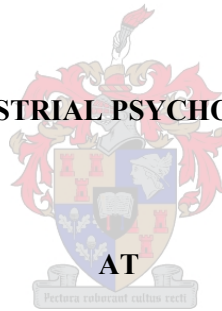**Development and Empirical Evaluation of an Intention to Quit Structural Model for Teachers in South Africa**

Thesis presented in partial fulfilment of the requirements for the degree of

MCOMM

INDUSTRIAL PSYCHOLOGY

AT

STELLENBOSCH UNIVERSITY

JOANNA LEIGH MAINGARD

SUPERVISOR: Prof G Görgens

APRIL 2019

DECLARATION

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ABSTRACT

Teaching is eroding teachers' attitudes, health and spirit. Teachers in South Africa are facing high levels of anxiety, depression, job dissatisfaction, lower quality of life and increased absenteeism (Jackson & Rothman, 2005). Burnout, stress and exhaustion are common complaints and are most likely due to insufficient resources and high demands (for example: role overload, unmanageable class sizes, violence in classrooms and cuts in government funding) faced by teachers (Jackson et al., 2005). In 2002 is was reported that there are more South African teachers leaving the profession than entering it, highlighted the problem of teacher retention (Xaba, 2003). The overarching aim of this study was, therefore, to develop a nomological network of variables which accounts for variance in ITQ in teachers to better understand this phenomenon.

This study used the premise of the Job Demands-Resources theory (Demerouti & Bakker, 2011) to derive a structural model to explicate the psychological mechanism deriving public school teachers' intention to quit levels in Kwa-Zulu Natal. The study included proactive personality (measured using the Proactive Personality scale by Claes, Beheydt, & Lemmens, 2005), negative and positive work-home and home-work interference (measured with the Survey Work-home Interference Nijmegen, de Klerk & Mostert, 2010), burnout (operationalised with the Maslach Burnout Inventory General Survey, Maslach & Schaufeli, 2001), engagement (Utrecht Work Engagement Scale-9, Schaufeli & Bakker, 2003) and intention to quit (the Turnover Intention Scale-3, Cohen, 1993). An *ex post facto* correlational design with a convenience sample of 135 Kwa-Zulu Natal public school teachers was used. The Partial Least Squares approach was used to analyse the fit of the structural (inner) and measurement (outer) model of this study. Seven out of the ten hypothesised paths contained in the model were found to be significant.

The overall model results showed that burnout is the strongest predictor of intention to quit for teachers. A lack of engagement was found to predict intention to quit, but not as strongly as burnout. Furthermore, burnout was more strongly predicted by negative work-home/home-work interference than proactive personality, while proactive personality was found to be a moderate predictor of engagement. These results helped formulate recommendations to school management as well as the Department of Education in the form of interventions aimed specifically at reducing intention to quit levels of teachers in public schools.

OPSOMMING

Die huidige stand van onderwys knou onderwysers se gesindheid, gesondheid en gees. In Suid-Afrika ondervind onderwysers hoë vlakke van spanning, depressie, werksontevredenheid, lae lewenskwaliteit en toenemende afwesigheid (Jackson & Rothman, 2005). Uitbranding, stres en uitputting is algemene klagtes wat heel waarskynlik toegeskryf kan word aan hulpbrontekort en stram vereistes (byvoorbeeld werkslading, onhanteerbare klasgroottes, klaskamergeweld en die sny van regeringsbefondsing) (Jackson et al, 2005). In 2002 was daar berig dat meer Suid-Afrikaanse onderwysers die beroep verlaat as toetree, wat hierdie behoudsprobleem benadruk (Xaba, 2003). Die oorkoepelende mikpunt van hierdie studie was gevolglik om 'n nomologiese netwerk van veranderlikes te ontwikkel wat die variansie in die voorneme om te bedank (ITQ: Intention to Quit) by onderwysers verduidelik.

Die werkseishulpbronteorie (Demerouti & Bakker, 2011) is gebruik as 'n uitgangspunt om 'n strukturele model te bepaal wat die sielkundige meganisme ontleed wat lei tot staatsonderwysers se voorneme om te bedank in Kwa-Zulu Natal. Die studie het die volgende ingesluit: Die impak van 'n proaktiewe persoonlikheid (gemeet deur gebruik te maak van die Proaktiewe-Persoonlikheidskaal deur Claes, Beheydt & Lemmens, 2005); negatiewe en positiewe werksplek-huis en huis-werksplek inmenging (gemeet met die opname: Werk-Huis Inmenging, Njimegen, De Klerk & Mostert, 2010); uitbranding (gemeet met die Maslach Uitbranding Algemene Steekproef, Maslach & Schaufeli, 2001); betrokkenheid (Utrecht Werksbetrokkenheidskaal-9, Schaufeli & Bakker, 2003); voorneme om te bedank (Die Omsetkoers-Voorneme-Skaal-3, Cohen, 1993). 'n Ex post facto korrelasie ontwerp met 'n gerieflikheidsteekproef van 135 Kwa-Zulu Natal staatsonderwysers is gebruik. Die parsiële kleinste kwadrate benadering is gebruik om te analiseer hoe gepas die strukturele- (binne) and metings- (buite) modelle van die studie is. Sewe uit die tien hipoteses vervat in hierdie studie het beduidende resultate gelewer. Die algehele resultate van die model het bewys dat uitbranding the beste voorspeller vir voorneme om te bedank by onderwysers is. 'n Tekort aan betrokkenheid het ook gedui op voorneme om te bedank maar nie so sterk soos uitbranding nie. Uitbranding was sterker voorspel deur negatiewe werksplek-huis/huis-werksplek inmenging as deur 'n proaktiewe persoonlikheid terwyl 'n proaktiewe persoonlikheid 'n matige voorpeller van betrokkenheid was. Hierdie bevindings het gehelp om aanbevelings vir skoolbestuur en die Departement van Onderwys te formuleer om ingrypings van stapel te stuur wat die vlakke van voorneme om te bedank in staatsonderwysers verlaag.

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Lastly, I would like to give special mention to my guardian angel Jenna who passed away in my honours year but has been with me in my heart through my entire journey. You taught me to believe in myself, never give up and dream big and I wish you were here to see that I did it.

I would not be so far in my journey to becoming an industrial psychologist without those special individuals I have mentioned, and for that I will always be extremely grateful to them. Thank you from the bottom of my heart for believing in me and staying with me through it all.

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CHAPTER ONE
INTRODUCTION

1.1 Introduction

The primary purpose of an organisation is to produce a product and/or deliver a service with economic utility. The process in which this occurs is through specific tasks, which are executed through different interrelated organisational functions. The Human Resources (HR) function is one of these functions. It utilizes human resources to perform specific tasks and reach specified organizational goals. The HR department of an organisation focuses on the attraction, selection, development, and retention of the organisation's human resources to achieve organisational goals.

An organisation's primary purpose is to make a profit, and this can only be achieved if resources are utilised to their optimum (Croasmum, Hampton & Herrmann, 2002). Organisational effectiveness is dependent on the effectiveness and efficiency of the workforce in transforming these resources into a product, which satisfies consumers. Employee turnover is a direct predictor of organisational effectiveness (Masoga, 2013). Van Zyl (2011) defines turnover as an employee's decision to leave the organization, which reflects some form of decision-making in terms of the employee (Erasmus, Grobler & van Niekerk, 2015). Intention to quit is when an employee thinks about leaving the company they work at (Firth, Mellor, Moore & Loquet, 2004). Intention to quit (ITQ) is an extremely important construct and should be of critical importance to organisations since it predicts turnover (Rhéaume, Clément & LeBel, 2011). In order to better manage turnover intention, it is vital to determine the factors causing these turnover behaviours.

The necessity to attract and retain high-performing employees is a concern and challenge for all organisations in general. Due to the expense and effort that occur when selecting, retaining and recruiting, organisations need to be paying more attention to determine why their employees leave (Erasmus et al., 2015). The South African Board for People Practices (2012) found in its yearly human resources survey that 32% of South African organisations do not concern themselves with determining why their employees leave. Forty six percent of them did indicate, however, that talent retention is a major concern. It is important to understand why employees leave since the strength of an institution lies in its human capital. Retention is defined as the effort by employers (in the case of this study, the Department of Education and school management) to retain talented and high-performing employees to achieve

organisational objectives (Fatima, 2011). Retaining high-performing employees is critical as it eliminates costs that would otherwise be incurred by replacing them (Tymon, Stumpf and Smith, 2011).

Changes have been taking place all over the world at education institutions, such as cuts in government funding, lay-offs, rapidly changing technology and increased domestic and international competition. A general increase in demands and not enough resources has resulted in significant changes in the nature of work of educators, which has placed more pressure on teachers (Fisher, 1994). This increased pressure leads to teachers' withdrawal from their work and ultimately leaving their schools (Farber, 1991).

Burnout, ill-health and eventually turnover could result from increased demands being placed on teachers as a result of work and role overload, unmanageable class sizes and lack of sufficient resources. A study conducted on teachers in India showed that educators also face violence in their classrooms, lack of role clarity, limited opportunities for promotions, little autonomy and lack of monetary support (Reddy & Poornima, 2012). Furthermore, lack of support from their community and changing management styles are also common stressors for teachers (Reddy et al., 2012). The increase in the number of learners has also raised demands for these professionals (Jackson & Rothman, 2005). Teachers in South Africa (SA) have faced a huge surge in workload due to the increase in learner numbers in recent years (Naidu, 2005). Doyle and Hind (1998) conducted a study on 436 educators in 85 UK institutions of higher education and found that while 40% of educators enjoy their work and find it gratifying, they regularly work long hours and experience severe burnout and feelings of wanting to leave their institutions.

Teacher turnover is a global phenomenon (Xaba, 2003). In the United States of America, teacher shortages, as a direct result of turnover, are widely report. In Britain, it is seen as a nationwide crisis (Markley, 2001). This is occurring in many other countries such as Sweden, Germany, New Zealand, Canada and Australia (Markley, 2001). The Gauteng Department of Education reported in 2002 that there are more teachers leaving the system than entering it, which highlights the problem in retaining South African teachers in this profession (Xaba, 2003). For example, in 2006, 17500 teachers were lost while only 2500 were being trained. In the period from 2000 to 2004, SA experienced an estimated educator turnover level of about 34%. Over the same period, about 8.6% of teachers left SA to work overseas (Pillay, 2001).

Moreover, 24750 teachers have left the industry between 2005 and 2008 due to school violence, low salaries and stressful working conditions. The statistics showed between the period 2005-2008 the largest number of teachers quitting were in Gauteng (5 614), followed by KwaZulu-Natal (5 005), the Eastern Cape (4 763), Western Cape (3 017), Limpopo (2 317), Free State (1 979), Mpumalanga (1 686), North West (1 658) and the Northern Cape (611) (Xolani, 2010). Statistics provided by *Statistics SA* estimate that an average of 1000 skilled people (including teachers) leave SA for other countries every month (Manik, 2010). Teacher turnover is the highest among new teachers and is reported to occur mostly within the first five years of starting employment (Pillay, 2001).

The consequences of teacher turnover are severe. Teacher turnover increases costs to the organization (i.e. school), as well as results in a loss of productivity while the new teacher learns the way of the organisation (Xaba, 2003). According to Rosser (2004), high turnover can cost educational institutions money and time, as it can result in a less loyal and educated workforce, increases in training time and costs and increases in behavioral problems, such as absenteeism. The loss of teachers also takes a psychological and emotional toll on the remaining teachers, support staff and learners and results in achievement setbacks of students (Watlington, Shockley, Guglielmino & Felsher, 2010). For example, Hanushek, Kain and Rivkin (2004) have reported that student achievement declines when students are consistently taught by new teachers.

Education is key for the development and maintenance of the SA economy. While the SA government spends huge amounts of money on improving education, when compared to other countries, the quality of teaching institutions is not consistent (Jackson & Rothman, 2005). Racism, violence, strikes and a general lack of support and resources impact on the quality of education in SA. Research has shown that job dissatisfaction, anxiety, depression and numerous physical health problems are prominent in SA teachers (Jackson et al., 2005). Newspaper headings from 2005 have identified the recruitment of new teachers as well as their retention to be a major obstacle for the Department of Education, as evidenced by the following headline; *"Profoundly sad so many teachers are quitting"* (Jackson et al., 2005).

It is important to study turnover intention in the education industry since high turnover of teachers has a significant impact on the education industry. Understanding what causes ITQ is of utmost important to the department of education and school management due to the amount

of money and resources that these parties invest in their teachers (Saks, 2006). Education also has a significant impact in the development of the youth of South Africa and the future economic prosperity of the country (Isaacs, Visser, Friedrich & Brijlal, 2007). Furthermore, when organisations understand why their educators are leaving, they can introduce human resource interventions aimed at retaining their teachers.

1.2. Research Initiating Question, Research Aim and Objectives

Given the introductory argument, the following research initiating question is formulated:

Why does variance in intention to quit exist among teachers in South Africa?

Given the research question, the overarching aim of this study is to develop a nomological network of variables which accounts for variance in ITQ in teachers. If, through statistical analysis, the hypothesised paths in the Structural Model of Intention To Quit (ITQ) among teachers are shown to be significant, the gained insights would prove useful in altering teachers' work environments to reduce turnover intentions of such employees. The research question will be addressed through attempting to achieve the following research objectives:

- develop a structural model which depicts the complex dynamics of the variables proposed to explain variance in the psychological processes underlying ITQ; and
- test the fit of the outer and inner model via Partial Least Squares modelling (PLS).

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

According to the Job Demands-Resources (JD-R) model, every occupation has its own demands and resources which directly impacts the welfare and overall well-being of employees (Demerouti & Bakker, 2011). Resources and demands can both be applied to different work-related environments and settings.

The JD-R model shows that resources predict engagement, and that this relationship is moderated by demands. When there are high demands, along with high resources, engagement will be greater than if either of them are low (Schaufeli & Bakker, 2004). Therefore, the model shows that both job and personal resources, together with demands, result in to two different, but connected processes (Rothman, Strydom & Mostert, 2006). In the motivational process (the first process), resources increase the employees' motivation to increase organisational commitment, dedication and engagement. Bakker et al. (2014) found that employees' turnover intentions are negatively related to these positive outcomes. On the other hand, is the health impairment process, where high demands reduce an employees' resources leading to burnout and negative overall well-being (Schaufeli et al., 2004).

Demands and resources can also have a dual effect on a person's overall well-being. The first way is the effect of demands on strain (burnout) which is buffered by resources. Employees who have many resources (personal and job) will be able to manage their everyday demands more efficiently (Bakker & Demetroui 2007; Bakker, 2011; Xanthopolou et al. 2007). Secondly, demands strengthen the impact of job resources on engagement. Job resources have the strongest positive impact on engagement when demands are high (Xanthopolou et al., 2007; Bakker et al. 2007).

Only elements of the work environment were included in the original versions of the JD-R model. This limited the model, and therefore personal resources were integrated to better understand the interaction between the individual and the environment in which they operate. Personal resources are the characteristics of oneself that determine ones' capability to successfully function in one's environment (Schaufeli, Taris & van Rhenen, 2008). Personal resources are not only valuable in one's personal environment, but are also valuable in

achieving work goals and lead to improved overall individual functioning and well-being (Xantopoulou, Bakker, Demerouti & Schaufeli, 2009).

2.2. Burnout

Teacher stress and burnout is a problem facing not only SA and has therefore faced global concern (Borg, 1990; Kuriacou, 2001). In a study conducted by Borg (1990) it was shown that of the British teachers surveyed, one third stated that they found their job as teachers to be extremely demanding and stressful. Burnout in the education industry results due to numerous demands such as work overload, unattainable and unrealistic time demands, lack of support, role ambiguity, as well as pressure from external parties (Brissie, Hoover-Dempsey & Bassler, 1988; Byrne, 1999).

The consequences of burnout are extremely serious. In terms of the education industry, burnout has shown to correlate with increased use of substance abuse as well as general domestic problems (Maslach et al., 1986). Burnout diminishes the resources of the employee to cope with stressors. Furthermore, burnout leads to absenteeism, withdrawal, reduced enthusiasm and job dissatisfaction (Rothman, 2003).

Burnout is "a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who do "*people work of some kind*" (Maslach & Jackson, 1986, p.1). Emotional exhaustion refers to feelings of extreme tiredness, emotional depletion, being drained and overall low energy levels (Maslach et al., 1986). Once employees reach this level of strain, employees begin to withdraw from their work in order to regulate their energy and bring their energy back to equilibrium which leads to depersonalisation (Lau et al., 2013). Depersonalisation is a coping mechanism that aims to protect and shelter the employee from further emotional exhaustion and depletion. Depersonalisation, furthermore, can be characterised by isolation and indifference to others. It is a state of detachment from others (Maslach et al., 1986). The last phase of burnout is reduced personal accomplishment. This is where employees compare their levels of competence before emotional exhaustion and depersonalisation has set in (Alarcon et al., 2009). When comparing these levels they develop lower self-esteem, lower competence and reduced confidence in their abilities because they realise that they are not as competent as they used to be (Reichl et al., 2014).

Lee and Ashforth (1990) conducted a study which showed that turnover intentions are strongly associated with both emotional exhaustion and depersonalisation. Emotional exhaustion (r_c = 0.44) and depersonalisation (r_c = 0.31) was positively associated with turnover intentions. Jackson, Schwab and Schuler (1986) conducted a study on a sample of United States elementary and secondary school teachers. Their results showed that emotional exhaustion was prominent in predicting the ITQ of teachers. In the United States of America, emotional exhaustion was found to be one of the main factors affecting teacher's ITQ (Leung & Lee, 2006). Therefore, the following hypothesis is suggested:

Hypothesis 1: Burnout has a positive linear relationship with intention to quit.

2.3. Engagement

In the education industry, it is imperative that employees have a psychological connection with their work. Teachers need to be enthusiastic, engage fully in their roles, as well as be committed to achieving high work standards (Jackson et al., 2005). Engaged employees are valuable organisational assets for numerous reasons. Firstly, engaged employees are actively involved in their work leading to high productivity (Leiter & Bakker, 2010). Secondly, they have a strong commitment and dedication to their work and therefore experience feelings of inspiration and enthusiasm (Leiter et al., 2010). Thirdly, rather than becoming exhausted by their jobs they experience high levels of vigour and self-efficacy (Bakker & Demetroui, 2008). Lastly, according to Saks (2006) engaged employees report less psychosomatic complaints. A negative relationship has been found between engagement and general well-being (Saks, 2006).

Engagement is "a positive, fulfilling work-related state of mind characterised by vigour, dedication and absorption" (Schaufeli et al., 2004, p.265). Vigour refers to employees who are energetic, enthusiastic about their job and flexible enough to "bounce back". It refers to being persistent when facing obstacles, and not being so easily drained (Schaufeli et al., 2004). High levels of dedication exist when employees are immensely involved in their work. Such employees are energetic and fulfilled by their hard work and proud of their achievements (Schaufeli et al., 2002). Absorption refers to a total involvement in one's job, which is characterised by not being able to separate oneself from the job. Employees that experience high levels of absorption are fully concentrated and dedicated on their work tasks and this is a enjoyable state in which they find themselves (Ford, Heinen, & Langkamer, 2007).

A rather recent meta-analysis conducted by Shropshire et al., (2012) reported that employee engagement is negatively associated with employee turnover and positively associated with customer loyalty, productivity and profitability. Employee engagement has also been shown to be related to proactive work behaviours, higher employee general well-being, positive emotions and attitudes, and higher overall performance (Siu et al., 2010).

Numerous studies have reported on the relationship between engagement and job outcomes (Shropshire et al., 2012; Siu et al., 2010; Saks, 2006). For example, Schaufeli et al., (2004) found that engagement is negatively related to ITQ. It could be argued that when teachers are engaged, their commitment to their schools make them less likely to leave. A meta-analysis conducted by Halbesleben (2010) reported that the correlations of engaged employees' turnover intention ranged from r = - 0.25 (vigour) to r = - 0.45 (dedication). Therefore, it could be argued that engaged employees are less likely to develop turnover intentions.

Hypothesis 2: Engagement has a negative linear relationship with intention to quit.

Two theoretical approaches in terms of the relationship between engagement and burnout, exist. According to Maslach and Leiter (1997) engagement indicates an absence of burnout. Maslach and Leiter (1997, p. 34) state that "Energy, involvement, and efficacy - these are the direct opposites of the three dimensions of burnout'. Furthermore, "Energy turns into exhaustion, involvement turns into cynicism, and efficacy turns into ineffectiveness'(Maslach et al., 1997 p. 24). Many other researchers also agree that burnout and engagement are negatively related and should be measured by one instrument (Bakker et al. 2014; Gan and Gan, 2014; Narainsamy &Van der Westhuizen, 2013).

In a second approach about the relationship between engagement and burnout, Schaufeli et al. (2004), proposed that burnout and engagement are independent states that are negatively related. Their results showed that burnout and engagement do not refer to one underlying dimension as argued by Bakker et al. (2014). Furthermore, the estimated correlations between the latent burnout and engagement variables in Schaufeli et al. (2004)'s study were found to be moderate and ranged from -0.38 to -0.51 across the four samples they tested. In their study, they used the Maslach Burnout Inventory General Survey to measure burnout, and the Utrecht Work Engagement Scale to measure engagement. Instead of loading on one single general well-being dimension, the two constructs loaded on two separate and negative correlating

dimensions. Therefore, in line with Schaufeli and Bakker's (2003, 2010) argument, engagement cannot be measured by opposite scores of the MBI-GS because even though conceptually engagement and burnout could be considered to be opposites, the content and measurement of both constructs should be different. This study, therefore, will use two different instruments to measure burnout and engagement (following the theorising of Schaufeli's study).

Schaufeli et al. (2002) confirmed in their study in Spain among undergraduate students and from two different samples (public and private companies), that engagement and burnout are negatively related. In the study, they directly compared burnout scales from the MBI-GS with engagement subscales, from a self-constructed engagement scale. The engagement and burnout subscales were negatively related, with a mean correlation in sample 1 being r = -0.38, and r = -0.42 in sample 2. Another study conducted by Schaufeli et al. (2008) also reported that burnout (measured by the MBI-GS) and employee engagement (measured with the UWES) were significantly negatively correlated (r = -0.65). Another study, conducted in SA, also showed the significant relationship between employee engagement (measure by the Utrecht Work Engagement Scale) and burnout (measure by the MBI-GS). This study was conducted by Rothmann et al. (2004). Significant negative correlations between engagement and the two dimensions of burnout, exhaustion (r = -0.38, n = 215, p < .01) and cynicism (r = -0.50, n = 215, p < .01), were found. Similarly, another study that also used the UWES and MGI-GS, conducted by Jackson, Rothmann and van de Vijver (2006) also reported significant negative correlations between engagement (vigour and dedication) and burnout (exhaustion). Consequently, the following hypothesises will be tested in this study:

Hypothesis 3: Engagement has a negative linear relationship with burnout.

2.4 Demands

Job demands are characteristics of a job that require continued effort by the employee and that are accompanied by various negative consequences (Schaufeli et al. 2004). High demands and insufficient resources increase the likelihood of developing burnout. For example; work overload, work conflict, role ambiguity, and lack of autonomy have been shown to increase the probability of developing burnout when resources are low (Reichl et al. 2014).

Demands can either exceed or meet resources, or resources can exceed demands. When demands exceed resources, demands are high and resources necessary to adequately deal with demands are not available (Demerouti et al. 2011). Often educators face extremely high demands (for example high workload) but do not possess enough resources (personal or job resources) to deal with these demands. When this occurs, the health impairment process occurs, and negative consequences result. For example, when a teacher is not being provided with sufficient/high autonomy over her work (job resource), while simultaneously also having high workload, it will lead to her more likely to develop burnout. This is an example of an interaction between these components that could result in the strain process.

However, when job demands meet resources, it could be argued that employees have sufficient resources to meet high demands. For example, being provided with high autonomy while still possessing a high workload (demand) would mean burnout would probably not develop so severely since the teacher is being provided with a resource to deal with the demand. Another example is when teachers with high workloads are, for example, provided with free seminars once a month where they can be taught the skills to effectively manage their workload and develop coping mechanisms to deal with their demands in a timely and effective manner. According to Bakker et al. (2007), this refers to the motivation process that leads to the development and learning of employees, since they are encouraged to deal with demands by learning and therefore processing the skills to gather resources and adapt to challenging situations. Lastly, when resources exceed demands, work can become boring (Bakker, 2011). This could occur when teachers are given too much time to complete their semester work, they will become bored and classes will not be productive. Therefore, the moderating effect of job demands, and the moderating effect of resources plays a critical role in determining the relationship between resources and engagement (the motivational process) and the relationship between demands and burnout (the strain process), respectively.

Maslach et al. (1977) identified six domains of an employees' work environment that can cause strain; namely lack of control, insufficient rewards, lack of community, lack of fairness, work overload and conflicting values. While there are numerous job demands that can lead to burnout, the focus on this study will be on negative work-home/home-work interaction and the relationship of this demand with burnout and engagement.

2.4.1. Negative work-home/home-work interaction

A lot has changed in the education industry resulting in teachers facing many more demands (Gilbert, 2000). For example, studies among staff in the UK showed the most significant stressors in the education industry are new and over controlling management styles, high workload, lack of support from co-workers and supervisors and an increased pace of work (Earley, 1994). These challenges have added to the increasing workload caused by increased student numbers, adult learning and globalisation (Blackmore, 2001; Shortlidge, 2003). Combined with reduced job security and pay, these stressors have resulted in lower general work satisfaction and higher ITQ (Kinman & Jones, 2003).

In society today, work and home are two of the central and most prominent domains in the life of an employed individual. Therefore, both men and women have become more and more concerned about managing the conflicts experienced in meeting the competing demands of these two domains (Mesmer-Magnus & Viswesvaran, 2005). It is not surprising that the demands from work and family are not always in agreement. When employees face high levels of conflict between work and family they experience increased health risks, lower levels of job performance, reduced job and life satisfaction, poorer parental performance, as well as increased withdrawal behaviours (including turnover intentions and actual turnover) (Duxbury & Higgins, 1991; Jaga & Bargraim, 2011; Russel & Cooper, 1992). Work/family conflict has been linked with increased emotional exhaustion and experiences of burnout (Kossek & Ozeki, 1999).

Organisational policies designed to help employees reduce home to work and work to home conflict do not necessarily reduce the interference between work and home (Barling, 1994). This suggests that research has a critical role in finding and determining the processes through which work-home interaction and home-work interaction affects educator's health and well-being and subsequently turnover intentions.

