measures to improve employee engagement in public Technical Vocational and Educational Training (TVET) Colleges in South Africa: Lessons from Gauteng Province

The Institutional Research Ethics Committee acknowledges receipt of your final data collection tool for review.

We are pleased to inform you that the data collection tool has been approved. Kindly ensure that participants used for the pilot study are not part of the main study.

In addition, the IREC acknowledges receipt of your gatekeeper permission letter.

Please note that FULL APPROVAL is granted to your research proposal. You may proceed with data collection.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC Standard Operating Procedures (SOP's).

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely,

Professor C E Napier
Deputy Chairperson: IREC

Appendix F

higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

Private Bag X174, PRETORIA, 0001, 123 Francis Baard Street, PRETORIA, 0002, South Africa
Tel: (012) 312 5911, Fax: (012) 321 6770
Private Bag X9192, CAPE TOWN, 8000, 103 Plein Street, CAPE TOWN, 8001, South Africa
Tel: (021) 469 5175, Fax: (021) 461 4761

Enquiries: Refiloe Mohlakoana ***Email: Mohlakoana.R@dhet.gov.za*** ***Telephone: 012 312 5300***

Mr Akinlawon Olubukunmi Amoo
Unit 31
The Cedars
58 Cecil Auret Road
IIIIONDALE
1609

By e-mail: akinlawondavids@yahoo.com

Dear Mr Amoo

REQUEST FOR PERMISSION TO CONDUCT RESEARCH AT PUBLIC TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING (TVET) COLLEGES.

I acknowledge receipt of your request for permission to conduct research at public Technical and Vocational Education and Training (TVET) Colleges on the topic *"Measures to improve employee engagement in public Technical and Vocational Education and Training (TVET) colleges in South Africa: Lessons from Gauteng Province."*

The Department has evaluated your request and it is my pleasure to inform you that your request for permission to undertake the above research has been granted.

The officials you identified to distribute questionnaires to, are as follows: 430 lecturers at 8 public TVET colleges in the Gauteng province.

You are advised to obtain further permission from the participants before commencing with your study.

You are also requested to attach the following documents when communicating with the participants.

1) Copy of this letter from the Department.
2) Copy of the "completed application form" to undertake research.
3) Ethics clearance from Durban University of Technology.

The topic of your research is of great interest to the Department. It will therefore be appreciated if you could share the findings of your research with the Department upon completion of your research.

I wish you all of the best in your research study.

Yours sincerely

Dr Hershèela Narsee
Acting Deputy Director-General: Planning, Policy and Strategy
Date: 14 MAY 2018