The Effort-Recovery (E-R) model is generally viewed as the best model to understand the interference between work and home (Bakker et al. 2007). According to the this model, when individuals exert effort, load reactions build up. These load reactions can be reversed if recovery occurs which will allow the individual's systems to return to equilibrium (Weise et al. 2013). This has the implication that high demands from the one domain may not have unfavourable health consequences on the other domain, if adequate recovery takes place. When

individuals do not recover fully from previous effort expenditure (at either work or home), they are required to invest additional effort to perform sufficiently when faced with new demands. If there is no time for recovery to take place and negative load reactions develop (such as strain) these may spill-over into the other domain. If this occurs, ones' emotional, psychological and mental systems do not have time to stabilise, but are stimulated again (Reichl, Leiter & Spinath, 2014).

The E-R model assumes that meeting demands at work requires certain efforts, leading to a need for recovery outside of this domain. When work interferes with home it hampers employees from recovering fully from work. This might result in low levels of energy, feelings of fatigue and negative overall feelings towards one's work. Similarly, high demands at home might increase negative HWI, pressuring employees to invest additional efforts to maintain their level of performance (Alarcon et al. 2011). Individuals who are emotionally exhausted have more problems meeting their everyday demands and this therefore leads to conflicts between the two domains. Finally, the additional effort that exhausted and drained employees must invest to cope with demands reinforces their need for recovery, increasing the probability for even more conflict between the two domains (Alarcon et al. 2011). Therefore, it could be argued that when the interaction between the two domains are negative, negative load effects build up and lead to strain and ultimately burnout in these employees.

Negative WHI has been identified by numerous researchers as an antecedent of burnout (e.g. de Klerk et al. 2010; Vieira, Matias & Ferreira, 2016). The central idea is based on the fact that job demands that require too much effort are associated with the build-up of negative load effects that spill-over to the home domain (work-home interference). These negative load affects hamper an individual's functioning and causes them strain, resulting in burnout. The same line of reason can be applied to the relationship between negative home-work interference (HWI) and burnout (de Klerk et al. 2010). An example is when an employee is late for work and cannot concentrate on tasks at work because their child is sick. This negative spill-over exhausts the employee and prevents them from coping with stress from work, leading to strain. In a study conducted by Montgomery, Peeters, Schaufeli and Ouden (2003), statistically significant relationships were found between both negative WHI and negative HWI and burnout dimensions. Negative WHI was correlated with both exhaustion (r= 0.70) and cynicism (r=0.40), and negative HWI was negatively correlated with vigour (r=-0.24). Therefore, the following hypotheses are suggested:

Hypothesis 4: Negative WHI/HWI[1] has a positive linear relationship with burnout.

Hypothesis 5: Negative WHI/HWI has a negative linear relationship with engagement.

2.5. Resources

Hobfoll's Conservation of Resources (COR) theory states that people have a primary motivation to gather additional resources and not only protect and preserve their available resources (Hobfoll, 1989) In addition, the JDR theory states that job resources could buffer the negative effects of demands on burnout. Moreover, job resources become even more important when job demands are high (Bakker et al, 2007). As the job becomes more demanding employees begin to mobilise and activate their job and personal resources which allow them to focus and channel their attention to their work, and therefore experience engagement (Bakker et al. 2007). Without resources, employees would not be able to experience engagement, because they would be too busy dealing with the current demands of the job.

Job resources are features of the job that reduce job demands, are essential in achieving work goals, and/or stimulate learning, personal growth and development (Demeretouri et al. 2001). Resources may be organisational resources (e.g., promotion opportunities, autonomy), social resources (e.g., supervisor and co-worker support) as well as personal resources (e.g. proactive personality, optimistic deposition) (Alarcon & Edwards, 2011). While there are many job and personal resources that could potentially be instrumental in leading to engagement (e.g. autonomy, feedback, role clarity) the focus on this study will be on positive WHI/HWI and proactive personality (PP).

2.5.1. Positive WHI/HWI

In maintaining a balance between work and home, there may be some positive outcomes in one domain that may benefit the other domain and vice versa. In terms of the enrichment theory, work and family are "allies rather than enemies" (Dunn & O'Brien, 2013; Siu et al. 2010). According to Greenhaus and Powell (2006), enrichment can occur from the work or home domain and resources generated in one role can improve functioning in a second role (Siu et

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[1] In the interest of model parsimony, it was decided to construct one construct from both negative HWI and WHI which represents the demand of negative inference in the structural model. It should be noted that this is a limitation of the research, given that it is entirely possible that differential relationships exist in terms of the strength of the effect exerted by the HWI and WHI sub-dimensions on both engagement and burnout.

al. 2010).   Greenhaus et al. (2006) also proposed two ways by which work and family influences each other: an instrumental and affective pathway. The instrumental pathway refers to the direct transfer of resources from one role to another. For example, resources developed in role A lead to high performance in role A, which then leads to high performance and positive affect in role B. The affective pathway proposes that resources from work are indirectly transferred to the family domain: resources developed in role A result in positive affect in role A, which then leads to positive outcomes in role B (Dunn & O'Brien, 2013).

In line with enrichment theory, the E-R model can also be applied to positive work-home interaction, since effort expenditure may be accompanied by positive load reactions (Reichl et al. 2014). For example, if an individual is provided with sufficient job resources to deal with high job demands, instead of depleting energy, energy may be replenished which may enable an individual to experience positive and improved functioning in the home domain (Reichl et al. 2014). Positive spill-over may help individuals to develop and function in that specific domain, and therefore challenges the general assumption that fulfilling more than one role is associated with strain and other negative consequences (Geurts et al. 2005).

In terms of positive work-home spill-over, Crouter (1984) found that training in decision-making skills at work resulted in individuals using their new skills at home to better deal with their children. Studies also show that when individuals get support from their spouses they tend to manage the pressures at work better (Gattiker & Larwood, 1990). The study by Grzywacz et al. (2000) showed that both resources at work and at home are associated with lower levels of negative spill-over and higher levels of positive spill-over between work and family. Having a partner to talk to who understands their partners' work pressures may help individuals better handle the pressures associated with their jobs and therefore perform better and accomplish more (Barnett, 1996).

Positive work-home interaction (when spill-over between the home and work domain is positive due to the build-up of positive load effects that facilitate functioning in either domain) can be imbedded in the spill-over from sufficient resources and consequently it could be argued that such positive spill-over can lead to higher levels of work engagement. For example, Montgomery et al. (2003) reported a statistically significant relationship (r = 0.26) between positive WHI and dedication. In a study conducted by Mostert, Cronje and Pienaar (2006),

positive WHI was statistically and practically significantly related to vigour and dedication. In their model, the path between positive WHI and work engagement was found to be highly positive and significant (b = 0.63, p<0.01). This is line with previous findings (e.g. Bakker & Demerouti, 2006).

It is argued in this study that when there are sufficient resources in the work environment they may spill-over and facilitate recovery at home – and therefore reduce the need for recovery at home (Mostert et al. 2006). The individual will have sufficient energy left to engage in relaxing activities at home, which will further contribute to the stabilisation of load reactions. Thus, sufficient recovery can take place. This means that negative load reactions developed at work (negative WHI) or at home (negative HWI) have time to return to a normal state and the individuals' psychological systems can stabilise. Thus, the negative results of stressful situations at work or at home are reduced, allowing for the employee to be reenergised and motivated for the next day.

The same process can be applied to HWI, in that positive spill-over from the home to work, may have the potential to leave the employee revitalised and able to fully engage at work. For example, spending time with family at home (children and/or husband) can lead to the teacher feeling revitalised having had recovered from the demanding work domain. A study conducted by Lautenbach (2006) showed that when compared to women who did not have children or a partner, burnout and work-life conflict was higher, than women who had children and/or a partner. In addition, many studies have showed that a partner may relieve some of the family work-load, leading to positive spill-over between home and work domain (Friedman & Greenhaus, 2000; Hill, 2005; Voydanhoff, 1988). Therefore, it is argued in this study that when positive HWI occurs, teachers are more likely to be revitalised and able to more fully engage in their work tasks since recovery needed at work has already sufficiently occurred at home. This line of reasoning in the preceding paragraphs leads to the following hypothesis:

Hypothesis 6: Positive WHI/HWI has a positive linear relationship with engagement.

2.5.2. Proactive personality

A personal resource is "either valuable as such (e.g. self-esteem, hope, and optimism) or can be used in obtaining centrally valued ends external to the individual" (Hobfoll as cited in Kira, Van Eijnatten & Balkin, 2010, p. 617). Specific personal resources, such as a sense of

coherence, optimism, generalised self-efficacy, life satisfaction, internal locus of control, self-esteem and resilience, have been shown to predict engagement and performance (Bandura, 1977; Carver & Scheier, 2002; Herbert, 2011; Rotter, 1966; Xanthopoulou et al. 2008) While there are numerous constructs (i.e. in terms of personal resources) that influence engagement and burnout, for example resilience (Masten & Reed, 202), flow (Nakamura & Csikszentmihalyo, 2002), positive affectivity (Wartson, 2002) and coping strategies (Stanton, Parsa & Austenfield, 2002), the present study will focus only on PP as a potential important personal resource in the teaching context.

Langelaan, Bakker, Van Doornen and Schaufeli (2006) highlight the importance of looking at differences that are unique to the individual in uncovering the reason some employees do well in their jobs, while others do not. Personal resources combined with job resources lead to positive outcomes such as personal growth, learning and development, and enhance an individual's ability to mobilise other resources more successfully (Bakker, 2011).

Special attention has recently been given to the contribution of personality in the stressor–strain relationship (Kinnunen, Vermulst, Gerris, & Mäkikangas, 2003). The hypothesis in many studies focusing on the interaction between work and home follows the stress paradigm: work and family conflict is considered as a potential stressor that leads to various forms of stress outcomes (Parker & Sprigg, 1999). The assumption is that some employees will take the necessary actions to manage the demands that occur, channelling their energy in a constructive way, thereby minimizing strain. When employees are provided with resources, such as autonomy, they will behave proactively. However, not all employees are proactive in how they approach their environment.

Bateman and Crant (1993) defined proactive personality as an individual who is relatively unconstrained by situational forces and who effects environmental change. They further defined proactive personalities as individuals who identify opportunities and act on them, show initiative and persevere until they achieve meaningful change. In contrast, they argued that people who are not proactive will display the opposite patterns: they fail to recognize and seize opportunities to change things. Proactive personalities focus and channel personal energies toward active control which is likely to improve an individual's ability to handle job stress (Jawahar et al. 2012). Proactive personalities will not give up and continue to persevere even

if they are faced with a challenging situation. By doing this they can cope better with demands at home and at work.

In organisations today, proactivity is a valuable personal resource. Research has shown that proactive employees can manipulate and influence their environment (Ning et al. 2010). These individuals do not passively receive their environmental pressures but rather challenge the what has always been (Jawahar et al. 2012). In terms of negative interactions between work and home, these individuals will take steps to gain support and/or engage in role restructuring to reduce negative interactions between work and home (Lau et al. 2013). Employee initiative and proactivity are being recognised more and more as critical drivers of organisational effectiveness (Selvarajan et al. 2016).

Proactive employees do not wait for things to come to them; rather, they engage in a range of behaviours, such as identifying ways of updating their skills and seeking opportunities to better understand environments in which they operate (Seibert, Kraimer, & Crant, 2001). Studies have shown PP to be positively related to numerous positive outcomes such as high job performance and the ability to deal with constraints in their environments (Seibert et al., 2001; Bains et al. 2009)**,** leadership performance, organisational citizenship behaviour and team effectiveness (Seibert et al. 2001). From an organization's perspective, PP is, therefore, an extremely desirable attribute.

Employees that are high on the trait of PP are more engaged since they have fewer negative views about their work, resulting in increased efforts that translate into higher levels of performance (Jawahar et al., 2012). High PP suggests an approach mentality to work, which should result in higher job engagement and subsequent work outcomes (Selvarajan et al. 2016). The following hypothesis is therefore suggested:

Hypothesis 7: Proactive personality has a positive linear relationship with engagement.

Individuals who are high on the trait of PP are able to deal more effectively with stressful conditions, due to their ability to cope effectively with demanding situations and their ability to deal well with stress (Jawahar et al. 2012). Understanding the trait of PP is important in order to understand how individuals perceive stressors and manage stress (Jawahar et al. 2012). Individuals high on the trait of PP can leverage their social capital, identify opportunities and

persevere until they succeed. Such individuals will attempt to actively change their environment to relieve stressors (Siebert et al. 2013). PP is conceptualised as a personal resource, according to the JD-R model, and therefore it is hypothesised that individuals higher on this personal resource will display higher levels of engagement (as discussed above). Individuals who are high in the trait of PP will be able to bounce back from stressful and demanding situations and can actively change their environment to relieve stressors (Selvarajan et al. 2016) It is argued that these individuals will be able to be proactive in acknowledging and identifying those demands that are causing them strain and actively attempt to reduce the strain they are experiencing by adapting their environments. Thus it could be argued that proactive behaviour should prevent the symptoms of burnout from developing. Based on this, the following hypothesis is suggested:

Hypothesis 8: Proactive personality has a negative relationship with burnout.

2.5.3 Moderator effects

According to the JD-R theory (Demerouti et al. 2011), job resources have the strongest positive impact on work engagement when job demands are high. Bakker et al. (2014) have argued that when an employee is confronted with challenging job demands, job resources become vital and lead to increased commitment and dedication to the tasks at hand. For example, Hakanen, Bakker and Demerouti (2005) tested a hypothesis that when dentists are confronted with high job demands, job resources will be more strongly related to work engagement. Their results confirmed this hypothesis since it showed that dentists benefited most from their job resources under extremely demands conditions. It suggests that resources gain salience under stressful conditions (i.e. when they are most needed).

In the present study, negative WHI/HWI is regarded as a demand. When demands are high and resources are low employees experience strain and other negative consequences as they are not able to cope with the demands they are being faced with (Demerouti et al. 2011). Since negative WHI/HWI causes strain, exhaustion, stress and depletion it was argued that it should be conceptualised as a demand (de Klerk et al. 2010). Furthermore, according to the JD-R model demands can moderate the relationship between resources and engagement; in that high demands can enhance the relationship between resources and engagement (Demerouti et al. 2011). It is, therefore argued, for the purposes of this study, that negative WHI/HWI experienced by teachers could amplify the impact of job and personal resources on teachers'

engagement. In the context of this study, PP is regarded as a personal resource. That is, when teachers have high levels of PP they are more likely to take active control of their environments and persevere to ensure that they achieve their tasks. Due to this quality, they are more likely to be engaged since they take initiative to secure and actively search for the resources they need to meet the demands of everyday life. However, it is further argued that when teachers are experiencing negative WHI/HWI they most probably experience more stress and strain. This stress can enhance the relationship between PP and engagement as under stressful situations, teachers high on the trait of PP will become more dedicated to the task at hand, remain resilient and continuously adapt their environments to deal with the stress and high demands they are facing. This will lead to them being more dedicated, focused and motivated which can also lead to higher levels of engagement. Therefore the following hypothesis is suggested:

Hypothesis 9: Negative WHI/HWI moderates the relationship between proactive personality and engagement.
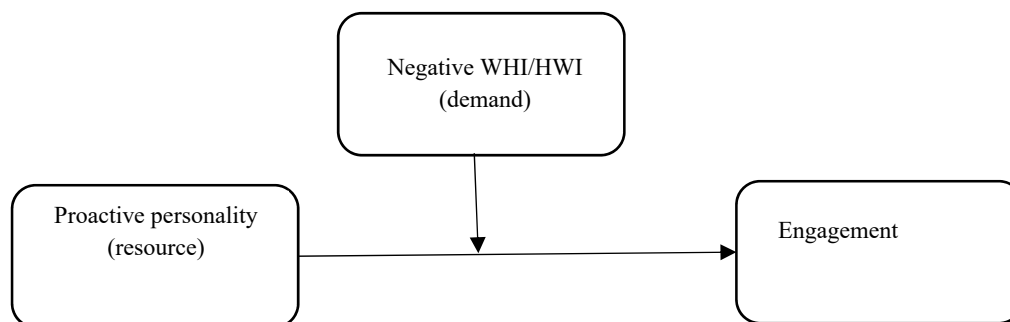
Figure 2.1. The moderating effect of negative WHI/HWI on the relationship between PP and engagement.

Hobfoll (2002) suggested that personal characteristics, such as PP, can act as a resource and buffer against stress. In a study conducted by Jawahar, Kisamore, Stone and Rahn (2012), it was found that work–family conflict and family–work conflict interacted to influence emotional exhaustion at low levels of PP ($r = 0.06$, $p<0.05$; $b = -0.25$, $p <0.05$) but not at high levels of PP ($r = 0$, $p = 0.86$). These results suggest that teachers with higher levels of PP will probably not as quickly or severely develop burnout than their lower PP counterparts. In addition, numerous studies have shown that job resources (for example: supervisory support, autonomy, decision latitude) can reduce the impact of job demands on burnout (Bakker et al. 2014). In a study conducted by Bakker, Demerouti and Euwema (2005), they found that high job demands and low resources was fundamental in the prediction of burnout. These results

show that high demands do not necessarily result in high levels burnout, if employees have sufficient resources to deal with demands. Furthermore, Xanthopoulou et al. (2007) studied at home-care employees and found that employees benefited most from resources (example autonomy, performance feedback) when they faced emotionally demanding situations. Thus, they dealt with these situations more effectively and prevented themselves from developing severe burnout when demands were high and resources were sufficient to deal with these high demands.

These studies suggest that employees with high levels of personal resources are able to deal more effectively with stressful conditions due to their ability to master situations, and in turn prevents them from developing negative outcomes (i.e. strain). This suggestion recognises the potential moderating role of personal resources (and not only job resources) in the JD-R model's health impairment process. In other words, it may be argued that teachers with higher levels of PP will experience lower levels of exhaustion (i.e. burnout) (Xanthopoulou et al. 2013). They will actively change their environment to relieve stressors (Siebert et al. 2001). This means that teachers with high levels of PP will most probably not as quickly or severely develop burnout when faced with high demands (negative WHI/HWI) than their lower PP counterparts.

In line with the theoretical underpinning of the JD-R model and the buffering effect that resources have on the relationship between demands and burnout, it is hypothesized that PP (as a personal resource) will act as a buffer in the negative WHI/HWI and burnout relationship.

Hypothesis 10: Proactive personality moderates the relationship between negative WHI/HWI and burnout.
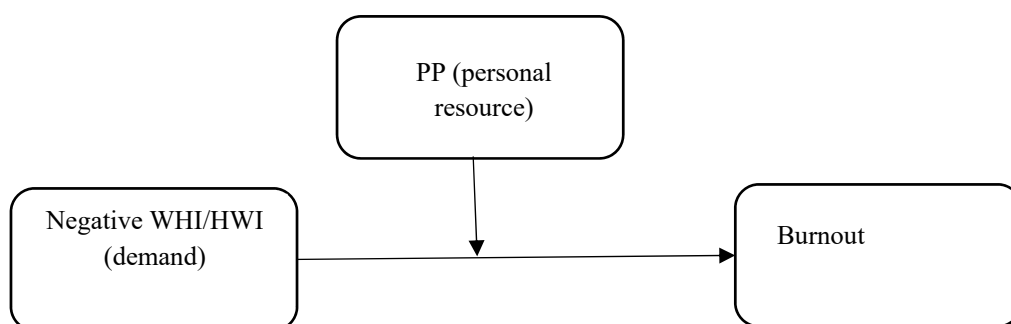
Figure 2.2. *The moderating effect of PP on the relationship between negative WHI/HWI and burnout.*

2.6 Section Summary

This section provided an overview of the constructs included in this study. The theoretical arguments presented above justified the inclusion of PP, burnout, engagement and negative and positive WHI/HWI in a nomological network of factors believed to cause variance in ITQ in teachers in South Africa.

Depicting these arguments, the structural model (figure 2.3) was developed. The structural model of ITQ among teachers were tested using PLS to determine whether it does in fact offer a valid account of the variance in ITQ among teachers in South Africa.

Figure 2.3. Proposed Structural Model of ITQ among Teachers
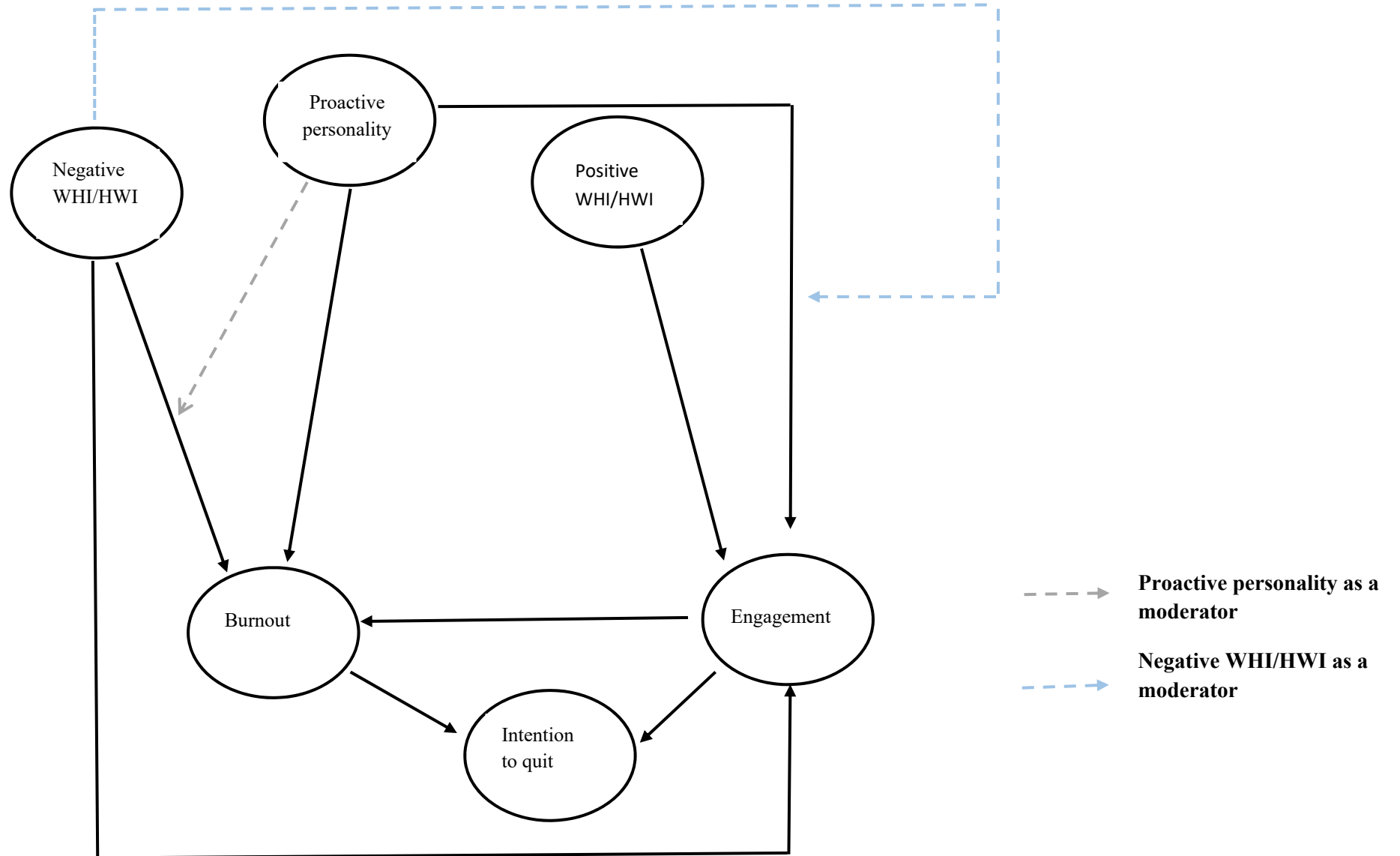
CHAPTER 3
RESEARCH METHODOLOGY

3.1. Introduction

This study is guided by the research aim of discovering "why variance exists in the ITQ amongst teachers". To provide a proposed answer to this research initiating question, a conceptual model was developed through theorising that identified antecedents and critical determinants of ITQ amongst teachers. The model also showed how these constructs combine to possibly affect teachers' ITQ. This model will only add value to schools and teachers more specifically if it provides a valid account of the psychological process underlying ITQ. In order to empirically test the ITQ model proposed in this study, a specific and appropriate methodological approach was required.

The validity of the methodological approach, in response to the research initiating question, needs to be empirically evaluated. Therefore, the objective of the following section is to describe the procedure used to evaluate the validity of the methodological response to the research initiating question. A thorough description of the methodology is required to ensure scientific rationality (Babbie & Mouton, 2001, p. 8). To this end, this chapter explicates the following: the research question, aim, and objectives, , the path specific hypotheses, research design, sampling, participants, data collection, ethical considerations, details on the statistical analyses utilised, and reporting on the psychometric integrity of the measurement instruments that were utilised in this study.

3.2. Research Question, Aim, and Objectives

This study aimed to propose a nomological network of variables that provides a plausible explanation for the variance in the ITQ of teachers. The proposed model was developed at the hand of the JD-R model, which served as the theoretical underpinning of the study. Improved understanding of the psychological processes that underlie ITQ could provide organisations, specifically educational institutions, with increased insight regarding the factors that influence their teachers' ITQ. This information could, in turn, be used to tailor interventions to help schools retain their teachers. The literature study, through theorising, was synthesised into a structural model. This model included various latent variables; namely ITQ, burnout, engagement, PP and positive and negative interaction between work and home.

Framed within the context of the JD-R model, the following research question has been formulated: *Why does variance in intention to quit exist among teachers in South Africa?*

The research question was addressed through attempting to achieve the following research objectives:

- develop a structural model which depicts the complex dynamics of the variables proposed to explain variance in the psychological processes underlying ITQ; and
- test the fit of the outer and inner model via Partial Least Squares modelling (PLS).

The proposed structural model of ITQ among teachers is depicted in figure 3.1.

Figure 3.1. Proposed Structural Model of ITQ among Teachers
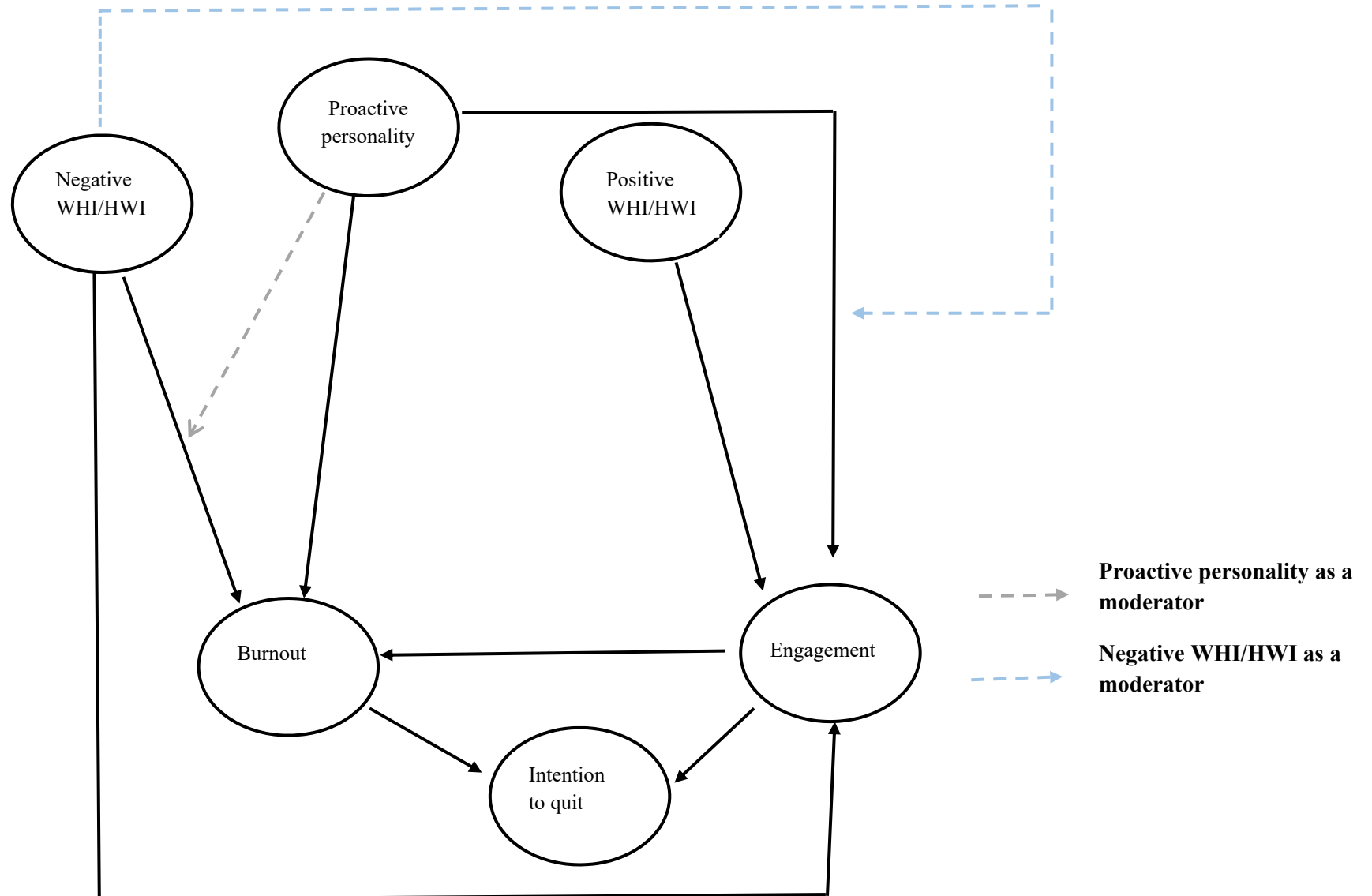
3.3. Research hypotheses

This study aimed to determine whether multiple elements of the JD-R Model, including a specific demand (negative WHI/HWI), and resources (PP and positive WHI/HWI), can be used to predict burnout and engagement, and ultimately ITQ of teachers.

The overarching notion of this study is that the proposed structural model of ITQ among teachers depicted in figure 3.1 provided a valid description of the psychological processes causing variance in ITQ amongst teachers from public schools in the Kwa-Zulu Natal region in South Africa.

Therefore, the following 10 research hypotheses were developed, describing the structural model.

Hypothesis 1[2]: Burnout has a positive linear relationship with intention to quit.

Hypothesis 2: Engagement has a negative linear relationship with intention to quit.

Hypothesis 3: Engagement has a negative linear relationship with burnout[3].

Hypothesis 4: Negative WHI/HWI has a positive linear relationship with burnout.

Hypothesis 5: Negative WHI/HWI has a negative linear relationship with engagement.

Hypothesis 6: Positive WHI/HWI has positive linear relationship with engagement.

Hypothesis 7: Proactive personality has a positive linear relationship with engagement.

Hypothesis 8: Proactive personality has a negative linear relationship with burnout.

Hypothesis 9: Negative WHI/HWI moderates the relationship between proactive personality and engagement.

Hypothesis 10: Proactive personality moderates the relationship between negative WHI/HWI and burnout.

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[2] Although not stated explicitly in the hypotheses, it should be noted that the hypotheses is presented as part of a bigger structural model. The hypotheses could also have reflected this by explicitly stating, "In the *Proposed Structural Model of ITQ among Teachers* it is hypothesized that burnout has a positive linear relationship with intention to quit.

[3] Originally a bidirectional relationship between burnout and engagement was included in the model. However, PLS has a methodological limitation on how the model can be fitted. This data analysis technique does not allow for a bidirectional relationship to be fitted. Therefore the results of this study will only report on the relationship from engagement to burnout, and not also a relationship from burnout to engagement – although the literature is clear that such a relationship does indeed exist.

3.4. Research Design

Measures of the observed variables are needed in order to calculate the observed covariance matrix. Babbie et al. (2001) define the research design as a plan of how the researcher intends on conducting the research. The aim is that of reproducing the observed covariance matrix as closely as possible. If the model fails to accurately reproduce the observed covariance matrix, then it can be concluded that the structural model does not provide an acceptable explanation for the observed covariance matrix. The structural relationships furthermore hypothesized by the model does not explain an accurate representation of the psychological process underlying the phenomenon of interest. If there is a close agreement with the covariance matrix it does not mean, however, that the psychological process depicted in the model necessarily produced the levels of endogenous latent variables comprising the phenomenon of interest. A high degree of fit would only suggest that the psychological processes displayed in the structural model provides only one probable explanation for the observed covariance matrix.

Kerlinger and Lee (2000) add that the research design maximises systematic variance, minimises error variance, and controls extraneous variance. According to Theron (2011), the research design is not selected randomly. It is a product of the type of research initiating question, research problem and empirical evidence needed to test the hypotheses.

In explanatory research, there are two broad categories of research designs, namely experimental designs and *ex post facto* designs. In the former design the researcher experimentally manipulates one or more independent latent variable and randomly assigns research participants to experimental treatments, whereas in the latter design the researcher does not have manipulative control over at least one of the independent variables (Theron, 2011).

In this study, experimental manipulation of the latent variables was not possible. A statistical analysis technique appropriate for the analysis of data from an *ex post facto* correlational design with two or more indicators per latent variable is PLS. Based on the sample size restrictions faced, PLS was used instead of LISREL (Structural equation modelling). The similarities and differences of PLS and structural equation modelling (SEM) is discussed in detail in section 3.9.6.

3.5. Sampling

Sampling involves the selection of a sub-set, or segment, of the total population (Babbie & Mouton, 2001). For the purpose of this study, teachers from the public sector were utilised. Ideally, one would like to include the whole target population in the study. However, this is seldom practically possible as found in this study.

The sampling population refers to the population of elements from which the sample is actually selected (Babbie et al. 2001). The sampling population for this study were teachers from KwaZulu-Natal (KZN). Those selected depended on availability. To maximise the representativeness of the sample, the demographics of participants varied in terms of age, race, mother tongue language and second language. An important inclusion criterion was tenure of at least one year. This allowed at least 12 months within which the teacher would have been exposed to a range of chronic workplace stressors, which may, or may not have contributed to burnout.

Struwig and Stead (2001) state that sampling identification can be done with either one of two techniques, namely *probability* (i.e. random, stratified, cluster and systematic sampling) or *non-probability sampling* (i.e. quota, purposive, convenience/availability sampling). In probability sampling, each element in the sampling population has a known, but not necessarily equal, probability of being selected (Babbie & Mouton, 2001). On the other hand, non-probability sampling refers to those sampling procedures in which the probability of selection is unknown.

In the current study, non-probability sampling was used. More specifically, a convenience sampling design was utilised, which refers to a sampling procedure of using individuals who are easily accessible. Babbie et al. (2001) state that non-probability convenience sampling is the selection of participants based on their convenient accessibility and proximity to the researcher. It was decided on this technique due to schools' time constraints as well as practical limitations.

Theron (2017) highlights the importance of an adequate sample size. Although there is disagreement on the general guidelines for sample size requirements, researchers do agree that larger sample sizes have numerous more advantages (Babbie et al. 2001). Gorsuch (1983) suggests that to produce reliable estimates using SEM, at least five participants per construct

or a minimum of 100 individuals should be included in the data analysis. According to Bagozzi and Yi (2012), SEM requires a sample size of not less than 100, and preferably above 200, whilst Hair, Black, Balbin, Anderson and Tatham (2006) recommend that a typical appropriate sample size for SEM analysis is greater than 200, but not exceeding 400. Since the sample size was below these recommendations, the researcher had to use PLS.

Data was collected by way of a composite research questionnaire (measuring each of the latent variables included in the structural model, as well as containing various items on demographic characteristics). The composite research questionnaire was developed in *Checkbox* on the *SunSurvey* system and completed online. Upon completion of the online questionnaire the anonymous data went straight into an access database with a random unique identification number. The researcher consequently did not know the participant's identity. The sample consisted of 135 public school teachers in KZN.

3.6 Research Participants

All participants that were invited to participate in the study were employed in public schools in KZN. The total sample consisted of 135 public school teachers in KZN. In total, 600 teachers, currently working at 11 public schools in the KZN region, were asked to participate. The sample of 135 therefore represents a 22.5% response rate.

Tables 3.1 and 3.2 show the age and gender distributions of the public-school teachers from KZN who participated in this study. As can be seen below, 86.7% of respondents were female. The age of the teachers varied from 21 - 67 years (mean = 39). Furthermore, as stipulated by the data collection requirements, all respondents held a minimum of one-year length of service at the participating school (see table 3.3). The results revealed that 17.8% of teachers have been working as a teacher for 1-2 years, with the highest tenure being 5-10 years (20% of the sample).

Table 3.1
Age

Age	N	Min	Max	Mean	SD
Age	135	21	67	39	12.71

Table 3.2
Gender

Gender	Frequency	Percent
Female	117	86.7
Male	18	13.3
Total	**135**	**100**

Table 3.3
Length of service

Length of service	Frequency	Percent
1-2 years	24	17.8
2-3 years	12	8.9
3-4 years	16	11.9
4-5 years	11	8.1
5-10 years	27	20
10-15 years	22	16.3
15-20 years	9	6.7
20-25 years	13	9.6
Total	**135**	**100**

Tables 3.4, 3.5, 3.6, 3.7 and 3.8 reflect the respondents' position at their school, number of schools worked at, number of dependents, highest qualifications and relationship status, respectively. Most of the participants were teachers (60%) and head of departments (21.5%). Furthermore, most of the participants reported having worked at one (25.2%) or two schools (28.9%) in their careers. Lastly, 48.9% of the teachers who completed the survey reported having no dependents, and 57.8% were married.

Table 3.4
Current position at school

Current position at school	Frequency	Percent
Academic support	1	0.7
Acting HOD	5	3.7
Communications Manager	1	0.7
Deputy head	1	0.7
Deputy principal	1	0.7
Director of student development	1	0.7
Headmaster	2	1.5
HOD	29	21.5
HOD and teacher	1	0.7
Intern	2	1.5
Liberian	1	0.7
Site champion	1	0.7
Specialist	4	3
Teacher	81	60
Total	**135**	**100**

Table 3.5
Number of schools worked at

Number of schools worked at	Frequency	Percent
1	33	25.2
2	39	28.9
3	26	19.3
4	13	9.6
5	12	8.9
6	8	5.9
7	3	2.2
Total	**135**	**100**

Table 3.6
Number of dependents

Number of dependents	Frequency	Percent
0	66	48.9
1	24	17.8
2	33	24.4
3	11	8.1
4	1	0.7
Total	**135**	**100**

Table 3.7
Highest qualification

Highest qualification	Frequency	Percent
Diploma	24	17.8
Matric	1	0.7
Post-graduate degree	80	59.3
Post-matric certificate	2	1.5
Ungraduated degree	28	20.7
Total	**135**	**100**

Table 3.8
Relationship status

Relationship status	Frequency	Percent
Single	32	23.7
Divorced	7	5.2
Living together	14	10.4
Married	78	57.8
Separated	2	1.5
Widowed	2	1.5
Total	**135**	**100**

Tables 3,9 and 3.10 indicate the first and second languages of the participants in this study. The data revealed that 85.9% of the respondents indicated English as a first language and 76.3% indicated Afrikaans as their second language.

Table 3.9
First Language

First Language	Frequency	Percent
Afrikaans	15	11.1
English	116	85.9
Xhosa	1	0.7
Vendu	0	0
Zulu	1	0.7
Ndabele	0	0
South Sotho	0	0
North Sotho	0	0
Tsonga	0	0
Tswana	0	0
Swana	0	0
Other	2	1.5
Total	**148**	**100**

Table 3.10
Second Language

Second language	Frequency	Percent
Afrikaans	103	76.3
English	25	18.5
Ndabele	0	0
North Sotho	0	0
Other	6	4.4
South Sotho	0	0
Swana	0	0
Tsonga	0	0
Tswana	0	0
Vendu	0	0
Xhosa	0	0
Zulu	1	0.7
Total	**135**	**100**

3.7 Data Collection Procedure

Once ethical clearance from the Departmental Ethics Screening Committee and the Research Ethics Committee of Stellenbosch University was obtained, permission was requested from the Department of Education (DOE) to conduct the study in public schools in Kwa-Zulu Natal. Once approval was granted by the DOE (Appendix A), contact was made with representatives (headmasters / headmistresses) of the chosen schools, for data collection permission purposes. Every headmaster / headmistress signed an institutional permission form, before data collection started. Appendix A contains the SU Research Ethics Committee permission letter, as well as the DOE permission letter. The signed institutional permission forms would reveal the identity of the participating schools; therefore, these were not attached. Appendix B, however, contains the institutional permission form template that was signed by every headmasters / headmistresses of the schools that participated in this research.

All school teachers were encouraged to participate in the study by being explained the purpose of the study, informed consent, confidentiality, and voluntary participation by the researcher. The secretary of each school was contacted telephonically and explained the purpose of the study. The headmaster was then informed of the study by the secretary or by the researcher if the headmaster was available. The headmaster then signed the permission for research form and the secretary was then the person of contact for the survey. A link, which directed the teacher to the online survey, was sent via e-mail by the secretaries of each school to the database of teachers employed in the particular school. This manner of distribution of the link by a

designated person in the school (i.e. directing the possible participants to the online questionnaire) circumvented the issue of access to personal information of the possible participants. That is, no personal contact information of possible participants was shared with the researcher.

3.8 Evaluation of Research Ethics

It is important to ensure the dignity, rights, safety and well-being of the research participants involved in the study is maintained when research is being conducted (Babbie et al. 2001). Since empirical behavioural research requires the involvement of people it is possible that the dignity, rights, safety and well-being of the participants may to a certain degree be compromised. The critical question is whether this compromise can be justified in terms of the purpose of the research. This research has a defined purpose as argued in the introduction of this thesis. Annexure 12 of the *Ethical Rules of Conduct for Practitioners Registered under the Health Professions Act* (Act no. 56 of 1974) (Republic of South Africa, 2006, p. 41) requires psychological researchers to obtain institutional permission from the organisation from which research participants will be obtained. For this reason, institutional permission was obtained from the participating schools (Appendix B).

All questionnaires were answered anonymously and participants' names and identities were not disclosed. The research participant had the right to voluntarily decide whether he/she wanted to accept the invitation to participate in the research. To make an informed decision on whether he/she wished to participate in the research, the participant was informed of the purpose of the research; what participation meant; how the research results would be used; who the researchers are and their affiliation; what their rights are; and where they can get access to more information on their research rights (Babbie et al. 2001). The informed consent form was presented as a preamble to the composite questionnaire (Appendix B).

3.9 Statistical Analysis

The following sections describe the various statistical analyses techniques that were utilized in this study.

3.9.1 Missing values

The probability of missing values is large when survey data is used, due to non-response and/or absenteeism of participants. Various methods can be used do deal with the problem of missing

values and depend on the number of missing values (Allison, 2002). The following methods have been proposed to remedy the problems associated with missing values: list-wise deletion, pair-wise deletion, multiple imputation, imputation by matching, or full information maximum likelihood imputation.

Since this study attained a small number of missing values (see section 3.10.2 for complete detail on the analysis of the missing values) and the multivariate normality assumption was not met (results reported at the start of every section where the psychometric properties of the scales are being discussed); the chosen approach for dealing with missing values was imputation by matching. This process required the researcher to identify observations that came from different sources that can be seen as similar to one another. The missing values were then replaced with actual values based on the response patterns (Enders & Bandalos, 2001) through a procedure conducted with LISREL 8.8. In this dataset missing values were imputed by specifying items that had no missing values, as matching variables. The full original sample size was retained after the imputation procedure, which is often not the case.

3.9.2 Item analysis

Before the structural model of ITQ among teachers was tested using PLS, item analysis was conducted on each one of the measurement instruments. Each measurement instrument includes items that measure the latent variable, or dimensions of the latent variable, that are supposed to be measured. The items in the questionnaires act as stimuli, with the aim to elicit the participants' responses in terms of the behaviour of the underlying constructs (Theron, 2017). Item analysis can indicate why tests are reliable and may also provide suggestions for the improvement of a test's measurement characteristics. Item analysis can highlight test items that do not measure the correct constructs or ones that are poorly worded. Once such items are removed, the reliability and validity of the test can be improved (Murphy & Davidshofer, 2005). A separate item analysis procedure for each instrument, conducted with SPSS, was used to measure the internal consistency of respondents' responses to measurement items. Various ways exist in which items can be poor, namely they can be insensitive, inconsistent or portray a poor interpretation of the construct (Theron, 2017).

The Cronbach Alpha if Item is Deleted and the Inter-Item Correlations, as well as the Squared Multiple Correlation for an item within the scale, were used to determine if an item should be flagged as a potentially poor item. The literature suggests that reliabilities (Cronbach's Alphas)

of 0.70 or higher are sufficient (Babbie et al. 2001). The item analysis results, together with the results of the individual instrument Confirmatory Factor Analyses (and Exploratory Factor Analysis if necessary), were used to decide whether a problematic item/s should be deleted or not. Once the necessary items were removed from the scales (based on the results of the analyses discussed above) the PLS model was fitted to this revised data set (i.e. the data set in which the problematic/poor items were deleted).

3.9.3 Factor analysis

Apart from item analysis, factor analysis also needs to be conducted. Factor analysis is defined by Babbie (2010, p. 491) as "a complex algebraic method for determining the general dimensions or factors that exist within a set of concrete observations". There are two main types of factor analysis, namely Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). For the purpose of this study, CFA was primarily used, as the original factor structures of all the instruments needed to be tested and validated on the sample of this study. EFA, on the other hand was only be utilized in instances where the CFA results indicated that the measurement models of the various instruments, did not obtain good fit.

3.9.4 Confirmatory factor analysis

CFA is defined as "a type of structural equation modelling (SEM) that deals specifically with measurement models, that is, the relationships between observed measures or indicators and latent variables or factors" (Brown, 2006, p. 1). In this study individual CFAs were conducted for each of the measurement instruments that were utilised in this research.

The maximum likelihood estimation requires certain assumptions to be met (Babakus, Ferguson & Jöreskog, 1987). One requirement includes working with a large sample. This study aimed to achieve this assumption and obtained a sample size of 135. Secondly, maximum likelihood estimation requires the assessment of continuous data, rather than ordinal data. Therefore, when conducting the CFAs for this study the measurement instrument's items were specified to be continuous[4]. The final assumption requires that the indicator variables follow a

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[4] In a study conducted by Muthén and Kaplan (1985), results from numerous different estimation techniques (of specific relevance to this study is the ML estimation technique) showed that when used within a CFA SEM context, non-normal categorical variables when specified to be continous, and these variables are moderately skewed and kurtoic, no significant distortion of the parameter, standard error or chi-square resulted. These results showed that ML's estimators perform relatively well even with ordered categorical and moderataley skewed variables. Therefore, in this study the observed variables were specified to be continuous and ML was chosen as the estimation technique.

multivariate normal distribution (Beauducel & Herzberg, 2006). In order to achieve this assumption, the normality of all the measurement instrument's subscales' observed variables were analysed. Maximum likelihood estimation would be used if the multivariate normality assumption were satisfied. If the multivariate normality assumption had to be rejected, Robust Maximum Likelihood (RML) estimation was used. When assessing indicator variables of each of the measurement instruments contained in this study for normality (with PRELIS), it was found that not one scale met this assumption. Therefore, the study made use of Robust Maximum Likelihood (RML) estimation in every instance.

LISREL 8.8 (Du Toit et al. 2001) was used to perform the confirmatory factor analysis. The asymptotic covariance matrix was analysed in order to fit the measurement models of each of the instrument utilised in this study (due to RML being used). If the measurement model provided an exact account of the observed covariance matrix; the exact fit null-hypothesis was accepted (H_{01}: RMSEA=0; H_{a1}: RMSEA>0). However, it should be noted that it is highly unlikely that a measurement model will achieve exact fit. Therefore, a more realistic aim is that of achieving close fit (hypothesis 2b), which takes the error of approximation into account. When the significance of the error of approximation within the population is equal to, or less than a p-value of .05, the model can be interpreted as a close reproduction of reality ($H0_{2b}$ close fit: RMSEA $\leq$ 0.05; Ha_{2b} close fit: RMSEA > 0.05).

Moreover, in order to determine the CFA results; goodness-of-fit (GOF) statistics were assessed. The relevant indices of the GOF statistics that were utilised in this study included the Satorra-Bentler Chi-Square, the standardised Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index (CFI), the Non-Normed Fit Index (NNFI), and the Standardised Root Mean Residual (SRMR). According to Hair, Black, Balbin, Anderson and Tatham (2006) the suggested cut-off scores for the GOF indices can be determined by sample size and the number of observed variables in the model. Table 3.11 provides the applicable cut-off values that were used to interpret the GOF indices obtained in the CFA results on the basis that the sample size was below 250.

Table 3. 11
Suggested cut-off values of fit indices demonstrating Goodness-of-Fit given differential model complexity

	N<250		
GOF statistics	**m ≤ 12**	**12 < m < 30**	**m ≥ 30**
CFI/NNFI	>0.97	>0.95	>0.92
SRMR	Could be biased upward, use other indices	≤ 0.08	<0.09
RMSEA	<0.08	<0.08	<0.08
Models[5] in this study	UWES-9	SWING	
	PPS	MBI-GS	

Note. GOF = goodness-of-fit; m = number of observed variables; N applies to number of observations per group when applying CFA to multiple groups simultaneously; CFI = comparative fit index; NNFI = non-normed fit index; SWING= survey work-home interference Nijmegen scale. PPS= proactive personality scale. UWES-9= utrecht work engagement scale questionnaire. MBI-GS=maslach burnout inventory general survey. SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation *$p < .05$.
(Hair et al., 2006)

a) Satorra – Bentler scaled chi square

The Satorra-Bentler scaled chi-square (S-Bχ2) is calculated when the normal assumption is not met where Robust Maximum Likelihood (RML) estimation has been used. S-Bχ2 enables the normal chi-square statistic to be divided by a scaling correction in order to better estimate the chi-square in cases of data that follows a non-normal distribution (Satorra & Bentler, 2001). Since the data of this study, for all the individual measurement models for every instrument that was tested, did not achieve multivariate normality, the S-Bχ2 was derived via RML as it provided an improved estimate on the fit of the model (Satorra et al. 2001).

b) Standardised root mean residual

The standardised root mean residual (SRMR) is the standardised square root of the mean of the squared residuals. It is the average value of the residuals between individual observed and estimated covariance and variance terms. According to Hair et al. (2006) a SRMR (where there are more than 12 latent variables and less than 30 latent variables) that produces a value less than 0.08, represents good fit. If there are more than 30 latent variables in the scale, a SRMR value less than 0.09 represents good fit.

c) The root mean square error of approximation

The root mean square of approximation (RMSEA) is a measure of fit that states the difference between the observed and estimated sample covariance matrices. This study will make use of the cut-off value suggested by Hair et al. (2006), where a value of 0.80 reflects acceptable fit; while a value of 0.50 or less is indicative of good fit. The RMSEA is valuable as it is a

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[5] The Turnover intention scale had less than three items and therefore CFA was not performed on this scale.

standardised measure not attached to the scales/subscales of the latent variables. Its estimate properties are known, which allows a researcher to acquire parametric confidence intervals to perform hypothesis tests (Kelly & Keke, 2011). The p-value of the RMSEA also determines the test of close fit for the models (RMSEA <0.05).

d) Comparative fit index and non-normed fit index

CFI and NNFI values usually range between 0.0 and 1.0, with values closer to 1.0 indicating good fit (Hooper et al. 2008). Furthermore, Hair et al. (2006) suggested that values of 0.92 and higher provide a strong proposition of a well-fitting model for a sample with fewer than 250 observations, and more than 30 observed variables.

3.9.5 Dimensionality analysis / EFA

According to Theron (2017), this process determines the extent to which items measure the factors underlying a construct. The aim of EFA is to determine whether the items in the subscales load onto the factors they claim to load onto. Thus, the only source of common variance across all the items should be the factor that the items measure.

Dimensionality analyses permits the researcher to identify and remove items with inadequate factor loadings. In the current study EFA was only used to examine instrument factor structure, depending on the results of the CFA. That is, if the CFA results were to suggest poor model fit between the observed data and the theoretical model, an EFA was performed to further investigate the reason for poor measurement model fit. The results revealed that only one scale in this study reflected poor CFA model fit – the PP scale. Therefore, an EFA was performed on the PP instrument so as to confirm its underlying factor structure. The EFA results for this instrument will be discussed in section 3.10.4.2.

3.9.6 Structural equation modelling (SEM)

Structural equation modelling is used for analysing multivariate data and is also an appropriate method of theory testing (Savalei & Bentler, 2010). According to Savalei et al. SEM goes beyond common regression modelling to integrate multiple independent and dependent variables, as well as hypothetical latent constructs that may be represented by groups of observed variables.

There are two approaches used within SEM:

a) the covariance-based approach, and

b) the Partial Least Squares (PLS) approach (variance-based approach) (Hair et al. 2010).

According to Hair et al. (2012), these two approaches reflect different underlying philosophies and estimation ideas. The first approach, the covariance-based approach to SEM, is a statistical approach which minimises the difference between the covariance matrix and the sample covariance model (Hair et al. 2012). The second approach, the PLS-SEM approach, has a predictive objective that aims to increase the explained variance of endogenous constructs that exist within the model (Hair et al. 2012). The PLS approach can be advantageous over the first approach due its statistical approach especially in cases where theory does not provide unlimited explanations for dependent phenomena and the primary goal of the study is prediction (Robins, 2014). A comparison between these two approaches can be found in table 3.12, which has been provided by Urbach and Ahlemann (2010). The PLS approach was used in this study given the relatively small sample size (135).

Table 3.12
Comparison between PLS and CBSEM Approaches **(Urbach & Ahlemann, 2010)**

Criteria	PLS	SEM
Objective	Prediction-oriented	Parameter-oriented
Approach	Variance-based	Covariance-based
Assumption	Predictor specification (non-parametric)	Typically multivariate normal distribution and independent observation (parametric)
Parameter estimates	Consistent as indicators and sample size increase	Consistent
Latent variable scores	Explicitly estimated	Indeterminate
Epistemic relationship between and LVs and its measures	Can be modelled in either formative and reflective mode	Typically only with reflective indicators. However, the formative mode is also supported.
Implications	Optimal for prediction accuracy	Optimal for parameter accuracy
Model complexity	Large complexity	Small to moderate complexity
Sample size	Power analysis based on the portion of the model with the largest number of predictor. Minimal recommendation range from 30 - 100 cases.	Ideally based on power analysis of specific model - minimal recommendation range from 200 to 800
Type of Optimization	Locally iterative	Globally iterative
Significance tests	Only by means of simulations: restricted validity	Available
Availability of global Goodness of Fit (GOF)	Are currently being developed and discussed	Established GOF metric available

3.9.7 Partial Least Square (PLS)

According to Mohamadali (2012, p. 102) and Haenlein and Kaplan (2004), the PLS approach has the aim of maximizing "the variance of the dependent variable explained by the independent ones". Applying the PLS approach results in information on:

1. an inner model (a structural part), and
2. an outer model (a measurement part)

Firstly, the outer model (measurement model) was assessed. In evaluating the measurement model, the internal consistency reliability was the first criterion that was analyzed. Cronbach's Alpha provides an estimate of reliability based on the indicator intercorrelations (Cronbach, 1951). However, reliability in PLS in not only assessed with Cronbach's Alpha, but also with a composite calculation. The composite reliability score reflects the extent to which the variance in an item is indeed attributable to the construct it intended to measure. The composite

reliability criterion acknowledges that indicators have different loadings and also makes the assumption that all indicators are reliable (unlike the Cronbach Alpha criterion). According to Nunnally et al. (1994), the composite reliability criterion requires a recommendable value of at least 0.70, while values below 0.60 are considered dissatisfactory.

The second criterion analysed is the construct validity which was assessed through *Convergent validity*. Convergent validity occurs when items of a specific construct link to other items of another construct (Urbach & Ahlemann, 2010). The PLS approach makes use of the Average Variance Extracted (AVE) in order to assess the convergent validity of constructs (Hair et al. 2010). AVE can be described as "the amount of variance that a latent variable component captures from its indicators relative to the amount of variance due to measurement error" (Shi, Olson & Stam, 2007, p.310). A value of 0.50 is generally required to indicate good convergent validity (Hair et al. 2010). Construct validity is also assessed through discriminant validity. Discriminant validity is a process of determining whether the items of an instrument are distinct (Straub, Boudreau & Gefen, 2004). Discriminant validity is also assessed through analyzing the cross-loadings of specific items.

Thereafter the analysis moved to the inner model (the structural model), where the variance of constructs was examined; as well as their effect sizes and predictive relevance (Henseler et al. 2009). In order to evaluate the proposed relationships in the structural model of ITQ among teachers (inner model) the coefficient of determination and path coefficients are inspected. The Coefficient of Determination (R^2), determines how much variation of each endogenous variable is accounted for by the whole model. Values of 0.67 are deemed significant; while values of 0.33 and 0.19 are considered moderate and weak respectively (Chin, 1998). The path relationships reflected in the structural model of ITQ among teachers obtain estimated values. These estimated values should be assessed in terms of their sign, magnitude and significance.

3.10 Measurement Instruments

Every latent variable in the structural model of ITQ among teachers needed to be measured by an instrument that can provide empirical evidence against which the stated hypotheses could be tested. However, to come to valid and reliable conclusions using the obtained results, the instruments utilised needed to possess the necessary psychometric qualities. The measurement instruments operationalised the constructs by making them measurable.

The five instruments that were utilised in this study included: (1) the SWING questionnaire (measuring both negative and positive WHI/HWI), (2) the Proactive Personality scale (3) the Utrecht Work Engagement Scale (UWES-9) (4) the Maslach Burnout Inventory General Survey (MBI-GS), and (5) the Turnover Intention Scale (TIS-3).

3.10.1. Data Capturing/preparation

The raw data was captured in an excel spreadsheet which was subsequently imported into SPSS. The ranges of the responses were checked in terms of the response scales utilised in every instrument. Reversed keyed items were recoded and the data was scored (i.e. calculating subscale scores in order to calculate correlations between the various constructs). Missing values in the raw dataset were analysed so as to determine the appropriate approach to the handling of missing data. Accuracy of the dataset was checked with random crosschecks that were completed throughout the dataset (in terms of recoding of variables, scoring of subscales).

3.10.2. Missing Values

Since respondents either deliberately or accidentally failed to respond to all the items in the study's questionnaire, missing values were evident in the dataset. The data analyses could not be performed until these missing values were appropriately dealt with.

With a sample size of 135 and the questionnaire consisting of 62 items, the results of an inspection revealed that only 52 values were missing out of a total of 4320 possible item responses. Resultantly, the total dataset was missing 0.01% of data points. Imputation by matching was thus able to be performed on the basis that the percentage of missing values was less than 30%, and that the normality assumption was rejected (normality was inspected with PRELIS, results reported below). The imputation by matching procedure, performed with LISREL, was successful as no missing data points were evident in the dataset after the execution of the procedure.

3.10.3. SWING questionnaire

The survey work-home interference Nijmegen (SWING) was used to measure the degree of work-home interaction experienced (de Klerk et al. 2010). The SWING is a 22-item work-home and home-work interference measure which measures four types of WHI, namely (1) the negative interference of work on home (in the form of eight items) (2) the negative interference of home on work (3) the positive interference of work on home and (4) the positive interference

of home on work. The theory behind this instrument is based on E-R theory (Geaurts et al. 2005). All items are scored on a four-point frequency rating scale, ranging from 0 "Never" to 3 "Always". Geurts et al. (2005) reported Cronbach alpha coefficients of 0.84 for negative WHI and 0.75 for positive WHI, as well as 0.75 for negative HWI and 0.81 for positive HWI. In a South African sample evidence of the construct validity, construct equivalence and reliability of the scale was found (de Klerk et al. 2010). The following Cronbach alphas were reported: negative WHI = 0.90, positive WHI = 0.84, negative HWI =0.89 and positive WHI = 0.82 (de Klerk et al. 2010). Another South African study conducted by Pieterse and Mostert (2005), using two different language and ethnic groups from a mining and equipment industry, found acceptable reliabilities for the for the four scales of the SWING. The Cronbach Alpha's for negative WHI ranged from 0.85 to 0.79; for positive WHI alphas ranged from 0.67 to 0.79; for negative WHI, ranges from 0.78 to 0.79 were reported. Lastly, for positive HWI alpha ranges from 0.77 to 0.79 were found.

3.10.3.1 Descriptive statistics and item analysis

SPSS version 25.0 was used to conduct item analysis in order to determine whether the indicators of the latent variables reflected acceptable levels of reliability. Item analysis further allowed for the assessment of the homogeneity of the subscales, as well as the identification of poor items. The descriptive statistics and item analysis results for the subscales of positive WHI, positive HWI, negative WHI, and negative HWI are presented in table 3.13. The total score for negative WHI/HWI and positive WHI/HWI (i.e how the constructs were presented in the model) was calculated in order to show the total negative and positive interference scores between the work and home domains in both directions (the descriptive statistics and Cronbach's Alpha for these total scores are presented in table 4.9).

Table 3. 13
The means, standard deviation and reliability statistics for the SWING subscales

SWING Subscale	Number of items	M	SD	α
Positive WHI	5	7.89	4.8	0.27
Positive HWI	5	6.81	2.85	0.57
Negative WHI	8	12.59	4.4	0.82
Negative HWI	4	3.2	1.9	0.34

3.10.3.1.1. Positive WHI subscale

As shown in table 3.14 the range of Item Total Correlation statistics for the positive WHI subscale was -0.43 to 0.45. The range of the Squared Multiple Correlations was 0.05 – 0.49.

The Cronbach Alpha for the positive WHI subscale was 0.27 (table 3.13). According to Nunnally and Bernstein (1994), the suggested critical cut-off score for acceptable internal consistency should be 0.70. This subscale therefore did not meet the suggested cut-off value, demonstrating very low internal consistency. However, the results revealed that if item 14 were to be removed the alpha for the subscale would increase substantially to 0.63 (table 3.14). This item was therefore removed, and the Item Statistics were recalculated. Table 3.15 shows the new and improved item statistics for this subscale.

After removing item 14, the range of Item Total Correlations statistics for the subscale ranged between -0.03 - 0.60. The range of the Squared Multiple Correlations was 0.01 - 0.47. The Cronbach Alpha for the positive WHI subscale was 0.63 (table 3.15). Although this subscale missed the 0.70 cut-off value for acceptable internal consistency, the significant increase after the removal of the offending item increased the alpha to a more acceptable value, much closer to the desired level for acceptable reliability. However, the Item Total Correlation and Squared Multiple Correlation of item 13 was clearly out of synch with the rest of the results, flagging item 13 as a poor item. More specifically, the results revealed that if item 13 would be removed the alpha for the subscale will increase to 0.78 (table 3.16). This item was therefore removed and the item statistics were recalculated. Table 3.17 contains the new statistics for the items.

After removing item 13, the range of Item Total Correlations statistics for the subscale ranged between 0.53 - 0.66. The range of the Squared Multiple Correlations was 0.29 - 0.46. The Cronbach Alpha for the revised positive WHI subscale was 0.78 (table 3.18). After removing items 13 and 14, the subscale exceeded the suggested cut-off value, demonstrating a high internal consistency and items 15, 16 and 17 were therefore retained in the data pool.

Table 3. 14
Item statistics for Positive WHI

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 13	5.43	4.31	0.04	0.05	0.29
Item 14	6.65	5.87	-0.43	0.28	0.63
Item 15	6.47	2.56	0.45	0.46	-0.17
Item 16	6.56	2.74	0.39	0.49	-0.08
Item 17	6.45	2.85	0.35	0.32	-0.03

Table 3. 15
The means, standard deviation and reliability statistics for the Positive WHI subscale after removing item 14

SWING Subscale	Number of items	M	SD	α
Positive WHI	4	6.65	2.42	0.63

Table 3. 16
Item statistics for Positive WHI once removed item 14

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 13	4.19	5.54	-0.03	0.01	0.78
Item 15	5.23	2.98	0.6	0.45	0.39
Item 16	5.32	3.07	0.58	0.47	0.41
Item 17	5.21	3.24	0.51	0.29	0.48

Table 3. 17
Item statistics for Positive WHI after removing item 13

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 15	2.77	2.64	0.65	0.45	0.66
Item 16	2.86	2.64	0.66	0.46	0.64
Item 17	2.76	2.93	0.53	0.29	0.78

Table 3. 18

The means, standard deviation and reliability statistics for the Positive WHI subscale after removing item 14 and item 13

SWING Subscale	Number of items	M	SD	α
Positive WHI	3	4.19	5.54	0.78

3.10.3.1.2. Positive HWI subscale

As shown in table 3.19 the range of Item Total Correlation statistics for the positive HWI subscale was -0.29 – 0.69. The range of the Squared Multiple Correlations was 0.17– 0.63. The Cronbach Alpha for the positive WHI subscale was 0.57 (table 3.13). The subscale therefore did not meet the suggested cut-off value, demonstrating lower internal consistency than desired. Item 22's items statistics were clearly out of synch with the rest of the items. This Items Total Correlation was the lowest (-0.29) and its Squared Multiple Correlation was also the lowest (0.17). However, the results revealed that if item 22 was to be removed the alpha for the subscale would increase to 0.79 (table 3.20). Given this substantial increase, it was decided

to remove this item, and henceforth the item statistics were recalculated. Table 3.21 shows the new item statistics.

After removing item 22, the range of Item Total Correlations statistics for the subscale ranged between 0.38 - 0.72 (table 3.21). The range of the Squared Multiple Correlations was 0.16 - 0.63. The Cronbach Alpha for the positive WHI subscale was 0.79. The subscale therefore, after removing item 22, exceeded the suggested cut-off value, demonstrating a satisfactory high internal consistency and items 18, 19, 20 and 21 were retained. Item 18 was also flagged as a possible poor item. This is because it had the second to lowest Item Total Correlation (0.23) and the second to lowest Squared Multiple Correlation (0.25) (table 3.19). However, it was decided to retain this item as after removing item 22 the 0.70 benchmark had been exceeded.

Table 3.19
Item statistics for Positive HWI

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 18	5.72	6.11	0.23	0.25	0.56
Item 19	5.56	4.51	0.65	0.51	0.29
Item 20	5.47	4.49	0.69	0.63	0.28
Item 21	5.62	4.82	0.6	0.54	0.34
Item 22	4.86	8.84	-0.29	0.17	0.79

Table 3. 20
The means, standard deviation and reliability statistics for the Positive HWI subscale after removing item 22.

SWING Subscale	Number of items	M	SD	α
Positive HWI	4	4.86	2.97	0.79

Table 3. 21

Item statistics for Positive HWI

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 18	3.77	6.16	0.38	0.16	0.85
Item 19	3.6	5.02	0.67	0.51	0.71
Item 20	3.53	4.95	0.72	0.63	0.68
Item 21	3.67	5.12	0.69	0.53	0.70

3.10.3.1.3. Negative HWI subscale

The Cronbach Alpha for the negative HWI subscale did not meet the suggested cut-off value (0.34) (table 3.13). As shown in table 3.22, the range of Item-Total Correlation statistics was -0.06 – 0.37 and the range of the Squared Multiple Correlations was 0.01 to 0.42. Similar to the positive HWI subscale, this subscale demonstrated very low internal consistency. The results further revealed that if item 10 would be removed the alpha for the subscale will increase to 0.68 (table 3.22). This item was therefore removed (table 3.23).

After item 10 was removed, the results revealed that the deletion of item 9 would lead to a further substantial increase in the Cronbach Alpha of the negative HWI subscale (table 3.22). However, given that the deletion of this item would leave the scale with only 2 items, it was decided to rather retain item 9 and closely observe how this item performed in the CFA and PLS results. The Cronbach Alpha of 0.68 after removing item 10 was also just below the required cut-off value of 0.70.

Table 3.22
Item statistics for Negative HWI

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 9	2.79	2.61	0.24	0.11	0.23
Item 10	1.44	2.38	-0.06	0.01	0.68
Item 11	2.66	2.23	0.36	0.42	0.09
Item 12	2.77	2.27	0.37	0.41	0.09

Table 3. 23
The means, standard deviation and reliability statistics for the Negative HWI subscale after removing item 10

SWING Subscale	Number of items	M	SD	α
Negative HWI	4	1.44	1.54	0.68

Table 3.24
Item statistics for Negative HWI after removing item 10

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 9	1.01	1.52	0.33	0.11	0.78
Item 11	0.88	1.05	0.6	0.42	0.45
Item 12	0.99	1.11	0.59	0.42	0.47

3.10.3.1.4. Negative WHI subscale

The Cronbach Alpha for the negative WHI subscale exceeded 0.70 (0.82), demonstrating a very high internal consistency. Table 3.24 revealed that the range of Item Total Correlation statistics for the negative WHI subscale was -0.11 to 0.69 and the range of the Squared Multiple Correlations was 0.03 and 0.57. However, inspection of the results revealed that the alpha would increase to 0.88 if item 7 was removed from the data pool (table 3.24). Item 7 has the lowest item total correlation (-0.11) and the lowest Squared Multiple Correlation value (0.03).

After removing item 7, the range of Item Total Correlations statistics for the subscale improved dramatically, now ranging between 0.61 and 0.72. The range of the Squared Multiple Correlations also improved and revealed a range between 0.41 and 0.57. The Cronbach Alpha for the negative HWI subscale was 0.88 (table 3.26). The subscale now exceeded the suggested cut-off value and therefore all the other items were retained in the data pool.

Table 3.25
Item statistics for Negative WHI

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 1	11.09	15.31	0.59	0.41	0.79
Item 2	11.04	14.87	0.68	0.5	0.78
Item 3	11.13	14.5	0.65	0.48	0.79
Item 4	10.99	14.75	0.68	0.49	0.78
Item 5	11.04	14.45	0.63	0.5	0.79
Item 6	10.93	14.35	0.69	0.57	0.78
Item 7	11.12	19.7	-0.11	0.03	0.88
Item 8	10.77	14.999	0.63	0.45	0.79

Table 3.26
Item statistics for Negative WHI once item 7 was removed

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
Item 1	9.62	15.39	0.61	0.41	0.87
Item 2	9.57	14.95	0.69	0.49	0.86
Item 3	9.67	14.45	0.68	0.47	0.86
Item 4	9.52	14.82	0.68	0.49	0.86
Item 5	9.57	14.38	0.67	0.49	0.87
Item 6	9.46	14.33	0.72	0.57	0.86
Item 8	9.3	15	0.65	0.45	0.87

Table 3.27
The means, standard deviation and reliability statistics for the Negative WHI subscale after removing item 7

SWING Subscale	Number of items	M	SD	α
Negative WHI	7	11.12	4.44	0.88

Table 3.28
Final Item statistics for SWING subscales after poor items have been removed

SWING Subscale	Number of items	M	SD	α
Positive WHI	3	4.19	5.54	0.78
Positive HWI	4	4.86	2.97	0.79
Negative WHI	7	11.12	4.44	0.88
Negative HWI	3	1.44	1.54	0.68

3.10.3.2. Confirmatory factor analysis

3.10.3.2.1. Measurement model specification and data normality

The SWING measurement model consisted of 18 observed variables and four unmeasured latent factor (i.e. positive WHI, positive HWI, negative WHI, negative HWI). The results of the test of multivariate normality are shown in table 3.28. The null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi 2$ =59.63 p = .000). Therefore, RML estimation was utilised.

Table 3.29
Test of Multivariate normality (SWING)

Skewness			Kurtosis			Skewness & Kurtosis	
Value	Z-Score	P-Value	Value	Z-score	P-value	Chi-square	P-value
55.928	6.025	0.00	346.108	4.830	0.00	59.63	0.00

3.10.3.2.2. Evaluation of the measurement model

Evaluation of the measurement model, in this instance, represented the relationship between the WHI/HWI subscales and the manifest indicators. The purpose of CFA is to establish whether the operationalisation of the latent variables was effective. The operationalisation is successful if the measurement model successfully reproduces the observed covariance matrix and if the measurement model parameter estimates demonstrate that the majority of the variance in the indicator variables can be seen to be represented by the latent variables they load onto. In other words, the model fits the data well if factor loadings are statistically significant (p < .05) and sufficiently large (λ > .40), and if the error variances are sufficiently small (Brown, 2015).

The results of the CFA for the measurement model of SWING are shown in table 3.29. A Satorra-Bentler Scaled chi-square value of 120.00 (p = 0.31) with 113 degrees of freedom emerged. Consequently, the exact fit null hypothesis should be rejected (p < 0.05).

The null hypothesis of close fit was tested and is illustrated in table 3.29 as the P-Value for Test of Close fit (RMSEA < .05) = 0.95. The close fit null hypothesis was therefore not rejected (p > .05), and it could be concluded that the model obtained close fit. According to Hair et al. (2006), when a model with between 12 and 30 observed variables are tested on a sample smaller than 250, values smaller than .08 for both the RMSEA and SRMR indicate good fit. Similarly, NNFI and CFI values above 0.95 (Hair et al. 2006) further corroborate good fit. The NNFI value of 0.99 and CFI value of 0.99 met the suggested cut-off scores, therefore indicative of good model fit. Moreover, the RMSEA value of 0.02 and SRMR value of 0.06 further corroborated this evidence of good model fit.

Table 3.30
Goodness of fit statistics for the SWING measurement model

X_2	S-Bχ2	df	S-Bχ2/ df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
129.55*	120.00*	113	1.06	0.99	0.99	0.04	0.06	0.02	0.95

*Note. X2 = Chi-square; S-BX2 = Satorra-Bentler Scaled Chi-square; NNFI = non-normed fit index; CFI = comparative fit index; RMR = root mean square residuals; SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation *p <0.05.*

The completely standardised factor loadings ranged from 0.39 to 0.90. These factor loadings were all significant and above 0.40, except for item ITN18 which was 0.39. These results further corroborate the previous results indicating that good model fit was attained for the SWING measurement model.

3.10.4. Proactive personality scale

PP was measured with the Claes, Beheydt, and Lemmens (2005) shortened six-item PP Scale. In 1993, Bateman and Crant (1993) published the self-report PP Scale. This one-dimensional scale, used on American, European and Belgium samples, consisted of 17 items (Bateman et al. 1993). Over time, shortened versions of the PP Scale were used to assess employees' proactivity. Claes et al. (2005) tested the six-item PP Scale in cross-cultural settings (i.e. Belgium, Finland and Spain) to determined its structural equivalence. The findings indicated that the six-item PP Scale was the only internally consistent (Cronbach's α) measure of proactivity across independent samples in different countries (α = 0.92).

In South Africa, the six-item PP Scale was utilised in a study by Van Der Westhuizen (2014). In this study the scale obtained a Cronbach's alpha coefficient of 0.83, which indicated excellent internal consistency reliability. The average inter-item correlation obtained for the scale was 0.45. Only Item PP-5 (0.49) had an inter-item correlation below 0.50. Nevertheless, this inter-item correlation was still considered acceptable. The remaining inter-item correlations were all above 0.50, and item PP-4 had the highest inter-item correlation (0.68).

As shown in table 3.31 the range of item total correlation statistics for the PP scale was 0.53 - 0.66. The range of the squared multiple correlations was 0.37 - 0.57. The Cronbach Alpha for the PP scale was 0.83 (table 3.30). The subscale exceeded the suggested cut-off value of 0.70 for good internal consistency, demonstrating a very high internal consistency and therefore all the items were retained in the data pool.

Table 3. 31
The means, standard deviation and reliability statistics for the PP subscales

PP Subscale	Number of items	M	SD	α
Proactive Personality	6	15.79	5.11	0.83

Table 3. 32
Item statistics for the PP scale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
PP1	13.6	19.15	0.61	0.46	0.80
PP2	13.38	18.94	0.66	0.57	0.79
PP3	12.67	17.49	0.53	0.37	0.83
PP4	12.76	18.98	0.6	0.46	0.80
PP5	13.67	19.68	0.62	0.51	0.80
PP6	12.89	18.35	0.64	0.55	0.79

3.10.4.1. Confirmatory factor analysis

3.10.4.1.1. Measurement model specification and data normality

For the PP measurement model there were 6 observed variables and one unmeasured latent factor (i.e. PP). The results of the test of multivariate normality showed that the null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi2 = 56.57$, $p = 0.000$). Therefore, Robust Maximum Likelihood (RML) estimation was used.

Table 3. 33
Test of Multivariate normality (PPS)

Skewness			Kurtosis			Skewness & Kurtosis	
Value	Z-Score	P-Value	Value	Z-score	P-value	Chi-square	P-value
7.10	6.70	0.000	54.75	3.41	0.001	56.57	0.00

3.10.4.1.2. Evaluation of the measurement model

Evaluation of the measurement model, in this instance, represented the relationship between the PP subscales and the manifest indicators. The results of the CFA for the measurement model of the PPS are shown in table 3.33. A Satorra-Bentler Scaled chi-square value of 46.62 (p = 0.00) with 9 degrees of freedom emerged. Consequently, the exact fit null hypothesis should be rejected ($p < 0.05$).

The null hypothesis of close fit was tested and is illustrated in table 3.33 as the P-Value for Test of Close fit (RMSEA < 0.05) = 0.0000. The close fit null hypothesis was therefore rejected ($p < 0.05$), and it was concluded that the model did not obtain close fit. According to Hair et al. (2006), when a model with less than 12 observed variables are tested on a sample smaller than 250, values smaller than 0.08 for both the RMSEA and SRMR indicate good fit. Similarly, NNFI and CFI values above 0.97 (Hair et al. 2006) further corroborate good fit. The NNFI value of 0.86 and CFI value of 0.92 fell short of the suggested cut-off scores, therefore indicative of poor model fit. The RMSEA value of 0.18 further corroborated this evidence of poor model fit, although the SRMR value of 0.07 met the cut-off value for good model fit. In conclusion, the majority of the fit indices pointed to poor model fit.

Table 3.34
Goodness of fit statistics for the PP measurement model

X_2	S-Bχ2	df	S-Bχ2/ df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
50.45*	46.62*	9	5.18	0.86	0.92	.094	0.07	0.18	0.00

Note. X^2 = Chi-square; S-BX^2 = Satorra-Bentler Scaled Chi-square; NNFI = non-normed fit index; CFI = comparative fit index; RMR = root mean square residuals; SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation *$p < .05$.

The completely standardised factor loadings ranged from 0.68 to 0.90. These factor loadings were all significant and above 0.40. However, the basket of GOF indices suggested that poor model fit for the unidimensional PP scale measurement model were obtained.

3.10.4.2. Exploratory Factor Analysis (EFA) Results

The CFA results for the PP measurement model proved disappointing. On this basis, it was decided to analyse the factor structure of the instrument so as to gain greater insight into how

the model fit could be improved and identified in a subsequent CFA. An EFA was performed on the PP scale (6 items). Principal axis factoring with direct oblimin rotation was used to conduct the EFA. The factor analysability of the scale was permissible since the KMO-value was 0.74.

When analysing the Scree Plot and the Eigenvalue-greater-than-one rule it became apparent that the results of the analysis indicated the extraction of one factor. The one-factor solution accounted for 55.54% of the total variance; while the non-redundant residuals with absolute values greater than 0.5 revealed a value of 73% for the solution. This relatively high level of non-redundant residuals in a sense corroborated the CFA results, although the results of the EFA nonetheless also pointed towards only one latent factor underlying the set of items. Therefore, is was concluded that the one-factor solution could ultimately be considered an acceptable interpretation of the factor structure of the PPS within the current sample. Below, the one-factor structure matrix is presented in table 3.34. No further analyses were therefore performed.

Table 3.35
PP structure matrix

	Factor 1
PP1	0.67
PP2	0.75
PP3	0.57
PP4	0.66
PP5	0.71
PP6	0.73

3.10.5. Utrecht Work Engagement Scale questionnaire (UWES-9)

Employee engagement was measured with the Utrecht Work Engagement Scale (UWES-9). The Utrecht Work Engagement Scale (UWES-24) originally consisted of 24 items (Schaufeli & Bakker, 2003). The scale measures three sub-dimensions of engagement, namely vigour (nine items), dedication (eight items) and adsorption (seven items). The vigour subscale measures employees' energy, resilienc, their willingness to invest effort in their work, and their persistence when facing challenging situations (Schaufeli et al. 2003). The dedication subscale determines whether employees experience a sense of significance at work, and whether they are enthusiastic, inspired and proud of their work (Schaufeli et al. 2003). The absorption

subscale establishes whether employees are fully concentrated on their work which often results in employees not being able to detach themselves from their work.

A cross-cultural analysis of Italian and Dutch white-collar employees supported the excellent internal consistency reliability (Cronbach's α) of the UWES-9 (α = 0.92) and its subscales (Balducci, Fraccaroli & Schaufeli, 2011). The alpha of 0.92 was achieved by cross-validating the factor variance and covariance invariance model with the obtained Italian and Dutch validation samples. The standardized factor loadings were all statistically significant with a p < 0.001, and ranged from 0.60 to 0.81 in Italy and from 0.64 to 0.89 in the Netherlands. Separate CFAs of the Italian and Dutch data showed that a three-factor Vigour (0.91), Dedication (0.92), and Absorption (0.85) solution better fit the data than a one-factor (Engagement) solution in both countries.

The results of this study revealed that the Cronbach alpha (0.87) for the vigour subscale was well above the acceptable 0.70 value (Nunnally, 1978). According to the item statistics, there were no items that had obtained extremely low Item Total Correlations or extremely low Squared Multiple Correlations. The Cronbach Alpha if Item Deleted revealed that there would be no increase in reliability that would be gained, should any items be deleted.

Furthermore, the results indicated that the Cronbach Alpha (0.80) for the dedication subscale was above the cut-off value (Nunnally, 1978). Upon inspection of the Item Statistics, the results revealed that there existed no extreme mean or small standard deviation within the items. This implied that there was no item that could be flagged as problematic. Furthermore, from the Item-Total Statistics, it was evident that only one item if deleted, would have incurred an increase in the subscales' current Cronbach alpha of 0.80. This is item 7 (E7), however the increase of 0.02 to the Cronbach Alpha (i.e. 0.82) was considered to be too small an increase to consider removing this item. Furthermore, there are only 3 items in this scale and the alpha was already very good and comfortably exceeded the suggested cut-off value. Evaluation of the subscales' inter-item correlation matrix indicated moderate inter-item correlations ranging from 0.56 to 0.77, with squared multiple correlations ranging from 0.35 to 0.59 (table 3.37) All of the items fell within a similar range and therefore no items were flagged as possible poor items, and none were considered for removal from the item pool.

The absorption subscale initially produced a reliability coefficient of 0.61. This fell below the generally accepted cut-off value (0.70) specified by Nunnally (1978), indicating good internal consistency. All of the items achieved reasonably high-corrected item-total correlations (ranging from 0.37 to 0.50). The ranges of the squared multiple correlations of this subscale was between 0.37 to 0.50. After inspection of the item analysis results, no items were flagged as possible poor items since the Cronbach alpha would not increase if any of these items were to be deleted. Therefore, this less than satisfactory internal consistency result would be regarded to be a limitation of this study.

Table 3. 36
The means, standard deviation and reliability statistics for the UWES-9 subscales

UWES-9 Subscale	Number of items	M	SD	α
Vigour	3	10.85	3.49	0.87
Dedication	3	14.25	2.84	0.80
Absorption	3	13.27	2.72	0.61

Table 3.37
Item statistics for Vigour subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
E1	7.48	5.82	0.78	0.64	0.79
E2	7.31	6.08	0.79	0.64	0.8
E5	6.91	5.38	0.71	0.51	0.87

Table 3.38
Item statistics for Dedication subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
E3	9.64	3.47	0.77	0.59	0.59
E4	9.9	3.27	0.67	0.5	0.72
E7	8.96	5.11	0.56	0.35	0.82

Table 3. 39
Item statistics for Absorption subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
E6	9.09	3.83	0.37	0.15	0.59
E8	8.46	4.39	0.50	0.26	0.44
E9	9.00	3.55	0.42	0.22	0.51

3.10.5. 1. Confirmatory factor analysis

3.10.5.1.1. Measurement model specification and data normality

The UWES-9 measurement model consisted of 9 observed variables (X's) and three unmeasured latent factor (ξ's; i.e. vigour, dedication and absorption). The results of the test of multivariate normality are shown in table 3.39. The null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi2$ =171.48 p = .000). Therefore, RML estimation was utilised.

Table 3. 40
Test of Multivariate normality (UWES-9)

Skewness			Kurtosis			Skewness & Kurtosis	
Value	Z-Score	P-Value	Value	Z-score	P-value	Chi-square	P-value
21.09	11.54	0.00	121.49	6.19	0.000	171.48	0.000

3.10.5.1.2. Evaluation of the measurement model

The results of the CFA for the measurement model of UWES-9 are shown in table 3.40. A Satorra-Bentler Scaled chi-square value of 44.38 (p = 0.0003) with 17 degrees of freedom emerged. Consequently, the exact fit null hypothesis had to be rejected (p <0 .05).

The null hypothesis of close fit was tested and is illustrated in table 3.40 as the P-Value for Test of Close fit (RMSEA < .05) = 0.00838. The close fit null hypothesis was therefore rejected (p < .05), and it was concluded that no statistical evidence of close fit was evident for this model. According to Hair et al. (2006), when a model with less than 12 observed variables are tested on a sample smaller than 250, values smaller than 0.08 for both the RMSEA and SRMR indicate good fit. Similarly, NNFI and CFI values above 0.97 (Hair et al. 2006) further corroborate good fit. The NNFI value of 0.95 and CFI value of 0.97 fell just below the suggested cut-off scores, therefore indicative of reasonable model fit. The RMSEA value of 0.11 and SRMR value of 0.06 further corroborated this evidence of only reasonable model fit.

Table 3.41
Goodness of fit statistics for the UWES-9 measurement model

X_2	S-Bχ2	df	S-Bχ2/ df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
48.03*	44.38*	17	2.61	0.95	0.97	0.09	0.06	0.11	0.01

*Note. X^2 = Chi-square; S-BX^2 = Satorra-Bentler Scaled Chi-square; NNFI = non-normed fit index; CFI = comparative fit index; RMR = root mean square residuals; SRMR = standardised root mean square residual; RMSEA = root mean square error of approximation *p < .05.*

The completely standardised factor loadings ranged from 0.45 to 0.88. These factor loadings were all significant and above 0.40. Although the basket of evidence clearly only suggests

reasonable fit, these results are comparable with results of other studies on the 3-factor UWES-9 in South Africa (SA). For example, in a SA study conducted by Görgens-Ekermans and Steyn (2016), the three-factor structure of the UWES-9 was analysed and some conflicting evidence was found. The results showed good sub-scale coefficient alphas (0.77-Absorbtion, 0.83-dedication and 0.83-vigour respectively). CFA goodness-of-fit indicators provided, however, some concerning results. The SRMR (< 0.08) indicated good model fit, and the incremental fit indices met the 0.95 cut-off value, however, the RMSEA of 0.112 was indicative of only reasonable to poor model fit. However, in comparison to the CFA fit statistics reported in the technical manual (Schaufeli & Bakker, 2003, p.15) on a Dutch sample for the three-factor UWES-9 (RMSEA = 0.10; NNFI = 0.94; CFI = 0.96), the findings in this SA study compared well. Therefore, the similar GOFs for the three-factor structure that was found in this study, is in line with the trend in results from other SA studies.

3.10.6. Maslach burnout inventory general survey (MBI-GS)

For more than a decade, the Maslach Burnout Inventory (MBI) has been one of the leading measures for burnout (Lamb, 2009). Burnout, involves reduced personal accomplishment, emotional exhaustion and depersonalisation. Campbell and Rothman (2005) stated in their study that the original Maslach Burnout Inventory contained 47 items. Subsequent research reduced the number of items to 25 and eventually to a final form of 22 items, known as the MBI-General Survey (MBI-GS). The MBI-General Survey is a new version of the Maslach Burnout Inventory designed for workers in occupations other than human services or education (Maslach et al.2001). The MBI-General Survey is a 22-item instrument that measures the three aspects of burnout. The 22 items are scored on a seven-point frequency rating scale, varying from 0 ("never") to 6 ("every day"). The survey consists of sections A, B and C. Section A measures the level of emotional exhaustion, section B measures the level of depersonalisation and section C measures the level of personal accomplishment. These three sections consist of nine, five and eight questions respectively (Maslach et al. 2001).

Acceptably reliability of the Maslach Burnout Inventory has been shown in numerous SA studies (e.g. Van den Berg et al. 2006). Maslach et al. (2001) reported reliability coefficients of 0.90 for emotional exhaustion, 0.71 for personal accomplishment and 0.79 for depersonalisation (Maslach et al. 2001). Another study conducted by Roger, Campbell and Rothman (2005) reported a positive outcome with internal consistencies of 0.89 for emotional exhaustion, 0.84 for cynicism and 0.84 for professional efficacy. According to Lamb (2009),

the validity of the Maslach Burnout Inventory is well established. The results of a series of confirmatory factor analyses established the three-factor structure for eight diverse occupations (Lamb, 2009). The three-factor model fitted the data for each of the eight groups correspondingly well, suggesting that exhaustion, cynicism and professional efficacy constitute three independent dimensions of burnout, independent of vocational aspects. These findings indicate that the MBI-GS is a measure of burnout that can be used in any occupational context (Bakker, Demerouti, & Schaufeli, 2002).

The results of this study revealed that the Cronbach Alpha (0.91) for the EE subscale was well above the acceptable 0.70 value (Nunnally, 1978). According to the Item Statistics (table 3.42) derived for this sub-scale, there were no items that had obtained an extreme mean or standard deviation. The Item Total Correlation ranges were between 0.44 and 0.87. The Squared Multiple Correlations ranged between 0.44 and 0.82. The Cronbach Alpha if Item Deleted revealed that if item 6 or 16 would be deleted, the alpha coefficient would increase to 0.92. Both these items had the lowest Squared Multiple Correlations (0.44 and 0.46 respectively) and lowest Item Total Correlations (0.44 and 0.49), However, it was decided to retain both of these items as their Item Statistics were in the general range of the other items.

Furthermore, the results indicated that the Cronbach Alpha (0.76) for the subscale PA met the cut-off value (Nunnally, 1978) for good internal consistency. Upon inspection of the Item Statistics (table 3.43), the results revealed that the Item Total Correlation statistics ranged between 0.25 – 0.59. Bu4 was the lowest scoring item with an Item Total Correlation of 0.25. Bu12 was the next lowest scoring item with an Item Total Correlation of 0.33. These two items also scored lowest for Squared Multiple Correlations (0.18 and 0.22 respectively). While these items deviated from the range, it was evident that none of these two items, if deleted, would have incurred an increase in the subscales' current Cronbach Alpha of 0.76. It was therefore decided to retain both these items.

The depersonalisation subscale produced a reliability coefficient of 0.70, just meeting the accepted cut-off value for good internal consistency (Nunnally, 1978). All of the items achieved reasonably high-corrected Item Total Correlations (ranging from 0.39 to 0.55). Squared Multiple Correlation values ranged between 0.32 to 0.37. For both Item Statistics items values were within range of each other and no extreme scores existed. After inspection

of the item analysis results (table 3.44), no items were flagged as possible poor items since the Cronbach Alpha would not increase if any of these items were to be deleted.

Table 3. 42
The means, standard deviation and reliability statistics for MBI-GS subscales

MBI-GS Subscale	Number of items	M	SD	α
EE	9	26.71	10.95	0.91
PA	8	35.24	5.49	0.76
DEP	5	7.11	4.80	0.70

Table 3.43
Item statistics for EE subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
BU1	22.74	93.69	0.79	0.73	0.89
BU2	22.59	93.86	0.79	0.76	0.89
BU3	23.63	92.83	0.74	0.64	0.9
BU6	24.74	102.36	0.49	0.49	0.92
BU8	23.39	89.09	0.87	0.82	0.89
BU13	23.8	95.25	0.73	0.58	0.9
BU14	23.13	95.99	0.68	0.6	0.91
BU16	25.04	105.26	0.44	0.44	0.92
BU20	24.64	93.34	0.74	0.63	0.9

Table 3. 44
Item statistics for PA subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
BU4	30.75	26.89	0.25	0.18	0.77
BU7	30.78	23.17	0.62	0.46	0.71
BU9	30.39	24.43	0.49	0.29	0.74
BU12	31.92	23.52	0.33	0.22	0.77
BU18	30.696	22.65	0.56	0.37	0.72
BU17	30.75	23.34	0.47	0.29	0.74
BU19	30.45	22.98	0.59	0.46	0.72
BU21	30.93	23.94	0.48	0.28	0.74

Table 3. 45
Item statistics for Depersonalisation subscale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
BU5	6.25	17.88	0.48	0.32	0.66
BU10	5.23	15.22	0.49	0.35	0.64
BU11	5.02	15.16	0.42	0.37	0.67
BU15	6.36	17.62	0.39	0.34	0.68
BU22	5.59	13.51	0.55	0.35	0.61

3.10.6.1. Confirmatory factor analysis

3.10.6.1.1. Measurement model specification and data normality

For the burnout measurement model, there were 22 observed variables and three unmeasured latent factors (EE, PA, Depersonalisation). The results of the test of multivariate normality are shown in table 3.45 The null hypothesis of multivariate normality was rejected (skewness and kurtosis: $\chi 2$ =76.16 p = .000). Therefore, RML estimation was used.

Table 3. 46
Test of Multivariate normality (MBI-GS)

Skewness			Kurtosis			Skewness & Kurtosis	
Value	Z-Score	P-Value	Value	Z-score	P-value	Chi-square	P-value
113.07	7.57	0.000	550.70	4.34	0.000	76.16	0.000

3.10.6.1.2. Evaluation of the measurement model

Evaluation of the measurement model, in this instance, represented the relationship between the burnout subscales and the manifest indicators. The results of the CFA for the measurement model of MBI-GS are shown in table 3.46. A Satorra-Bentler Scaled chi-square value of 425.96 (p = 0.000) with 206 degrees of freedom emerged. Consequently, the exact fit null hypothesis had to be rejected (p < 0.05).

The null hypothesis of close fit was tested and is illustrated in table 3.46 as the P-Value for Test of Close fit (RMSEA < 0.05) = 0.000. The close fit null hypothesis was therefore rejected (p < 0.05). Hence, the model did not obtain close fit. The NNFI value of 0.93 and CFI value of 0.94 did not meet the suggested cut-off scores (0.97) as suggested by Hair et al. (2006) for good model fit. The RMSEA value of 0.09 and SRMR value of 0.11 further corroborated this evidence of only reasonable model fit.

Table 3. 47
Goodness of fit statistics for the MBI-GS measurement model

X_2	S-Bχ2	df	S-Bχ2/ df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
441.29*	425.96*	206	2.07	0.93	0.94	0.23	0.11	0.09	0.00

Note. X^2 = Chi-square; S-BX^2 = Satorra-Bentler Scaled Chi-square; NNFI = non-normed fit index; CFI = comparative fit index; RMR = root mean square residuals; SRMR = standardised root mean residual; RMSEA = root mean square error of approximation *p < .05.

The completely standardised factor loadings ranged from 0.32 to 0.92. These factor loadings were all significant and above 0.40, except for BU4 which obtained a completely standardised factor loading of 0.32, and BU16 with a loading of 0.39. In conclusion, the basket of fit indices seemed to suggest only a poor fitting model. However, in a study conducted by Storm and Rothman (2003), on the South African Police Service, a CFI of 0.91, RMSEA of 0.08, and NNFI of 0.90 was reported. This is in line with the results found in this study, and indicates therefore that the MBI-GS have also been found to only display poor model fit in other South African samples.

3.10.7. Turnover intention scale (TIS-3)

For the purpose of measuring the ITQ construct, a three item scale proposed by Cohen (1993) was utilised. Cohen (1993) made use of Mobley, Horner and Hollingsworth's (1978, p. 408) definition of ITQ namely, that ITQ is the "precursor of actually quitting" a particular job. The scale consists of three items, and has a 5-point Likert scale response format (1 = strongly disagree to 5 = strongly agree). A Cronbach alpha internal consistency reliability coefficient of 0.91 has been reported for the scale by the author (Mobley et al. 1978).

Item analysis was performed on the ITQ scale by du Plessis (2017) on a sample of nurses in the public sector of SA. The scale obtained a good reliability coefficient of 0.89 (Nunnally, 1978). The item-total statistics revealed no poor performing items, that if deleted, would increase the reliability. The ranges of corrected item-total correlations (0.76 to 0.80) and squared multiple correlations (0.57 to 0.63) were also judged as acceptable in this study.

Item analysis was conducted and the results for this study, as depicted in table 3, showed a very good reliability coefficient of 0.90 (Nunnally, 1978). This value fell well above the critical cut-off value of 0.70 used as a general benchmark in this study. Evaluation of the subscales' inter-item correlation matrix revealed moderate to high inter-item correlations (0.78 to 0.83) and squared multiple correlations (0.60 to 0.67) (table 3.48). The squared multiple correlations show the proportion of variance in each item explained by a weighted linear composite of all

the remaining items. Good items share a reasonable amount of variance with the other items as they are meant to measure the same underlying factor. Furthermore, the results revealed that no item, if deleted, would have caused an increase in the preliminary Cronbach Alpha attained. All the items were, therefore, retained for further data analysis, as no poor items were identified after inspection of the item analysis statistics.

Table 3. 48
The means, standard deviation and reliability statistics for TURNOVER subscales

TU Subscale	Number of items	M	SD	α
Turnover	3	7.73	3.69	0.90

Table 3.49
Item statistics for TIS-3 scale

Variable	Mean if deleted	Var. if deleted	Item Total correlation	Squared Multiple R	Alpha if deleted
TU1	5	6.21	0.83	0.69	0.84
TU2	5.33	6.66	0.78	0.6	0.89
TU3	5.13	6.13	0.81	0.67	0.85

No CFA was performed on the TIS-3 scale as it only comprises of three observed variables. According to Mulaik and Millsap (2000) it is recommended that a minimum of four items per construct is necessary for conducting CFA, as more indicators per latent variable could function as a way to increase the degrees of freedom without randomly fixing structural parameters to reach that purpose. Fewer items would also compromise and increase the problems associated with interpretational confounding, as well as enhancing the probability of estimating problems (Mulaik & Millsap, 2000). Furthermore, the restricted number of items also implies that there would not be sufficient degrees of freedom for the analysis to yield interpretable results. It was consequently decided to not perform CFA on the TIS-3 scale.

3.10.8. Conclusion regarding the psychometric integrity of the measurement instruments
A combined summary of the item analyses conducted on the range of scales (i.e. respective measuring instruments) used in this study, are presented in table 3.49.

/Table 3. 50
A summary of the reliability results of the composite questionnaire latent variables and their sub dimensions

Scales	Sample size	Number of items	Mean	Standard deviation	Cronbach alpha	Number of items deleted
PP	135	6	15.79	5.11	0.83	0
ABS	135	3	13.27	2.72	0.61	0
DED	135	3	14.25	2.84	0.80	0
VIG	135	3	10.85	3.49	0.87	0
PA	135	8	35.24	5.49	0.76	0
DP	135	5	7.11	4.80	0.70	0
EE	135	9	26.71	10.95	0.91	0
POSWHI	135	3	4.19	5.54	0.78	2
POSHWI	135	4	4.86	2.97	0.79	1
NEGWHI	135	7	11.12	4.44	0.88	1
NEGHWI	135	3	1.44	1.54	0.68	1
TU	135	3	7.73	3.69	0.90	0

Note. Tu=Turnover intention, EE=emotional exhaustion, DP=depersonalisation, PA=personal accomplishment, VIG=vigour, DED=dedication, ABS=absorption, PP= proactive personality , POSWHI= positive work-home interaction, POSHWI= positive home-work interaction, NEGWHI= negative work-home interaction, NEGHWI=negative home-work interaction.

Item analysis was performed on all the data for the purpose of identifying and eliminating items that did not add to an internally consistent description of the subscales in question and therefore removing these poor items. Only five items from the composite questionnaire were deleted and were eliminated from further analyses. The results recommended the removal of items INT7 from the NEGWHI subscale, INT10 from NEGHWI subscale, INT13 and INT14 from POSWHI subscale and INT22 from POSHWI subscale. CFA that was conducted on the respective instruments revealed results ranging from poor to good fit. In addition, EFA was conducted on the PP Scale that led to a one-factor solution providing evidence of only one factor.

The composite results from the item analysis revealed that 10 out of the 12 scales returned Cronbach reliability coefficients of 0.70 and higher, which was above the critical cut-off value (Nunnally, 1978), with two other subscales (i.e. ABS and NEGHWI) falling just short of this benchmark. Based on the results, evidence was provided to conclude satisfactory internal consistency for the majority of the subscales/scales that lead to the justification for the use of these scales in the subsequent analyses.

In conclusion, the overall basket of evidence delivered sufficient justification to utilise these instruments in the subsequent analysis to represent the latent variables they were assigned to reflect, in the structural model of ITQ among teachers.

CHAPTER FOUR
RESEARCH RESULTS

4.1. Introduction

This chapter presents and reports on the measurement (outer) and structural (inner) model Partial Least Squares (PLS) results. The previous chapter discussed the validation results of the measurement instruments utilised in this study. This chapter will present and discuss the structural model of ITQ among teachers results that were attained in order to test the hypotheses that were presented in chapters 2 and 3.

4.2. PLS Results: Validating the Measurement (Outer) Model

4.2.1. Alpha Coefficient, Composite Reliability and AVE values

The alpha coefficients, composite reliability and AVE results of the instruments that were used in this study are presented below in table 4.1 As discussed in chapter 3, in PLS reliability is assessed using Cronbach Alpha as well as a composite reliability calculation. The composite reliability score reflects the extent to which the variance in an item is indeed attributable to the construct it intended to measure. According to Nunnally et al. (1994), a value of at least 0.70 is recommended for the composite reliability criterion. PLS used AVE to assess convergent validity of the constructs. AVE can be described as "the amount of variance that a latent variable component captures from its indicators relative to the amount of variance due to measurement error" (Shi, Olson & Stam, 2007, p.310). According to Hair et al. (2010) a value of 0.50 is an acceptable indication of good convergent validity.

From the results, it is evident that all the measurement instruments displayed acceptable internal consistency (alpha scores are above 0.70, composite reliability scores are above 0.70 and AVE values are all above 0.50). Only one exception was found, the alpha for the Absorption subscale was below 0.70 at 0.65. It could therefore be concluded that convergent validity and acceptable reliability emerged from the measurement instruments.

In a study conducted by Marais, Mostert, Geurts and Taris (2010) on validating the SWING, they found that negative WHI and positive WHI were positively, significantly correlated (0.39, p<0.01). They also found that negative HWI and positive HWI were positively, significantly, correlated (0.39, p<0.01). A similar trend was evident in this research with positive WHI and negative WHI ($r = 0.19$; p<0.05), however the correlation between positive HWI and negative HWI was non-significant.

Table 4.1
Composite Reliability, Cronbach's Alpha, and AVE

Latent Variable	Subscales	Composite Reliability	AVE
Burnout	Emotional exhaustion ($\alpha = 0.91$) Depersonalisation ($\alpha = 0.71$) Personal Accomplishment ($\alpha = 0.77$)	0.87	0.69
Engagement	Absorption ($\alpha = 0.65$) Vigour ($\alpha = 0.87$) Dedication ($\alpha = 0.80$)	0.87	0.70
Intention to quit ($\alpha = 0.90$)		0.94	0.84
Negative WHI/HWI	Negative WHI ($\alpha = 0.88$) Negative HWI ($\alpha = 0.68$)	0.79	0.66
Positive WHI/HWI	Positive WHI ($\alpha = 0.78$) Positive HWI ($\alpha = 0.80$)	0.86	0.76
Proactive personality ($\alpha = 0.84$)		0.88	0.54

4.2.2. Discriminant Validity

The Heterotrait-Monotrait ratio (HTMT) was calculated to examine discriminant validity. This method involves analysing within-scale item correlations and then comparing it with cross correlations on another scale. The cross correlations should be lower than the within correlations. According to Henseler, Ringle, and Sarstedt (2015, p.121), "HTMT approach is an estimate of the correlation between the constructs ξi and ξj, which parallels the disattenuated construct score correlation. Because the HTMT is an estimate of the correlation between the constructs ξi and ξj, its interpretation is straightforward: if the indicators of two constructs ξi and ξj exhibit an HTMT value that is clearly smaller than one, the true correlation between the two constructs is most likely different from one, and they should differ". The discriminant validity results, calculated based on the Heterotrait-Monotrait ratio are presented in table 4.2.

Table 4.2
Discriminant Validity (Heterotrait-Monotrait ratio)

	Original sample (0)	95% lower	95% upper	Discriminate
Engagement -> Burnout	0.96	0.88	1.05	no
Intention to quit -> Burnout	0.7	0.59	0.79	yes
Intention to quit -> Engagement	0.6	0.47	0.73	yes
Neg WHI/HWI -> Burnout	0.9	0.74	1.15	no
Neg WHI/HWI -> Engagement	0.56	0.38	0.85	yes
Neg WHI/HWI -> Intention to quit	0.51	0.33	0.76	yes
Neg Int*PP -> Burnout	0.09	0.05	0.25	yes
Neg Int*PP -> Engagement	0.06	0.03	0.25	yes
Neg Int*PP -> Intention to quit	0.13	0.02	0.3	yes
Neg Int*PP -> Neg WHI/HWI	0.19	0.04	0.55	yes
PP*Neg Int -> Burnout	0.09	0.05	0.25	yes
PP*Neg Int -> Engagement	0.06	0.03	0.25	yes
PP*Neg Int -> Intention to quit	0.13	0.02	0.3	yes
PP*Neg Int -> Neg WHI/HWI	0.19	0.04	0.55	yes
Pos WHI/HWI -> Burnout	0.38	0.19	0.61	yes
Pos WHI/HWI -> Engagement	0.36	0.21	0.57	yes
Pos WHI/HWI -> Intention to quit	0.35	0.15	0.55	yes
Pos WHI/HWI -> Neg WHI/HWI	0.31	0.14	0.57	yes
Pos WHI/HWI -> Neg Int*PP	0.11	0.02	0.32	yes
Pos WHI/HWI -> PP*Neg Int	0.11	0.02	0.32	yes
Proactive Personality -> Burnout	0.53	0.4	0.67	yes
Proactive Personality -> Engagement	0.48	0.34	0.65	yes
Proactive Personality -> Intention to quit	0.27	0.17	0.46	yes
Proactive Personality -> Neg WHI/HWI	0.19	0.15	0.43	yes
Proactive Personality -> Neg Int*PP	0.22	0.07	0.42	yes
Proactive Personality -> PP*Neg Int	0.22	0.07	0.42	yes
Proactive Personality -> Pos WHI/HWI	0.2	0.12	0.43	yes

The results indicated lack of discriminant validity in two sets of constructs. That is, no evidence of discriminant validity for the engagement and burnout constructs was evident. In addition, negative WHI/HWI and burnout was also shown to have not obtained discriminant validity. Discriminant validity refers to the degree of distinctiveness in indicators defining a latent variable (Hooper et al. 2008). A lack of discriminant validity means that constructs overlap and therefore to a certain extent indicates that they measure the same thing. There are two well-known theoretical approaches to understanding the burnout / engagement relationship. The first theoretical approach states that burnout and engagement are opposite ends of the same construct (i.e. low scores on MBI is indicative of high engagement) whilst the second theoretical approach states that engagement and burnout are separate and distinct constructs and should be measured with different measures (Maslach et al. 1997).

In order to determine why discriminant validity was not found, the researcher examined the conceptual similarities of the latent variables that did not attain discriminant validity. When examining the conceptual similarities, there were some identifiable similarities between the two constructs of burnout and engagement. If burnout and engagement are opposites (according to the first line of thinking discussed above), and the dimensions of engagement and burnout are direct opposites of each other (Maslach & Leiter, 1997), then conceptually it could make sense why these two latent variables did not achieve discriminant validity. For example, the correlation results of the Maslach and Leiter (1997) study revealed that the Burnout - Engagement correlation was 0.69. This is a fair amount above the 0.60 cut-off identified by Kline (1998) which underscores a fair amount of overlap between these constructs.

In terms of the relationship between negative WHI/HWI and burnout, when looking at the subscale negative WHI and HWI in the SWING, the questions relate to feelings of exhaustion, feelings of depletion and feelings of being drained and frustrated. "You do not have the energy to engage in leisure activities with your spouse/family/friends because of your job.". "You are irritable at home because your work is demanding". Therefore, it is argued in this case that the item content of the SWING seems to be closely related to the item content included in the measure for the burnout construct. This overlap could explain the lack of discriminant validity. Moreover, the correlation between negative WHI/HWI and burnout is 0.64 (table 4.9) which further corroborates this result. These results will be discussed as limitations to this study.

4.2.3 Evaluating the outer loadings

PLS bootstrap analysis was used to determine whether item loadings of the outer model were significant or not. The factor loadings were evaluated by investigating whether zero falls within the 95% confidence interval. If this was the case, the factor loadings would not be statistically significant. However, if zero did not fall within this interval, the factor loadings are significant. The results of the outer loadings for the Turnover Intention Scale is presented in Table 4.3.

Table 4.3
PLS-SEM Outer Loadings: Turnover intention item level

Scale	Subscales	Outer loadings	2.50%	97.50%	Significant
Turnover intention	Item 1	0.93	0.9	0.96	yes
	Item 2	0.88	0.82	0.93	yes
	Item 3	0.92	0.89	0.95	yes

From the results, it was clear that all of the items loaded significantly on the latent variable turnover intention (with loadings ranging from 0.88 - 0.93). A similar result emerged for the PP scale (table 4.4), where all 6 items loaded significantly on the latent variable (with loadings ranging from 0.53 - 0.83). The only item that was the low on this dimension was item 3, that confirms the findings in chapter 3. In chapter 3, it was found that this item has the lowest Item Total Correlation (0.53) and the lowest Squared Multiple Correlation (0.37). This item is therefore not a very strong item. The results for the burnout scale showed significant loadings for all subscales[6] (namely emotional exhaustion, lack of personal accomplishment and depersonalisation). The loadings ranged from 0.81 – 0.86. (table 4.5).

Table 4.4
PLS-SEM Outer Loadings of Proactive personality: Item Level

Scale	Subscales/Items	Outer loadings	2.50%	97.50%	Significant
Proactive personality	Item 1	0.73	0.53	0.82	yes
	Item 2	0.83	0.74	0.88	yes
	Item 3	0.53	0.25	0.68	yes
	Item 4	0.72	0.58	0.82	yes
	Item 5	0.80	0.71	0.87	yes
	Item 6	0.78	0.66	0.84	yes

Table 4.5
PLS-SEM Outer Loadings for Burnout (MBI-GS): Subscale Level

Scale	Subscales	Outer loadings	2.50%	97.50%	Significant
Burnout	Emotional Exhaustion	0.81	0.73	0.86	yes
	Lack of Personal Accomplishment	0.83	0.76	0.88	yes
	Depersonalisation	0.86	0.8	0.90	yes

The results in table 4.6 revealed that both subscales of the SWING (negative HWI and negative WHI) loaded significantly (loadings were 0.72 and 0.89 respectively) on the latent construct of negative WHI/HWI.

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[6] Given the relatively small sample size, the decision was taken to fit the PLS model with a combination of "item parcels", that is the sub-scale scores for measures that were multi-dimensional (e.g. Burnout), and item level indicators (e.g. Proactive Personality) for the unidimensional scales that were included in this study.

Table 4.6
PLS-SEM Outer Loadings Negative WHI/HWI: Subscale Level

Scale	Subscales	Outer loadings	2.50%	97.50%	Significant
Negative WHI/HWI	Negative HWI	0.72	0.55	0.83	yes
	Negative WHI	0.89	0.81	0.95	yes

Table 4.7 shows the outer loadings for positive WHI/HWI at the subscale level. The positive WHI/HWI subscale also showed significant loadings with positive HWI achieving an outer loading value of 0.78 and positive WHI achieving an outer loading value of 0.95.

Table 4.7
PLS-SEM Outer Loadings for Positive WHI/HWI Subscale Level

Scale	Subscales	Outer loadings	2.50%	97.50%	Significant
Positive WHI/HWI	Positive HWI	0.78	0.56	0.88	yes
	Positive WHI	0.95	0.89	1	yes

Table 4.8 show the PLS-SEM outer loadings for engagement at the subscale level. The Engagement subscale results indicated significant loadings for all of the subscales.

Table 4.8
PLS-SEM Outer Loadings for Engagement: Subscale Level

Scale	Subscales	Outer loadings	2.50%	97.50%	Significant
Engagement	Absorption	0.63	0.41	0.78	yes
	Dedication	0.94	0.92	0.95	yes
	Vigour	0.91	0.88	0.94	yes

4.3 Correlations between all the study variables

To further explore the nature of the relationships between all the variables in this study, a correlation matrix was constructed (table 4.9). The correlations provide additional information about the strength, direction and significance of the relationships between all the variables included in this study.

Table 4.9

Descriptive Statistics: Means, Standard Deviations, Reliabilities, and Correlations for scales and subscales

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. VIG	10.85	3.49	(0.87)															
2. DED	14.25	2.84	0.74**	(0.80)														
3. ABS	13.27	2.72	0.44**	0.55**	(0.61)													
4. ENGtot	38.38	7.69	0.88**	0.90**	0.76**	(0.87)												
5. PPtot	15.79	5.11	0.28**	0.23**	0.38**	0.35**	(0.83)											
6. EE	26.71	10.95	-0.66**	-0.54**	-0.17*	-0.56**	-0.14	(0.91)										
7. DEP	7.11	4.80	-0.58**	-0.61**	-0.35**	-0.61**	-0.04**	0.54**	(0.70)									
8. PA	35.24	5.49	0.60**	0.67**	0.44**	0.68**	0.47**	-0.29**	-0.45**	(0.76)								
9. BUtot	71.15	13.01	-0.53**	-0.41**	-0.09	-0.43**	-0.06	0.92**	0.64**	-0.02	(0.74)							
10. NegWHI	11.12	4.44	-0.43**	-0.41**	-0.05	-0.36**	0.02	0.71**	0.34**	-0.16	0.65**	(0.82)						
11. NegHWI	1.44	1.54	-0.19*	-0.28**	-0.10	-0.23**	-0.06	0.30**	0.31**	-0.25**	0.27**	0.33**	(0.68)					
12. NegINTtot	12.56	5.15	-0.04**	-0.43**	-0.07	-0.38**	0.00	0.69**	0.39**	-0.21*	0.64**	0.96**	0.58**	(0.86)				
13. PosWHI	4.19	2.35	-0.36**	-0.34**	-0.15	-0.34**	-0.004	0.27**	0.18*	0.34**	0.16	0.19*	0.05	0.19*	(0.78)			
14. PosHWI	4.86	2.97	-0.18*	-0.16	-0.06	-0.17	-0.17	0.16	0.11	-0.22*	0.09	0.22*	0.05	0.20*	0.56**	(0.79)		
15. PosINTtot	9.05	4.71	-0.29**	-0.27**	-0.12	-0.28**	-0.13	0.23**	0.16	-0.31**	0.13	0.24**	0.06	0.22**	0.85**	0.91**	(0.84)	
16. TUtot	7.73	3.69	-0.53**	-.051**	-0.29**	-0.53**	-0.23**	0.59**	0.43**	-0.34**	0.52**	0.40**	0.15	0.39**	0.24**	0.26**	0.28**	(0.90)

Note: Coefficient alphas are along the diagonal; alphas differ slightly from table 4.1 due to different statistical packages used to calculate it. Results reported here calculated with SPSS. VIG= vigour. DED=dedication. ABS=absorption. ENGtot=engagement total. PPtot= proactive personality total. EE=emotional exhaustion. DEP=depersonalisation. PA=personal accomplishment. BUtot=burnout total. NegWHI= negative work-home interference. NegHWI= negative work-home interference. NegINTtot= negative interference (WHI/HWI) total. PosWHI=positive work-home interference. PosHWI=positive home-work interference. PosINTtot=positive interference (WHI/HWI) total. Tutot=turnover intention total.

**p < 0.01; *p < 0.05

4.3. PLS Results: Validating the Structural (Inner) Model

In order to evaluate the proposed relationships in the structural model of ITQ among teachers (inner model) the Coefficient of Determination and path coefficients were investigated. The Coefficient of Determination (R^2) determines how much variation of each endogenous variable is accounted for by the whole model. Values of 0.67 are deemed significant; while values of 0.33 and 0.19 are considered moderate and weak respectively (Chin, 1998). The R^2 values ranged from 0.35 (engagement) to 0.74 (burnout). These results seem to suggest that the structural model of ITQ among teachers accounted for the most variance in burnout whilst it has moderate predictive value for ITQ and engagement.

Table 4.10
R square values for the determinants of the Structural Model of ITQ among Teachers

Variable	R square
Burnout	0.74
Engagement	0.35
Intention to quit	0.38

This study hypothesised 10 paths (table 4.11) which were tested through PLS. The significance of these hypothesised paths are presented in table 4.11 where it can be seen that 8 of the 10 paths were found to be statistically significant. Figure 4.1 shows the PLS results for the Structural Model of ITQ among teachers.

Table 4. 11
Path Coefficients

| Path	Path coefficient	2.50%	97.50%	Significant	P-value
Burnout -> Intention to quit	0.42	0.24	0.62	Yes	0
Engagement -> Burnout	-0.57	-0.66	-0.45	Yes	0
Engagement -> Intention to quit	-0.23	-0.41	-0.02	Yes	0.02
Negative WHI/HWI -> Burnout	0.34	0.25	0.44	Yes	0
Negative WHI/HWI -> Engagement	-0.32	-0.45	-0.18	Yes	0
Neg Int*PP -> Burnout	0	-0.08	0.09	No	0.96
PP*Neg Int -> Engagement	0.07	-0.1	0.22	No	0.39
Pos WHI/HWI -> Engagement	-0.23	-0.37	-0.09	Yes	0
Proactive Personality -> Burnout	-0.21	0.11	0.33	Yes	0
Proactive Personality -> Engagement	0.36	-0.5	-0.23	yes	0

-0.002
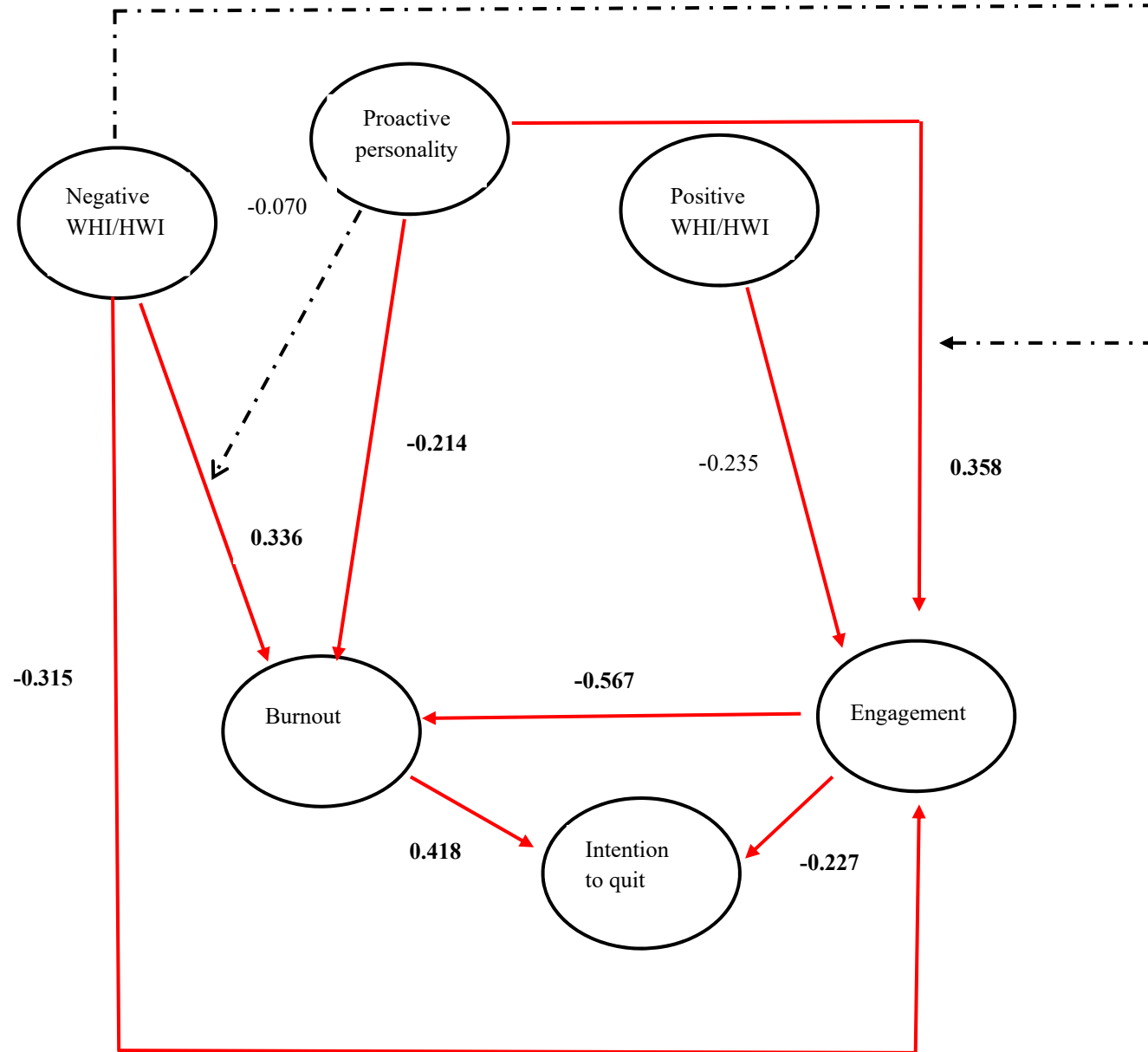
Figure 4.1. PLS results for the Intention to Quit Structural Model of Teachers

4.4. Interpreting the Proposed Hypotheses

<u>Hypothesis 1:</u> Burnout has a positive linear relationship with intention to quit.

<u>Hypothesis 2:</u> Engagement has a negative linear relationship with intention to quit.

Both hypothesis 1 and hypothesis 2 were supported by the results. Statistically significant path coefficients of 0.42 (hypothesis 1) and -0.23 (hypothesis 2) emerged. Theoretically it makes sense that the higher levels of self-reported burnout, the higher ones' ITQ. This is because burnout refers to feelings of extreme tiredness, low energy levels, feelings of being exhausted and drained, isolation, as well as low self-esteem and reduce confidence in ones' abilities. The research seems to suggest that these states will lead to higher ITQ levels. Furthermore, it also makes sense that the higher levels of self-reported engagement, the lower one's intention to quit. This is because engagement refers to high energy levels (vigour), dedication to work as well as being fully immersed at work (absorption).

The JD-R model contains two processes that could be used to explain the significance of these two paths. Firstly, the motivational process, where resources increase an employees' motivation, organisational commitment and engagement leading to less negative consequences (including but not limited to lower levels of ITQ) (Schaufeli et al. 2004). Secondly, the health impairment process is where high demands reduce an employee's resources leading to burnout and negative well-being consequences such as higher ITQ quit levels (Schaufeli et al. 2004).

Studies in different cultures have found that measures of teacher burnout (emotional exhaustion, depersonalisation and reduced personal accomplishment) predict health consequences, motivation as well as teachers work satisfaction. For example, Hakanen et al. (2006), found in their study that emotional exhaustion correlated negatively with health and work ability among Finish teachers. In a study conducted in Norway; Skaalvik and Skaalvik (2010a) found that emotional exhaustion reduced the level work satisfaction in Norwegian teachers. Jackson et al. (1986) conducted a study on a sample of United States elementary and secondary school teachers, which showed that emotional exhaustion was prominent in predicting the ITQ, and actual quitting, of teachers. Weisberg and Sagie (1999) found that depersonalisation accounted for a significant amount of variance in ITQ. Therefore, since teacher burnout has been consistently been shown in literature to be related to negative health consequences it was not surprising that burnout was found to have a positive linear relationship with intention to quit.

When one is engaged, the motivational process is at play, this means lower levels of ITQ should be reported. Engagement is "a positive, fulfilling work-related state of mind characterised by vigour, dedication and absorption" (Schaufeli et al. 2004, p.265). A meta-analysis conducted by Shropshire et al. (2012) reported that employee engagement is negatively associated with employee turnover and positively associated with customer loyalty, productivity and profitability. Employee engagement has also been shown to be related to proactive work behaviours, higher employee general well-being, positive emotions and attitudes, and higher overall performance (Siu et al. 2010). Saks (2006) reported that employees' attitudes, intentions and behaviours are connected to employee engagement. Saks (2006) found in his research using a sample of employees working in a variety of jobs, that engagement explained a significant amount of variance in ITQ ($r = 0.22$, $p < 0.001$). Furthermore, engagement predicted job satisfaction ($r=0.41$, $p < 0.001$), and organisational commitment (0.59, $p < 0.001$), ITQ (20.31, $p < 0.01$) (Saks, 2006).

The results presented here seem to suggest, therefore, that burnout is positively related to intention to quit while engagement is negatively related to ITQ – and collectively replicate previous research in this regard.

Hypothesis 3: Engagement has a negative linear relationship with burnout.

This hypothesis was supported by the results found in this study. A significant path coefficient of -0.57, which was in line with the direction of the relationship that was hypothesised, was found. This result is in line with research by Schaufeli et al. (2004), where they reported that burnout and engagement are independent states that are negatively related. In their study, they used the MBI-GS to measure burnout, and the UWES to measure engagement. Instead of loading on one single general well-being dimension, the two constructs loaded on two separate and negative correlating dimensions. The estimated correlations between the latent burnout and engagement variables were found to be moderate and range from -0.38 to -0.51 across the four samples they tested. The results of this study in terms of the correlation between burnout and engagement are in line with these results (table 4.9, $r = -0.43$).

Moreover, in a cross-national study conducted by Schaufeli, Martinez, Pinto, Salanova & Bakker (2002), burnout and engagement were examined using university students from Spain, Portugal and the Netherlands. It was found that the burnout and engagement subscales were

negatively correlated. Correlations of vigour, dedication, and absorption with the three burnout scales were r = –0.44 (range: –0.20 to –0.69), r = –0.47 (range: –0.01 to –0.67), and r = –0.30 (range: 0.03 to –0.65), respectively. Furthermore, in a meta-analytic test conducted by Crawford, LePine and Rich (2010) on the link between job demands and resources and engagement (measured using the UWES) and burnout (measured using the MBI-GS), they found that burnout and engagement has a strong negative relationship (p =-0.48, p < 0.05), which is consistent with Schaufeli and Bakker's (2004) positioning in the job demands–resources model as independent, yet negatively correlated constructs.

This research therefore corroborated the results found in this study.

Hypothesis 4: Negative WHI/HWI has a positive linear relationship with burnout.
Hypothesis 5: Negative WHI/HWI has a negative linear relationship with engagement.

Hypothesis 4 was supported by the results. A statistically significant path coefficient of 0.34 emerged. This positive relationship was expected as it was argued that when negative load effects build up (either caused by the home or work environment), these load effects will spill into the other domain which will hamper an individual's functioning, leading to strain and ultimately burnout. The E-R model was used in chapter 2 to explain the relationship between negative WHI/HWI and burnout. According to this model, when individuals exert effort, load effects build up. If the individual does not have sufficient time to recover from this stress then strain and other negative consequences result (Bakker et al. 2007). This strain spills over into the other domain and the result is enhanced stain and ultimately burnout (Alarcon et al. 2011). When individuals experience strain, they cannot function optimally and start to experience feelings of exhaustion, tired and feelings of being drained. Table 4.9 show that EE and depersonalisation were significantly and positively related to negative WHI/HWI (r = 0.69, p<0.01; r = 0.39, p<0.01). Personal accomplishment was negatively correlated with negative WHI/HWI (r = -0.21, p<0.05). This result was in line with a longitudinal study of hospital-based health care professionals conducted by Leiter and Durup (1996) which showed that personal accomplishment correlated negatively with work-family conflict during two time frames (immediately and then after 3 months) (r = -0.14, p<0.01) and family-work conflict (r = -0.22; p<0.01).

The results revealed that hypothesis 5 was also supported by the results; as a significant path was found in the hypothesised direction (-0.32). The result seems to suggest that the negative interaction between work and home has a negative linear relationship with engagement. In this study it was argued that when there are negative interactions in either the home or work domain, spill-over leads to strain and ultimately burnout (as discussed above) in both domains. The theoretical reasoning for this relationship was that when negative spill-over from the home or work domain occurs, teachers will start to feel drained, exhausted and depleted instead of enriched and invigorated. Therefore, teachers will start to experience lower levels of engagement and consequently reduce their commitment and dedication to the task at hand. In a study conducted by Montgomery et al. (2003), negative HWI was correlated negatively with vigour (r= -0.24, p<0.01) and negatively with dedication (r= -0.01). Negative WHI correlated negatively with dedication (r= - 0.17), negatively with vigour (r= -0.17). Table 4.9. shows that the similar results were found in this study. Negative HWI correlated with vigour (-0.19, p<0.01) and dedication (-0.28, p<0.01).

The results of this study seem to suggest that Negative WHI/HWI seems to be statistically significantly and positively related to burnout and statistically significantly and negatively related to engagement.

Hypothesis 6: Positive WHI/HWI has positive linear relationship with engagement.

For the purposes of this study it was argued that when interactions are positive between work and home, positive load effects will build up, and will spill-over into the other domains (e.g. work) which will lead to higher levels of engagement. Enrichment literature argues that the interaction between work and home can be positive and does not always have to result in conflict (Dunn et al. 2013). According to Greenhaus et al. (2006) on enrichment; positive spill-over can occur in both work and home domains as resources generated in one role can spill-over and improve functioning in another role. The results of this study suggest that higher levels of reported positive interaction between work and home has, however, a negative linear relationship with engagement (-0.23). The stated hypothesis was, therefore, not corroborated as the direction of the relationship was not positive, as hypothesised.

In this study, it was argued that positive WHI/HWI should be regarded as a personal resource. In line with the JD-R theory, it was hypothesised that this positive interaction in either the home

or family domain will lead to higher levels of self-reported work engagement based on the conceptualisation of positive WHI/HWI as a resource. When resources are high and demands are low employees are able to cope with demands they are faced with and therefore generally experience high energy levels as well as increased dedication to the task at hand (high levels of engagement) (Schaufeli et al. 2004). When demands are high and resources are high, employees still have sufficient resources to deal with demands and may even become even more engaged as they overcoming challenges and learning new skills to overcome difficult situations (Schaufeli et al. 2004). Positive WHI/HWI is when resources, skills and experiences in one domain spill-over into the other domain. Since positive spill-over results in increased well-being, dedication and other positive consequences (Siu et al. 2010) it was argued that it should be conceptualised in this study as a resource. Positive spill-over can lead to numerous positive advantages such as increased engagement (Friedman & Greenhaus, 2000).

Montgomery et al. (2003) reported a statistically significant relationship (r = 0.26) between positive WHI and dedication. Table 4.9 shows, however, that this study found a statistically significant and negative relationship between positive WHI and dedication (r = -0.34, p<0.05). In a study conducted by Mostert, Cronje and Pienaar (2006), positive WHI was statistically and practically significantly related to vigour and dedication. In their model, the path between positive WHI and work engagement was found to be highly positive and significant (b = 0.63, p<0.01). This research clearly contrasts with the findings in this study. Table 4.9 shows that positive WHI was correlated negatively with vigour (-0.36), p<0.001). Moreover, the results further revealed a negative path coefficient between these two constructs. It seems that higher positive WHI/HWI is associated with less reported engagement and this is in clear contrast with the trend in the literature.

It is interesting to note, however, that 87% of the sample in this study, was female. There are well-documented differences in the experiences of women and men in terms of WHI/HWI, which have been noted in the enrichment literature. Some research argues that women experience higher levels of positive WHI/HWI between the two domains and this could possibly have impacted on the results (Rothbard, 2001). Men often compartmentalise family and work emotions. Women do not compartmentalise emotions from these two domains but rather attempt to actively regulate their emotions to ensure they do not bring negative emotions home from work and vice versa. This difference is theorised to be because women have more encompassing (less compartmentalised) mental models of work and family roles than men

(Andrews & Bailyn, 1993; Crosby, 1991) which lead to coping in ways that are likely to integrate family and work. According to work on emotional labour done by Hoschschild (1983), it is often counter-normative for women to express negative emotions. This means that women exert effort to supress emotions which will use up resources that could be used for coping. This effort is aimed at changing their behaviour in that they actively try and ensure the interaction between the two domains is positive. It is argued, therefore, that women are expending more effort to stay positive and even when the interaction is negative they display positive emotions and behaviour. If positive WHI/HWI is reported (for example: "After a pleasant working day/working week, you feel more in the mood to engage in activities with your spouse/family/ friends") it may still be that the underlying emotional load is perhaps negative. This is because even when the interaction between work and home and vice versa is positive, due to the efforts to display positive emotions and behaviour even when interactions are negative, they do not achieve higher levels of engagement as they are exhausted from maintaining a positive emotional response to all situations they are faced with. Since the majority of the respondents were female (87%), it is argued here that, according to literature, women may be prone to experience heightened levels of positive interaction due to intentional behaviour which leads them to feeling more drained than their male counterparts.

It is also important to note the potential impact of the poor measurement results of the SWING questionnaire on the results found in this study. Two out of the 5 items in the positive WHI scale were deleted as they were poor items, and in the positive HWI scale 1 item was deleted for the same reason. It could be, therefore, that the measure was less conceptually sound compared to other studies that have used the SWING questionnaire with all the items retained. Since inconsistences in this study, when compared with other studies, was only found for this measure, and since this was the only measure from which items were deleted, it needs to be noted that this could have impacted on the results reported here.

Hypothesis 7: Proactive personality has a positive linear relationship with engagement

This hypothesis was supported as a significant path coefficient of 0.36 emerged. The results seem to suggest that PP has a positive linear relationship with engagement. The theoretical reasoning for this path was that higher levels of PP are linked to higher levels of resilience, self-esteem and self-efficacy therefore the more likely one will be engaged.

Individuals high on the trait of PP actively influence their environment to achieve change. It was argued in this study that highly PP employees will be more engaged and will hold less negative views about their work. Such individuals will be more dedicated to their jobs, will work hard to achieve their goals, will cope better with uncertainty and therefore will achieve higher levels of engagement (Jawahar et al. 2012). Table 4.9 shows that PP was significantly correlated with all the engagement subscales (vigour: r = 0.28, p<0.01; dedication: r = 0.23, p<0.01; absorption: r = 0.38, p<0.01). A study conducted by Bakker et al. (2012) also found such results. PP correlated significantly and positively with vigour (0.33, p<0.01), dedication (0.32, p<0.01) and absorption (0.37, p<0.01).

Hypothesis 8: Proactive personality has a negative linear relationship with burnout.

In this study is was, furthermore, argued that individuals who are high in PP are able to deal more effectively with stressful conditions, due to their ability to cope effectively with demanding situations and their ability to deal well with stress (Jawahar et al. 2012). The result revealed that PP was found to have a negative linear relationship with burnout (-0.21), and therefore hypothesis 8 was corroborated. PP individuals can leverage their social capital, identify opportunities and persevere until they succeed. PP individuals will attempt to actively change their environment to relieve stressors (Siebert et al. 2013). Since PP was conceptualised as a personal resource, according to the JD-R model, it was hypothesised that higher PP levels will lead to higher engagement but lower burnout (motivational process in the JD-R model) – as was found in this study.   Table 4.9 further shows that depersonalisation (-0.04, p<0.01) was negatively correlated with PP. Personal accomplishment (0.47, p<0.01) was positively correlated with PP. However, the overall correlation between proactive personality and burnout was non-significant (r = -0.06; p > 0.05).

Hypothesis 9: Negative WHI/HWI moderates the relationship between proactive personality and engagement.

According to the JD-R theory, resources have the strongest impact on engagement when demands are high (Bakker et al. 2014). When an employee is confronted with challenging demands, resources become extremely important. Therefore, resources gain salience under stressful conditions (Hakanen, Bakker & Demerouti., 2005). It was therefore hypothesised that negative WHI/HWI (demand) will amplify the impact of PP (personal resource) on

engagement. This theorising was not supported by the results as a nonsignificant path coefficient of -0.07 emerged. It seems that negative WHI/HWI does not moderate the relationship between PP and engagement. It may be that negative WHI/HWI is not a strong enough demand in itself to exert enough strain and cause sufficient levels of stress to moderate the relationship between PP and engagement. While the relationship between negative WHI/HWI and burnout was found to be significant and positive, the magnitude was only moderate (0.34). Future research will need to include additional demands into the model to determine if it was the incorrect conceptualisation of negative WHI/HWI as a demand that caused this insignificant result to occur.

Hypothesis 10: Proactive personality moderates the relationship between negative WHI/HWI and burnout.

PP was conceptualised as a resource in this study and therefore it was expected that it would moderate the relationship between negative WHI/HWI and burnout. This was expected as the JD-R model argues that resources can moderate the relationship between demands and burnout as resources help reduce the demands the individual as it is faced with which reduced stress, strain and ultimately burnout (Schaufeli et al. 2004). In a study conducted by Jawahar, Kisamore, Stone and Rahn (2012), it was reported that work–family conflict and family–work conflict interacted to influence emotional exhaustion at low levels of PP (r= 0.06, p<0.05; b = -0.25, p <0.05) but not at high levels of PP (r = 0, p = 0.86). These results confirm that teachers with higher levels of PP will probably not as quickly or severely develop burnout than their lower PP counterparts.

However, the results revealed that hypothesis 10 was also not supported. No significant path coefficient emerged. In this study, PP did not moderate the relationship between negative WHI/HWI and burnout. According to the JD-R model, resources can play a moderating role in the health impairment process. High PP individuals will actively change and adapt to their environment to relieve stressors. For example, Xanthopoulou et al. (2007) studied at home-care employees and found that employees benefited most from resources (example autonomy, performance feedback) when they were faced emotionally demanding situations. As a result, they dealt with these situations more effectively and prevented themselves from developing severe burnout.

In a study conducted by Jawahar et al. (2012), they found that when they faced with work family conflict and family work conflict, individuals high on the trait of PP reported more depersonalisation that less proactive individuals and less engagement. The researchers suggested that PP interacted with this conflict to enhance, rather than mitigate feelings of depersonalisation. Their study also showed that when faced with high work-family and family-work conflict, highly proactive individuals reported lower levels of personal accomplishment relative to less proactive individuals (Jawahar et al. 2012). The cross-product term of work–family conflict and family–work conflict was significantly related to depersonalization at higher levels of PP ($r = 0.03$, $p < 0.05$) but not at lower levels of proactive personality ($r = 0.01$, $p = 0.35$). Follow-up split-group analysis indicated that the cross-product term of work–family and family–work conflict was significantly related to reduced personal accomplishment at higher levels of PP ($r = 0.05$, $p < 0.05$) but not at lower levels of proactive personality ($r = 0.02$, $p = 0.23$). Therefore, this study revealed that PP interacted with the two types of inter-role conflict to enhance feelings of reduced personal accomplishment. The authors hypothesised that because proactive individuals tend to use problem solving rather than emotion based methods of coping, when stress is high, rather than being overwhelmed by emotions, they disengage emotionally and interact in a detached manner. They may start to feel overwhelmed by high stress or family-work/work-family conflict and feel frustrated since their natural tendency is to exert efforts to control their environment which may lead to feelings of failure and reduced personal accomplishment. These findings are consistent with findings of lower levels of satisfaction among highly proactive working college students (McNall and Michel, 2011). PP was positively related to job performance ($b = 0.33$, $p < 0.05$) but negatively related to job satisfaction ($b = -0.26$, $p < .05$) in this study. This research seems to suggest that there is a differential effect of PP on depersonalisation versus emotional exhaustion and personal accomplishment. For this study, the total score of burnout was used for the analysis and not the subscale scores. It may be, therefore, that some nuances were lost by virtue of using the total burnout score (which was used in the interest of model parsimony). Future research should therefore look at the relationship between PP and burnout at the sub-dimension level.

4.5 SUMMARY

This chapter reported on the data analyses that were conducted in the study. The results attained for the structural model of ITQ among teachers to test the proposed hypotheses was presented in this chapter. In the next chapter, practical implications, limitations of the study and recommendations for future research will be presented.

CHAPTER FIVE
DISCUSSION AND CONCLUSIONS

5.1 Introduction

Teaching is one of the most stressful occupations in SA (Barkhuizen & Rothman, 2016). Teachers in SA experience severe levels of stress, burnout and are leaving their institutions (Bryne, 1999). An increase in demands and significant changes in the nature of work have placed more pressure on teachers than ever before (Fisher, 1994). High levels of turnover for teachers is not only a problem in SA, it also seems to be an international trend (Xaba, 2003). Internationally, stress similarities are more common than differences in terms of teacher stress (Oliver et al. 2003). The costs of teacher turnover are severe. High turnover of teachers costs schools' money and time and negative behavioural problems from school children often result (Bryne, 1999). Education is paramount to the development of SA economy. Preventing ITQ and actual quitting of teachers is therefore critical in order to ensure the growth of this country's economy and youth (Jackson, Rothman, & van de Vijver, 2006).

The research initiating question for this study asked why variance in ITQ exists amount teachers in SA. The overarching aim of this study was, therefore, to propose a nomological network of variables that provide a plausible explanation for the variance in the ITQ among teachers in SA, at the hand of the JD-R model. The research question "*Why does variance in intention to quit exist among teachers in South Africa?"* was addressed through attempting to achieve the following objectives: develop a structural model which depicts the complex dynamics of the variables proposed to explain variance in the psychological processes underlying ITQ; and test the fit of the outer and inner model via PLS.

A literature review was conducted, and the arguments contained in the literature study culminated into an answer to the research question in the form of a structural model of ITQ among teachers. Chapter 3 motivated and outlined the research methodology utilised in this study to empirically test the structural model of ITQ among teachers. The results of various statistical analyses performed to test the model was presented in chapter 4.

This final chapter summarises and discusses the results presented in chapter 4 in more detail and allows for inferences to be made regarding the extent to which the theorising led to a valid probable explanation of the complex psychological processes underlying the ITQ of teachers in public schools in KZN. The limitations of the study are presented, followed by

recommendations for future research. The development and testing of an explanatory structural model should enable the development and implementation of interventions designed to influence behaviours of working man. In this instance, recommendations are made to school management as well as the Department of Education to influence and ultimately reduce ITQ among public school teachers.

5.2. Results

5.2.1. Introduction

Teachers in SA are facing dramatically higher stress levels due to increased demands being placed on them, lack of support, as well as increases in the number of learners in their classrooms (Reddy et al. 2012). Jackson et al. (2005) showed in their study that dissatisfaction, depression and numerous other negative well-being consequences are prominent in SA teachers. Due to the impact of education on the development of the South African economic system, and the critical importance of education to reduce unemployment levels, it was important for this study to try and uncover why teachers are leaving their institutions. This understanding could lead to recommendations which could assist the management of schools and the Department of Education to introduce interventions to reduce this phenomenon.

In South Africa teachers regularly face undisciplined and unmotivated learners. Teachers also often face high crime rates and have to cope with political corruption in state departments (Oliver & Venter, 2003). More and more teachers are experiencing low morale, increases in illness such as hypertension, ulcers, and heart attacks, and more teachers are leaving the profession and going on early retirement (Saptoe, 2000). Wrobel (1993, pg. 16) explained that "a significant number of teachers perceive the educational workplace as stressful, and will ultimately experience failure in their careers or job compassion fatigue". Teaching is therefore eroding teachers' attitudes, health and spirit, which is inhibiting them to perform effectively at work and leading to numerous negative health consequences (Berg, 1994). While moderate levels of stress are necessary to perform effectively, teachers are experiencing severe levels of stress and pressure, which is leading to poor teaching, poor decision-making, lower self-esteem, as well as a lack of commitment to remain in the profession (Champoux, 2000).

The JD-R model shows that resources predict engagement, and that this relationship is moderated by demands. When there are high demands, along with high resources, engagement will be greater than if either of them are low (Schaufeli et al. 2004). Therefore, the model shows

that both job and personal resources, together with demands, result in to two different, but connected processes (Rothman et al. 2006). In the first process, the motivational process, resources increase employees' motivation, dedication and engagement. Bakker et al. (2014) found that employees' turnover intentions are negatively related to these positive outcomes. The second process is the health impairment process, where high demands reduce an employees' resources leading to burnout and negative well-being consequences (Schaufeli et al. 2004). There are also two ways in which burnout and engagement can have a dual effect on a person's overall welfare. The first way is that the effect of demands on strain is buffered by resources. Employees who have many resources (personal and job) will be able to manage their everyday demands more efficiently (Bakker et al. 2007; Bakker, 2011; Xanthopolou et al., 2007). Secondly, demands strengthen the impact of resources on engagement. Resources have the strongest positive impact on engagement when demands are high (Xanthopolou et al., 2007; Bakker et al. 2007).

Burnout formed a central focus of this study due to its strong positive relationship with ITQ (Schaufeli et al. 2004). Burnout is a common phenomenon in the teaching industry due to high workloads, lack of resources, lack of role clarity, violence in classrooms, as well as unmanageable classroom sizes (Oliver et al. 2003). There are many major influences on the ITQ of teachers (such as lack of support, large learner-teacher ratios, lack of discipline, role conflict, low salaries (Schulze & Steynn, 2007). The focus of this study was, however, on a certain demand (negative WHI/HWI) and certain resources (PP and positive WHI/HWI), as well as the interaction between them. The empirical results related to the various statistical significant hypothesised relationships obtained in this study, will be discussed below.

5.2.2. Interpretation of the inner model results

The statistical results of the hypothesised relationships (contained in chapter 4) showed that the predicted positive linear relationship between burnout and ITQ (hypothesis 1) was statistically significant (0.42; $p < 0.05$). This result confirmed the hypothesised direction of the relationship, as well as previous research on this relationship (e.g. Hakanen et al., 2006; Norawy et al. 2010a; Schaufeli et al. 2004). The moderate strength of the relationship is in line with other research (e.g. Lee et al. 1990; Schaufeli et al. 2004). According to Rothman (2003), burnout depletes the resources available to the employee to cope with stressors. When one is burnt out, feelings of being drained and depleted (emotional exhaustion) dominate. Burnt out employees withdraw from work (depersonalisation) and experience lower confidence levels

and lower self-esteem (reduced personal accomplishment). Research on burnout has confirmed this notion, with results that have shown that burnout is related to absenteeism, withdrawal, reduced enthusiasm towards work as well as lower levels of job satisfaction (e.g. Lau et al. 2013; Reichl et al. 2014). Therefore, when teachers are experiencing burnout, they experience feelings of being drained, low self-esteem, exhaustion and low feelings of self-worth (Schaufeli et al. 2004). These feelings lead to employees disengaging from their work, reducing their commitment to their organisation, experiencing numerous negative well-being consequences and eventually leaving their institutions (Schaufeli et al. 2004).

The results from this study, therefore, corroborated the notion that higher levels of burnout seemed to be associated with more self-reported ITQ in teachers. The results further underscore the fact that addressing issues regarding burnout in teachers may be a valuable avenue to pursue in addressing possible high turnover of teachers in public schools in SA.

Moreover, engagement and its negative linear relationship to ITQ was also statistically tested (hypothesis 2). The results revealed that this path was also shown to be statistically significant (-0.23; $p < 0.05$). In this study is was argued that teachers who are engaged are more enthusiastic, engaged in their roles, actively involved in their work and experience high levels of self-efficacy and report increased levels of overall general well-being (Saks, 2006) and therefore less turnover intentions. Teachers displaying high levels of engagement display higher resilience, are not so easily exhausted and are more committed to their jobs (Schaufeli et al., 2004). When employees are engaged they are energised, committed and dedicated to their work and experience more positive emotions (Siu et al. 2010). These states of mind lead to more proactive work behaviours, higher overall performance, higher general well-being and ultimately lower absenteeism and reduced turnover intentions (Siu et al. 2010). The small strength of the relationship found in this study is in line with a study conducted by Saks (2006) who found in his research using a sample of employees in a variety of occupations, that engagement explained 22% of variance in ITQ. This is corroborated by a study conducted by Schaufeli et al. (2004) who found a moderate but statistically significant relationship between ITQ and vigour (-0.16) and dedication (-0.39). The results from this study, therefore, corroborated the notion that higher levels of engagement seem to be associated with less self-reported ITQ in teachers.

These results, furthermore, seem to suggest that, within the context of this particular model, burnout is a stronger predictor of ITQ than engagement. The investigation into burnout in this study showed that the strength of the relationship between burnout and ITQ is stronger than the relationship between engagement and ITQ. Therefore, ITQ is more strongly predicted by burnout than a lack of engagement. The implications of this finding is that addressing burnout issues should be a central focus of school management and the Department of Education in order to address ITQ levels of teachers.

The hypothesised relationship between burnout and engagement was also supported. A significant path coefficient of -0.57 (p < 0.05) was found. The relationship between burnout and engagement has been attempted to be understood in literature by two contrasting theories. While both theories have their own support, it seems as if the one theory is superior in unpacking this relationship. The first theory, which is argued and supported by Maslach et al. (1997), is that engagement and burnout are direct opposites. For this reason, Maslach et al. (1997) argues that they should be measured using one instrument, as high scores would be indicative of the one construct, but on the other hand low scores would reflect the other construct. The second line of thinking or theory, is that burnout and engagement are independent constructs that should be measured using different instruments. Schaufeli et al. (2008) are some of the advocates for this theory. In their study (using MBI-GS to measure burnout and UWES to measure engagement) they found that burnout and engagement are in fact independent constructs and negatively correlated. Both constructs were found to load on two separate dimensions, indicating that they do not refer to one underlying dimension. The moderate to high negative path coefficient of this study is in line with the results found in the Schaufeli et al. (2008) study.

Demands from work and family are not always in agreement and often, conflict occurs. The negative interference between work and home was conceptualised by this study as a demand. Demands require effort and therefore result in numerous costs which have numerous negative consequences for the employee and their well-being (Schaufeli et al. 2004). Demands lead to burnout when they exceed resources as employees do not have sufficient resources to deal with the high demands they are faced with (Demerouti et al. 2011). Teachers often experience lack of support from co-workers which causes strain for teachers, leading to the build-up of negative emotions and negative load effects, which can easily spill into the home domain. The same was argued for the home domain; in that negative emotions and strain that build up in the home

domain can easily spill-over into the work domain when teachers feel as if they cannot cope with high demands at home, and therefore also not at work. When there is high conflict between the two domains, in any direction, employees experience increased withdrawal behaviours, lower satisfaction as well as increased emotional exhaustion and burnout (Kossek & Ozeki, 1999). In this study a statistically significant result was found (0.34; $p < 0.05$) regarding the hypothesised positive linear relationship between negative WHI/HWI and burnout. When employees experience a negative interaction between home and work (and vice versa), negative load effects build up and spill-over into the other domain. The impact of this negative spill-over is low energy levels, tiredness, higher work-related stress, depression complaints, job turnover and negative overall feelings which ultimately leads to burnout (De Klerk et al., 2010). Numerous researchers have identified negative WHI/HWI or conflict between work and home (and vice versa) as antecedents of burnout (e.g. Geurts et al. 2005; De Klerk et al. 2010; Montgomery et al. 2003; Vierie et al. 2016). In a study conducted by Montgomery et al. (2003) negative WHI correlated positively with exhaustion ($r=0.70$, $p<0.01$). Jawahar et al. (2012) found that work-family conflict was statistically positively correlated with emotional exhaustion ($r=0.66$, $p<0.01$) and depersonalisation ($r=0.34$, $p<0.01$). The result in this study support previous research in this regard. It can be concluded, therefore, that higher self-reported negative WHI/HWI seems to be associated with higher levels of self-reported burnout.

The results revealed that hypothesis 5 was also supported by the results; as a significant path was found in the direction hypothesised (-0.32). The results seem to suggest that the negative interaction between work and home has a negative linear relationship with engagement. When there are negative interactions in either the home or work domain negative load reactions build up and spill-over into the other domain. The theoretical reasoning behind the relationship between negative WHI/HWI and burnout was argued above. The theoretical reasoning for the relationship between negative WHI/HWI and engagement, is in the same line of thinking. When negative spill-over occurs (which is indicative of strain and negative load effects), teachers feel exhausted, tired, overwhelmed and depleted. Teachers are therefore less likely to feel dedicated to their work or home environments and less likely to feel energised and revitalised as they are experiencing low levels of energy. Teachers will also be less likely to become absorbed by their work or home environments as they have no more effort to exert in either of these domains. A study conducted by Montgomery et al. (2003) on newspaper managers in the Netherlands showed that negative WHI was negatively correlated with vigour (-0.17) and dedication (-0.17). In a study conducted by Mostert, Peeters and Rost (2011) in

SA among teachers in the construction industry, negative WHI was found to be statistically and significantly negatively related to vigour (-0.26, p<0.01) and dedication (-0.24, p<0.01).

The results of hypothesis 4 and 5 seem to suggest that negative WHI/HWI is a slightly stronger predictor of burnout than of low levels or a lack of engagement. The implication of this finding it two-fold. Firstly, it suggests that interventions targeted to reduce the negative interference between work and home could be fundamental in reducing burnout. Secondly, it emphasises the need of school management and the Department of Education to introduce ways to combat negative WHI/HWI, as in doing so will it may indirectly reduce ITQ levels of their teachers.

While the focus of researchers has often been on the negative interference between work and home, recent studies have shown that employees can experience a build-up of positive emotions in one domain, which can lead to positive spill-over into another domain (Gattiker et al., 1990; Grzywacz et al. 2000). This is argued by the Enrichment theory, which argues that effort expenditure can be accompanied by positive load reactions. Therefore, positive WHI/HWI was conceptualised in this study as a personal resource. The main premise of positive WHI/HWI is that positive spill-over into the home or work domains can lead to improved functioning in the other domain. Studies have shown that sufficient resources at home and work are associated with lower levels of negative spill-over and higher levels of positive spill-over between family and work (Barnett, 1996; Gattiker et al. 1990; Grzywacz et al. 2000). Positive WHI/HWI can be imbedded in the spill-over from sufficient resources and consequently it was argued that such positive spill-over can lead to higher levels of engagement. When positive HWI or WHI occurs, it is argued that teachers will be more likely to be revitalised and able to more fully engage in their work and home tasks since recovery needed at work and/or at home has already necessarily occurred. Furthermore, when positive WHI/HWI occurs teachers will have sufficient resources to deal with their daily demands as they are energised, recovered and more dedicated to tasks at hand. For this reasoning, it was argued that positive WHI/HWI will be positively related to engagement. Instead, however, the results showed that there is a negative linear relationship between positive WHI/HWI and engagement (-0.23, p <0.05). However, closer inspection of the correlations (table 4.9) revealed that positive WHI achieved a correlation of -0.34 (p<0.01) with work enjoyment, while positive HWI failed to achieve a significant association with engagement. It could, therefore, be concluded that this result was possibly caused by only positive WHI and not positive HWI. Instead of positive spill-over, it seems as if teachers who report bringing positive

load effects from their work to home domains are not experiencing higher levels of engagement.

In unpacking the conflicting result found in this study on the above relationship, it was argued in chapter four that gender differences may exist that could account for the inconsistent results found in this study. The way in which men and women cope with, and experience stress, as well as the presence of traditional gender roles may account for this inconsistent result. It is recommended that this inconsistent result should be tested in future studies, as it is clearly out of sync with the trends in literature on the relationship between positive WHI/HWI and engagement.

Proactive personality individuals scan for opportunities, take action by showing and displaying initiative and do not give up so easily even when faced with extremely difficult and challenging situations (Bateman et al., 1993). These individuals actively influence their environment to achieve change. Employees high on the trait of PP who are more engaged will have less negative views about their work, will be more dedicated to their jobs, will work hard to achieve their goals, will be able to cope better with uncertainty and therefore will achieve higher levels of engagement (Jawahar et al.,2012). The results seem to suggest that PP does indeed have a positive linear relationship with engagement (0.36, p<0.01). Resiliency, high self-esteem and high levels of self-efficacy have been shown to lead to higher levels of engagement. High PP individuals persevere even when faced with challenging and difficult situations. In a study conducted by Li, Wang, Gao and You (2015), primary and high school teachers were surveyed to determine their job satisfaction, self-efficacy and engagement levels. The results, of importance to this study, were that engagement was statistically positively correlated with PP (r = 0.47, p<0.01). In a study conducted by Bakker, Tims and Derks (2012) it was found that PP was positively and statistically significantly correlated to vigour (0.33, p<0.01), dedication (0.32, p<0.01) and absorption (0.37, p<0.01).

Teachers who are high in PP can deal more effectively with stressful conditions, due to their ability to cope effectively with demanding situations and their ability to deal well with stress (Selvarajan et al. 2016). PP was found to have a negative linear relationship with burnout (-0.21, p<0.01). Since PP was conceptualised as a resource, according to the JD-R model, it was hypothesised that higher PP levels will lead to higher engagement but lower burnout. From the results it could further be deduced that PP has a slightly stronger relationship with engagement

than with burnout. PP has a small to moderate effect on engagement, but only a small effect on burnout. This could mean that if a teacher is proactive, this personality trait will exert a stronger influence on engagement levels rather than on the lack of development of burnout over time.

5.2.3. Moderating effects

The Determinants of the structural model of ITQ among teachers included two interaction/moderating effects. These were assessed and fitted as part of the Partial Least Squares (PLS) analysis of the model.

The first moderating relationship that was tested was the moderating impact of negative WHI/HWI (as a demand) on the relationship between PP (resource) and engagement. A significant path coefficient did not emerge for hypothesis 7 (0.07; p > 0.05). Based on the JD-R model, resources have the strongest positive impact on engagement when demands are high. According to Bakker et al. (2014) when an employee is faced with demands that are challenging, resources become extremely important. In this study, negative WHI/HWI was conceptualised as a demand. Due to this conceptualisation, it was expected that the negative WHI/HWI experienced by teachers will enhance the effect of resources on teachers' engagement. Under stressful and challenging circumstances and when strain is experienced from negative spill-over, it was expected that teachers who have high levels of PP should become even more focused, dedicated and committed to their work or home environments due to this resource (PP) being heightened under stressful and straining situations. This should lead to positive feelings and emotions as these individuals will feel enriched and engaged instead of depleted and exhausted. This theorising was unfortunately not supported by the results. It could be perhaps that there is an additional variable that needs to be included in the model for this moderating relationship to be significant. It is going to be argued below that job crafting could play a role in the JD-R's motivational process through its relationship with PP by acting as a mediating variable.

In a study conducted by Bakker et al. (2012), they argued that employees with high levels of PP would be most likely to craft their own jobs in order perform efficiently. The results of this study by Bakker et al. (2012) found that employees who were higher on the trait of PP were more likely to craft their jobs which means that they increased their resources and increased their job challenges. A statistically significant relationship was found between PP and job crafting (b=0.47, p<0.001). Job crafting furthermore predicted engagement (b=0.68, p<0.001)

as well as role performance (b=0.37, P<0.001). This seems to suggest that employees who proactively adjust their environments are able to stay engaged and perform well (Bakker et al. 2012). According to Tims et al. (2012) job crafting is the changes employees make to their resources and demands. Tims et al. (2012) argued and showed that job crafting can take the form of increasing resources (social or structural), increasing job challenges/demands and decreasing job demands. Teachers high on the trait of PP are more likely to ask for help and feedback (social resources) and to proactively enrich the environment in which they work (e.g. create skill variety and ask for more autonomy) (Bakker et al. 2012). In this study conducted by Bakker et al. (2012) it was also argued that individuals higher on the trait of PP are more likely to search for challenges when they feel as if they are unstimulated.

Future research should, therefore, include job crafting as a mediator in the resource-engagement relationship in the structural model. This is because employees high on the trait of PP are more likely to display job crafting behaviours which leads to engagement even in the face of challenges and stressful situations (Tims et al. 2012). This is due to the fact that these individuals are more likely to search for resources to combat high demands or search for demands to ensure they stay actively engaged (Tims et al. 2012).

The second moderating relationship that was tested was the moderating impact of PP on the relationship between negative WHI/HWI and burnout. This interaction effect was also not supported by the results (0; p > 0.05). Numerous studies have shown that resources (such as PP) can reduce the impact of demand on burnout (strain). Research shows that high demands do not result in high levels of burnout if employees have sufficient resources to deal with demands (Bakker et al. 2014). This hypothesis is supported by the JD-R model's health impairment process, in that resources can moderate the relationship between demands and burnout. It was therefore hypothesised that teachers with higher levels of PP will not as rapidly and severely develop symptoms of burnout when faced with high demands as they will actively change their environment, remain resilient and positive. The results suggest that PP does not moderate the relationship between negative interaction between home and work and burnout. Chapter four argued that because individuals high on the trait of PP tend to use problem solving rather than emotion based methods of coping, when stress is high, they may detach themselves and disengage emotionally. They may start to feel overwhelmed by negative WHI/HWI and feel frustrated since their natural tendency is to exert efforts to control their environment which may lead to feelings of failure. Chapter four found that PP correlates with the three dimensions

of burnout differently (positively and negatively). Future research should analyse the subdimensions of burnout to determine which dimensions correlate positively and negatively with PP to better understand the relationship between burnouts subdimensions and PP.

5.2.4. Conclusions regarding the overall model

The overall model shows that burnout is the strongest predictor of ITQ for teachers (0.42). While a lack of engagement predicts ITQ (-0.23), burnout is a stronger and more salient predictor. Furthermore, burnout is more strongly predicted by negative WHI/HWI (0.34) than PP (-0.21). While PP is a moderate predictor of engagement (0.36), its strength could not be compared to positive WHI/HWI (-0.24) as this study showed incongruent results on the relationship between positive WHI/HWI and engagement with previous studies. These conclusions helped formulate the recommendations for future research as well as intentional interventions aimed at reducing ITQ in teachers. These conclusions and implication for schools and the Department of Education will be discussed in section 5.5.

5.3. Recommendations for future research

The nomological network of variables underlying an ITQ structural model is extremely complex. The aim of this study was to better understand such a potential network of variables in order to develop suggestions and interventions to reduce the ITQ and actual quitting of teachers. For the purpose of this study certain variables were chosen and focused on, however the inclusion of additional variables would create a more fruitful understanding of the determinants of ITQ among teachers. This would provide for a closer approximate to reality. With this being considered, the following section will discuss the possible modification to this studies' hypothesised pathways.

The results of chapter four showed that 7 out of the 10 hypothesised relationships were statistically significant (p<0.05) and in the hypothesised directions. The two interaction effects were non-significant and the relationship between positive WHI/HWI and engagement was statistically significant, but not in the direction hypothesised. The reason for this incongruent result is unclear. More theorising and research will need to be conducted to better understand why this path inconsistent with previous research. If the same process cannot be applied to positive and negative spill-over, then the question becomes why does negative spill-over lead to burnout and positive spill-over not lead to engagement. This result was in direct contrast with previous research which reports a positive and significant linear relationship between

positive WHI/HWI and engagement (e.g. Lautenbach, 2006; Montgomery et al., 2003; Mostert et al., 2006) This path should not be removed from the model, but rather it needs to be replicated in future research to better understand the mechanism underlying this relationship.

Possible moderators in the relationship between positive WHI/HWI and engagement could be age and number of dependents. In terms of parental status, the age as well as the number of children living at home has been shown in research to have an influence on the interaction between work and home. Grandey and Cropanzano (1999) showed that the number of children living at home related positively to negative HWI. Furthermore, Grzywacz and Marks (2000) showed that men who had children living at home experienced more positive spill-over than men who did not have any children. Marais and Mostert (2008) also reported that employees with children reported higher levels of positive HWI than those without any children.

The mean age of teachers in the research were 39 and 87% were female. A study conducted by Grzywacz and Marks (2000) found that older women reported less positive spill-over from work to family and less negative spill-over from family to work than younger women. Another study conducted by Grandley and Cropanzano (1999) found that age was negatively related to negative WHI. This means that the older one gets, the less work-family conflict experienced. In a SA survey, younger employees were found to experience higher negative and lower positive interference between work and home when compared to older employees (Rost, 2006). Mostert and Oldfield (2009) also showed in their study that older employees experienced higher positive work home interference than did younger employees. Results of this study should (per theorising) have shown a positive relationship between positive WHI/HWI and engagement, however this was not the case. Future research should consider testing these moderators to better understand the complexity of the relationship between positive WHI/HWI and engagement Hypothesis 6 (PP has a positive linear relationship with engagement) was also found to be significant and in the direction hypothesised.

Employees who have higher levels of PP job craft which means that they are able to increase their resources, increase job challenges and decrease job demands (Tims et al., 2012). This behaviour leads to increased performance on the job, higher satisfaction levels as well as higher levels of engagement (Bakker et al. 2012). While it is important for school management to offer teachers sufficient job resources, it may be equally important that employees mobilise their own resources. In the stressful teaching environment, it may not be possible for

management to be available for feedback and therefore it may be crucial for teachers to mobilise their own resources and show proactive behaviour. It could be that the mechanism underlying PP is more complex than initially theorised and that PP could also work through crafting to explain engagement and not only moderate the relationship between negative WHI/HWI and burnout.

Another recommendation for future research is to test this model longitudinally with a larger sample and with LISREL. Feedback loops were also not possible with this study due to the PLS methodology but with LISREL this would be possible. Such a study could give valuable insights into how burnout and engagement influence ITQ over time.

5.4. Limitations of the study

The first limitation of this study is that data was collected by means of a self-report. While it is a common method for collecting data, it does have many disadvantages. Firstly, it can cause common method variance, which means that conclusions/inferences made (relationships between variables) may be artificially inflated. This type of data may also be more prone to response biases (tendency to respond in a particular way to items, independent of the intended content, resulting in irrelevant systematic variance) from the respondents that can result in inaccurate reflections of the constructs being measured (American Educational Research Association, 1999).

The second limitation is that the Structural Model of ITQ among Teachers was tested on a non-probability, convenience sample of teachers employed at schools in KZN. Therefore, due to this method it cannot be claimed that the sample was representative of the population of SA public school teachers. This means that caution needs to be taken in generalising these results to the SA population.

The third limitation of the study is the limited demand and resources chosen to be included in the study. A few additional demands and resources could have been included in the model for future research. For example, additional demands that could have been included are work overload, lack of social support from colleagues, emotional demands and unfavourable physical environments. Research conducted by Grzywacz et al., (2000), Schaufeli et al., (2004) and Montgomery et al., (2003) shows these demands lead to negative WHI/HWI. Additional resources that could be included are autonomy, developmental opportunities, role clarity, team

climate, feedback, as well as coaching. Bakker et al. (2004) and Montgomery et al., (2003) found these resources to be statistically significantly and positively related to positive WHI (Bakker et al. 2004). Additional personal resources could also be included such as mastery, hardiness, extraversion and optimism.

The fourth limitation is the less than optimal psychometric properties of the MBI-GS, UWES, and SWING, which were evident in this study. Moreover, the limited amount of observed variables in the TIS-3 meant that no CFA could be conducted on this scale. Moreover, the lack of discriminant validity in the PLS results between burnout and engagement, as well as between negative WHI/HWI and burnout further eroded confidence in the model results and is noted as another methodological limitation of this study.

The last limitation is the size of the sample. A larger sample, including participants from outside KZN would have made the results more generalizable. Most of the participants in the sample (87%) was female, and 86% were English. This is not representative of the SA population and future research should ensure that the demographics of the respondents reflects that of the SA population.

5.5. Managerial implications

The current study investigated factors influencing ITQ in an attempt to provide a better understanding into the ITQ phenomena. The focus was specifically on burnout and engagement, so that organisations are better equipped to prevent the ITQ phenomenon from occurring. Findings of this study showed that burnout was the most salient predictor of ITQ. Furthermore, burnout was found to be most strongly predicted by negative WHI/HWI.

Instead of being reactive in dealing with burnout and teachers' ITQ, this study can help schools and the Department of Education to become proactive and prevent symptoms of burnout from even occurring in the first place. Schools and academic institutions are beginning to realise the importance of preventing burnout and looking after their human capital. Recent newspaper articles have highlighted the importance of looking after SA's teachers as they are critical to the development of the youth (Jackson et al., 2005). Schools, therefore need to be aware of, and acknowledge, the role that burnout play in the well-being of their teachers and the severe negative outcomes thereof (e.g. increased ITQ).

Therefore, this section will discuss a few managerial implications based on the results from the study. It is argued here that managerial interventions should focus on reducing, as well as preventing ITQ and burnout from occurring. This will only be successful if the variables that determine burnout and ITQ and the manner in which they operate are understood. Based on the results of this study, it is suggested that school management consider the following to prevent ITQ and actual quitting of teachers: (1) create intervention programs aimed at increasing awareness into burnout so that teachers are aware of the warning signs of burnout (2) address stressors that lead to burnout (3) increase awareness of personal resources (PP).

Firstly, teachers should be educated on the warning signs of burnout before burnout sets in. The results showed that burnout is positively related to ITQ. It is therefore critical to prevent burnout from occurring to retain teachers who are an extremely valuable resource. Seminars on burnout, practical coping mechanisms, support structures in the form of a "buddy" to talk though work issues are suggested. Monthly check-ins with ones' mentor/buddy or even headmaster to gauge teachers stress levels and whether burnout is occurring, is suggested. When teachers feel like they can easily communicate their stress levels and are aware of signs of burnout they will be in a better position to proactively prevent burnout from occurring. Seminars should also include education around what burnout is and how to be aware of symptoms.

Secondly, schools should proactively address the stressors that lead to burnout. Schools can provide support structures for teachers in the form of mentors for new teachers, weekly communication meetings as well as a "no contact policy" communicated to parents, so that teachers cannot be contacted after hours. Schools could make stress management part of the curriculum and organise workshops for teachers on how to deal with strain, stress and burnout. Other ways schools can provide teachers with support is by understanding that spill-over form home and work occurs, and being understanding when a teacher comes to work already drained from the home environment. Having a supportive head master can provide teachers with an approachable spokesperson that can ease their anxiety and stress levels. The availability of a counsellor, on the school grounds, can be an extremely beneficial resource for teachers, especially to learn methods and coping mechanisms to deal with the manifestations of burnout. When there is strain and stress at work, it spills over into the home domain and vice versa. Negative HWI/HWI leads to burnout as shown in the results of this study. When this spill-over

occurs, teachers are not able to meet the demands of that new domain as they are exhausted and drained. This has huge negative implications for spill-over in both domains.

School management and the Department of Education should, furthermore, review teacher workloads, and ensure they are manageable. Surveys, teacher forums and communications with other schools on "best practices" can help determine ways to prevent unmanageable workloads and keep a pulse on how teachers are coping. School management should ensure that there are proper job descriptions for teachers to ensure that the work load is evenly spread out for all teachers, preventing work overload and protecting those teachers who find it difficult to say no when other ask them for help. Work overload is one of the main antecedents of burnout (Bakker et al. 2007). Schools should also be cognisant of classroom sizes as large classroom sizes put extreme stress on teachers. While it may not be possible for public schools to reduce the number of learners per teacher, the issue of severely large rations of learner to teacher could be brought to the Department of Education. Alternatively, schools could appeal for more funding for more teachers. While it is important for schools to reduce stressors, or make teachers aware of stressors, it is also up to teachers themselves to be proactive in dealing with burnout and strain. Individual teachers need to find ways to manage their stress levels - they can for example ensure they get enough sleep, maintain a healthy diet, practice stress management strategies, keep a positive frame of mind, practise better time management and setting of realistic goals. They can also be proactive and join a support group to help them deal with stress. If burnout is severe then they should try and find professional help such a counselling, therapy or learning of appropriate coping mechanisms.

Lastly, school management should attempt to increase awareness of personal resources (PP). They should provide opportunities for teachers to enhance this personality trait. While one cannot change, or develop a personality trait, one can learn practical ways to implement outcome behaviours of a personality trait (such as copy behaviours of those high on the trait of PP). Research shows that having this personality trait does lead to numerous positive consequences, such as increased over-all well-being, resilience, satisfaction and commitment to the task at hand. Furthermore, Demerouti and Bakker's (2011) urge researchers to explore the slightly neglected role of personal resources in the JD-R model. Xantopoulou et al.'s (2009) showed that personal resources are beneficial to organisational health outcomes. This study confirmed that PP leads to engagement and therefore research and this study seem to argue that

PP have numerous positive outcomes and therefore is a critical resource that should be developed and enhanced in teachers.

5.6. Conclusion

The purpose of this study was to establish a nomological net of the determinants hypothesised to influence ITQ among teachers. The model used the JD-R model as a framework with the inclusion of additional variables to gain a better understanding of the ITQ phenomenon. The examination of factors in this model led to a plausible inference that ITQ experienced by teachers is not a random event, but rather due to a network of variables. The study provided insights into the complexity of the ITQ phenomenon and the determinants thereof. This insight can assist schools and the Department of Education to develop interventions that are proactive to reduce and possibly prevent the ITQ of teachers.

APPENDIX A

education

Department:
Education
PROVINCE OF KWAZULU-NATAL

Enquiries: Phindile Duma	Tel: 033 392 1063	Ref.:2/4/8/1475

Miss J.L Maingard

64 Ennisdale Drive
Durban North
4016

Dear Miss Maingard

PERMISSION TO CONDUCT RESEARCH IN THE KZN DoE INSTITUTIONS

Your application to conduct research entitled: **"DEVELOPMENT AND EMPIRICAL EVALUATION OF AN INTENTION TO QUIT STRUCTURAL MODEL FOR TEACHERS IN SOUTH AFRICA "**, in the KwaZulu-Natal Department of Education Institutions has been approved. The conditions of the approval are as follows:

1. The researcher will make all the arrangements concerning the research and interviews.
2. The researcher must ensure that Educator and learning programmes are not interrupted.
3. Interviews are not conducted during the time of writing examinations in schools.
4. Learners, Educators, Schools and Institutions are not identifiable in any way from the results of the research.
5. A copy of this letter is submitted to District Managers, Principals and Heads of Institutions where the intended research and interviews are to be conducted.
6. The period of investigation is limited to the period from 07 March 2018 to 09 July 2020.
7. Your research and interviews will be limited to the schools you have proposed and approved by the Head of Department. Please note that Principals, Educators, Departmental Officials and Learners are under no obligation to participate or assist you in your investigation.
8. Should you wish to extend the period of your survey at the school(s), please contact Miss Phindile Duma at the contact numbers below.
9. Upon completion of the research, a brief summary of the findings, recommendations or a full report/dissertation/thesis must be submitted to the research office of the Department. Please address it to The Office of the HOD, Private Bag X9137, Pietermaritzburg, 3200.
10. Please note that your research and interviews will be limited to schools and institutions in KwaZulu-Natal Department of Education.

(SEE SCHOOL LIST ATTACHED)

Dr. EV Nzama
Head of Department: Education
Date: 07 March 2018

UNIVERSITEIT
STELLENBOSCH
UNIVERSITY

APPROVED WITH STIPULATIONS
REC Humanities New Application Form

6 April 2018

Project number: IPSY-2018-6336

Project title: Developing an Intention to Quit Structural Model for Teachers in South Africa

Dear Miss Joanna Maingard

Your REC Humanities New Application Form submitted on **23 March 2018** was reviewed by the REC: Humanities on and approved with stipulations.

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
06 April 2018	05 April 2021

REC STIPULATIONS:

The researcher may proceed with the envisaged research provided that the following stipulations, relevant to the approval of the project are adhered to or addressed:

The researcher is reminded to upload the various permission letters once she has received them from the schools involved. **[Response Required]**

HOW TO RESPOND:

Some of these stipulations may require your response. Where a response is required, you must respond to the REC within **six (6)** months of the date of this letter. Your approval would expire automatically should your response not be received by the REC within 6 months of the date of this letter.

Your response (and all changes requested) must be done directly on the electronic application form on the Infonetica system:https://applyethics.sun.ac.za/Project/Index/6592

Where revision to supporting documents is required, please ensure that you replace all outdated documents on your application form with the revised versions. Please respond to the stipulations in a separate cover letter titled "**Response to REC stipulations**" and attach the cover letter in the section **Additional Information and Documents**.

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your SU project number (IPSY-2018-6336) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Research Protocol/Proposal	Final J L Maingard proposal	23/03/2018	1
Informed Consent Form	Informed consent form and Questionaire FINAL ethics 20 - 03 - 2018 GG	23/03/2018	1
Data collection tool	Informed consent form and Questionaire FINAL ethics 20 - 03 - 2018 GG	23/03/2018	1
Request for permission	Institutional permission	23/03/2018	1
Default	DOE permission	23/03/2018	1
Default	DESC Report J Maingard_Mar 2018 GG	23/03/2018	1

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Human Research (Humanities)

Investigator Responsibilities

Protection of Human Research Participants

Some of the general responsibilities investigators have when conducting research involving human participants are listed below:

1.Conducting the Research. You are responsible for making sure that the research is conducted according to the REC approved research protocol. You are also responsible for the actions of all your co-investigators and research staff involved with this research. You must also ensure that the research is conducted within the standards of your field of research.

2.Participant Enrollment. You may not recruit or enroll participants prior to the REC approval date or after the expiration date of REC approval. All recruitment materials for any form of media must be approved by the REC prior to their use.

3.Informed Consent. You are responsible for obtaining and documenting effective informed consent using **only** the REC-approved consent documents/process, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed informed consent documents. Keep the originals in your secured research files for at least five (5) years.

4.Continuing Review. The REC must review and approve all REC-approved research proposals at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period**. Prior to the date on which the REC approval of the research expires, **it is your responsibility to submit the progress report in a timely fashion to ensure a lapse in REC approval does not occur.** If REC approval of your research lapses, you must stop new participant enrollment, and contact the REC office immediately.

5.Amendments and Changes. If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the REC for review using the current Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written REC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the REC should be immediately informed of this necessity.

6.Adverse or Unanticipated Events. Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research related injuries, occurring at this institution or at other performance sites must be reported to Malene Fouche within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the RECs requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Research Ethics Committee Standard Operating Procedures. All reportable events should be submitted to the REC using the Serious Adverse Event Report Form.

7.Research Record Keeping. You must keep the following research related records, at a minimum, in a secure location for a minimum of five years: the REC approved research proposal and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the REC

8.Provision of Counselling or emergency support. When a dedicated counsellor or psychologist provides support to a participant without prior REC review and approval, to the extent permitted by law, such activities will not be recognised as research nor the data used in support of research. Such cases should be indicated in the progress report or final report.

9.Final reports. When you have completed (no further participant enrollment, interactions or interventions) or stopped work on your research, you must submit a Final Report to the REC.

10.On-Site Evaluations, Inspections, or Audits. If you are notified that your research will be reviewed or audited by the sponsor or any other external agency or any internal group, you must inform the REC immediately of the impending audit/evaluation.

Appendix B

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STELLENBOSCH UNIVERSITY
CONSENT TO PARTICIPATE IN RESEARCH

Title of Research Project: Developing an Intention to Quit Structural Model for Teachers in South Africa

You are asked to participate in a research study conducted by Joanna Maingard (Masters student, MCom) and Prof. Gina Görgens-Ekermans, from the Department of Industrial Psychology at Stellenbosch University. The results of this study will contribute to the thesis of Joanna Maingard. You were selected as a possible participant in this study because you are teacher in a public school in Kwa-Zulu Natal.

1.   PURPOSE OF THE STUDY

The aim of the study is to get a better understanding of the various factors that cause teachers working in the public education sector in South Africa, to want to quit their jobs. The aim is to understand these factors and how they influence intention to quit, so as so possibly design intervention strategies directed at helping both the teacher and the school by lowering intention to quit rates.

2.   PROCEDURES

If you volunteer to participate in this study, we will ask you to fill out an online questionnaire that would take approximately 15 – 20 minutes to complete. The results of the questionnaires will serve as the data for the study from which to test the hypothesis about why teachers leave their schools. You will need access to the Internet to complete the questionnaire.

3.   POTENTIAL RISKS AND DISCOMFORTS

This is a relatively risk-free study. The only potential risks and/or discomforts that could result from participating in this study include the time that is required to fill out the questionnaire and the potential discomfort of having to evaluate yourself. You will also be asked to reflect on your work-home and home-work stress, which may cause some emotional discomfort. If you experience any severe emotional distress during the completion of the questionnaire, please be advised that you have the right to discontinue participation at any stage, or decide not to complete some of the items in the questionnaire. If you experience any severe distress due to a realisation of symptoms of high Burnout, please consult the relevant personnel support services at the DOE or your school. Please note that the data will only be utilised for research purposes.

4.   POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participation in this study will not amount to any direct benefits to you. However, gaining a better understanding on why teachers leave their schools may result in the development of interventions

aimed at improving certain working conditions. Thus, this research could potentially be very valuable for your industry-the education industry.

5. PAYMENT FOR PARTICIPATION

Neither you or your place of employment will receive any payment for participating in this research study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by restricting access to the data to the researchers (Joanna Maingard and Prof. Gina Görgens-Ekermans), by storing the data on a password protected computer, and by only reporting aggregate statistics of the sample. The results of the study will be distributed in an unrestricted thesis. A summary of the findings (if of value) will be presented to management of all the participant schools. Nowhere during the reporting of results will the identity of participants be made known.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. To withdraw you may simply close the survey page at any time. You may also refuse to answer any questions you don't want to answer and still remain in the study. The online survey will be set up in such a manner that you will have the option to skip a question, should you feel the need to do so. The investigator may withdraw you from this research if circumstances arise which warrant doing so.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Joanna Maingard (email: 17532809@sun.ac.za;   cell: 0833977356)   or   Prof   Gina   Görgens-Ekermans (ekermans@sun.ac.za / 0218083596).

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development, Stellenbosch University.

CONSENT FORM (please tick the appropriate boxes):

I hereby consent to voluntarily participate in this study. I agree that my data may be integrated into a summary of the results of all the questionnaires without identifying me personally. I provide consent that the data may be used for further research studies.

I don't want to participate in this study.

PLEASE TURN OVER AND COMPLETE SECTION A

SECTION A- Biographical Information

Please provide the following information about **yourself.**

Fill in the necessary information or draw an X in the appropriate block.

Age:	
Position in Organisation:	
Number of dependents:	
How long have you been working at this school? Please indicate the exact number of years in the next row AND tick next to the appropriate range below.	
0-1 years	
1-2 years	
2-3 years	
3-4 years	
4-5 years	
5-10 years	
10-15 years	
15-20 years	
More than 20 years	

GENDER

Male	
Female	

MARITAL STATUS

Single	
Married	
Divorced	
Separated	
Widowed	
Living together	

HIGHEST QUALIFICATION

Lower than Grade 10 (Std 8)	
Grade 10 / Std 8	
Grade 12 / Matric	
Post-matric certificate	
Diploma	
Undergraduate Degree	
Post-graduate Degree	

LANGUAGE: First language:			
1. Afrikaans		7. South Sotho	
2. English		8. North Sotho	
3. Xhosa		9. Tsonga	

4. Venda		10. Tswana	
5. Zulu		11. Swazi	
6. Ndebele		12. Other	

Second language:			
1. Afrikaans		7. South Sotho	
2. English		8. North Sotho	
3. Xhosa		9. Tsonga	
4. Venda		10. Tswana	
5. Zulu		11. Swazi	
6. Ndebele		12. Other	

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INSTITUTIONAL PERMISSION TO PARTICIPATE IN RESEARCH

1. PURPOSE OF THE STUDY

The aim of the study is to get a better understanding of the various factors that cause teachers working in the public education sector in South Africa, to want to quit their jobs. The aim is to understand these factors and how they influence intention to quit, so as so possibly design intervention strategies directed at helping both the teacher and the school by lowering intention to quit rates.

2. PROCEDURES

If your teachers volunteer to participate in this study, we will ask them to fill out an online questionnaire that would take approximately 15 – 20 minutes to complete. The results of the questionnaires will serve as the data for the study from which to test the hypothesis about why individuals intend to quit their teaching job. Your teachers will need access to the Internet to complete the questionnaire.

3. POTENTIAL RISKS AND DISCOMFORTS

This is a relatively risk-free study. The only potential risks and/or discomforts that could result from participating in this study include the time that is required to fill out the questionnaire and the potential discomfort of having to evaluate oneself. Teachers will also be asked to reflect on their work-home and home-work stress, which may cause some emotional discomfort. If your teachers experience any severe emotional distress during the completion of the questionnaire, they are advised that they have the right to discontinue participation at any stage, or decide not to complete some of the items in the questionnaire. If they experience any severe distress due to a realisation of symptoms of high Burnout, they are advised to consult the relevant personnel support services at the DOE or your school. Please note that the data will only be utilised for research purposes.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Participation in this study will not amount to any direct benefits to you or your teachers. However, gaining a better understanding on why teachers leave their schools may result in the development of interventions aimed at improving certain working conditions. Thus, this research could potentially be very valuable for your industry-the education industry.

5. PAYMENT FOR PARTICIPATION

Neither you, your teachers or your school will receive any payment for participating in this research study.

6. CONFIDENTIALITY

Any information that is obtained in connection with this study and that can be identified with your teachers will remain confidential and will be disclosed only with permission from your teachers or as required by law. Confidentiality will be maintained by restricting access to the data to the researchers (Joanna Maingard and Prof. Gina Görgens-Ekermans), by storing the data on a password protected computer, and by only reporting aggregate statistics of the sample. The results of the study will be

distributed in an unrestricted thesis. A summary of the findings (if of value) will be presented to you and the management of your school. Nowhere during the reporting of results will the identity of participants, or the school, be made known.

7. PARTICIPATION AND WITHDRAWAL

Your teachers can choose whether to be in this study or not. If they volunteer to be in this study, they may withdraw at any time without consequences of any kind. To withdraw, teachers may simply close the survey page at any time. They may also refuse to answer any questions they don't want to answer and still remain in the study. The online survey will be set up in such a manner that they will have the option to skip a question, should they feel the need to do so. The investigator may withdraw teachers from this research if circumstances arise which warrant doing so.

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If you have any questions or concerns about the research, please feel free to contact Joanna Maingard (email: 17532809@sun.ac.za; cell: 0833977356) or Prof Gina Görgens-Ekermans (ekermans@sun.ac.za / 0218083596).

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SIGNATURE OF HEADMASTER / HEADMISTRESS

Hereby I, _____headmaster / headmistress of _____ (*enter school name*) give Joanna Maingard (Master's student at the University of Stellenbosch, student number: 17532809) permission to distribute online questionnaires for the purpose of generating data for her master's thesis (*Development and empirical evaluation of an intention to quit structural model for teachers in South Africa*) within this school.

_____ (*please state the name of the secretary*) will distribute the online survey link to all teachers at the school, and will send a reminder e-mail after two weeks. The researcher will not have access to any contact details of the teachers or identifying information.

I hereby grant permission that (Name of selected school)'s teachers may be asked to participate in

the study. Yes ☐ No ☐

Name and surname of (name of selected school)'s principal

_____

Signature of (Name of selected school)'s principal   Date

_____   _____

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