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Psychological Capital as a Resource in the Job Demands-Resources Model

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"A research project submitted in partial fulfilment of the requirements for the degree MA by Coursework and Research in the field of Industrial/Organisational Psychology in the Faculty of Humanities, University of the Witwatersrand May 17"

Declaration

I declare that this research project is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university

Sean Mtolo: .....

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Introduction

Employee wellbeing has emerged as an increasingly important issue for organisations and scholars alike (Guest, 2002; Rothmann, 2008). This is largely due to the fact that contemporary organisational conditions pose a significant threat to the wellbeing of employees (Guest, 2002). Aspects such as advances in technology and increasingly volatile economic conditions have ensured that the environment in which employees presently work requires higher amounts of output from them then it did in any preceding period (Rothmann, 2003). Employees are increasingly faced with aspects such as work pressure, emotional demands, and role ambiguity which pose a significant threat to their wellbeing and proficiency (Turner, Barling, & Zacharatos, 2002).

It is within this context that research into employee wellbeing and effectiveness has grown in significance (Minervini & Fontani, 2003). The abovementioned contemporary workplace demands have made it increasingly important for employee wellbeing research to investigate means through which employees' effectiveness in coping with these demands can be improved (Bakker & Demerouti, 2013; Bakker, Emmerik, & Riet, 2008). Moreover, these aforementioned workplace conditions have made it equally important for this stream of research to investigate the approaches that could be employed to encourage employee growth within the context of an increasingly demanding workplace (Rothmann & Joubert, 2007).

Employee burnout and engagement, in particular, represent two factors that have emerged as key areas of inquiry within this stream of wellbeing research (Maslach, Schaufeli, & Leiter, 2001). Employee burnout has been at the centre of this research because it represents one of the key potential adverse outcomes that may result from these increasingly demanding working conditions (Khan & Zafar, 2013). Burnout is described as the extent to which workers feel drained and detached from their job (Maslach et al., 2001), or a *process* of psychological fatigue (Enzmann, Schaufeli, Janssen, & Rozeman, 1998). On the other hand, work engagement, pertains to the extent to which employees feel vigorous, enthusiastic and absorbed in their job

(Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010). Engagement has recently been recognised as an equally important area of research because it represents a positive state that has a constructive impact on employee wellbeing and performance (Attridge, 2009).

The increased importance placed on burnout and engagement has motivated several scholars (e.g. Karasek Jr, 1979; Karasek, Russell, & Theorell, 1982; Maslach & Leiter, 1997; Warr, 1987) to develop theoretical frameworks that attempt to identify underlying processes that may lead to the occurrence of these employee outcomes. The Job Demands-Resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) represents one of the most well-known models amongst these frameworks. This model focuses on the influence of job demands and job resources on the development of these outcomes (Schaufeli & Bakker, 2004). The Job Demands-Resources (JD-R) model's continued prominence is largely due to the fact that its proliferation in practice and research has served to confirm the model's key premises and underscore its utility in different organisational environments (Bakker & Demerouti, 2013).

Despite the abovementioned prominence of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001), it has recently been the subject of criticism due to the fact that it has overlooked the role personal resources could play in the development of burnout and engagement (Karatepe & Olugbade, 2009). The few research efforts that have endeavoured to amend this flaw in the JD-R model have primarily attempted to incorporate personal resources such as self-efficacy as well as organisation-based self-esteem (OBSE) into the JD-R model (Xanthopoulou et al., 2007) and have had largely inconsistent findings (Herbert, 2011; Luthans, Avey, & Patera, 2008; Xanthopoulou et al., 2007, 2009a).

The abovementioned deficiencies in contemporary theory and empirical research represents a chance to further examine the function of personal resources within the JD-R model's processes in the aim of establishing a more comprehensive understanding of burnout and engagement within the workplace (Boudrias et al., 2011; Demerouti & Bakker, 2011a; Xanthopoulou et al., 2007). As such, this current

research aimed to explore the role of the seldom investigated personal resource of Psychological Capital (PsyCap) in the JD-R model's key processes.

The concept of Psychological Capital (PsyCap) derives from the Positive Organisational Behaviour (POB) school of thought (Luthans, 2002a). PsyCap is a multi-faceted concept which pertains to individuals' beliefs about their capacity to set goals and find alternative pathways to reach them (hope); their confidence about their ability to accomplish work-related tasks (self-efficacy); their belief about their ability to persevere when they face obstacles (resilience) and their positive evaluations about their chances of future success (optimism) (Luthans, Youssef, & Avolio, 2007).

A limited amount of previous research (e.g. Cheung, Tang, & Tang, 2011) has provided some support for PsyCap's important role in the processes of the JD-R model. Nevertheless, the limited nature of the research that is available, especially when it comes to considering the role of PsyCap in the interaction between job demands and job resources (Demerouti & Bakker, 2011b), represented an opportunity for this current study to contribute significantly to this literature.

This research report will proceed by firstly providing an exploration of the theoretical and conceptual development of burnout and engagement. This includes a review of research around these factors' antecedents and outcomes. Thereafter, a description of the JD-R theory and an overview of empirical research that has provided support for its key premises and assumptions will be presented. This will be accompanied by a critique of the model's dearth of attention placed in the importance of personal resources. The concept of personal resources will then be introduced along with an overview of previous research that has attempted to overcome this deficiency in the JD-R theory and introduce personal resources into the JD-R model. This will be followed by a delineation of the manner in which this current research has attempted to integrate the personal resource of PsyCap into the JD-R model. The report will then deliver a synopsis of the rationale for this current research. This will be followed by a description of the methodology used in this current research and the results obtained. Finally, the report will resolve with a discussion of the key research outcomes.

Literature review

Burnout

Burnout originally emerged in practitioner literature and was not necessarily a central concern for academic inquiry (Rothmann, 2003). Initial investigations into burnout were therefore driven by practical rather than academic concerns and, as such, predominantly aimed to articulate the burnout phenomenon and its indications rather than uncover its underlying antecedents (Maslach et al., 2001). However, a significant amount of more empirically focused research around burnout has been conducted since these early efforts (Muheim, 2013). This more empirical research has been epitomised by quantitative and systematic forms of inquiry aimed at understanding burnout conceptually as well as its antecedents and outcomes (Maslach, Jackson, & Leiter, 1996). These developments in burnout theory and research have resulted in multiple revisions of the concept of burnout, in order to accommodate the continued developments in burnout research and understanding (Maslach et al., 2001; Muheim, 2013).

The first scholar to reference the concept of burnout was Bradley (1969), who used the term 'staff burnout' to describe the adverse experiences of probation officers who worked at a public care program for juvenile delinquents (Muheim, 2013; Schaufeli & Buunk, 2003). Most scholars, however, consider Freudenberger (1974) to be the true founder of the burnout construct as it is understood today; due to his comprehensive conceptualisation of burnout in his 1974 paper titled *Staff Burnout* (Schaufeli & Buunk, 2003). Freudenberger (1974) used the word burnout to define the symptoms of emotional exhaustion, decreased enthusiasm as well as the diminished commitment and energy he observed amongst fellow volunteers that worked in a clinic that treated substance abuse and drug addiction. Freudenberger (1974) proposed that the adverse mental and physical outcomes that were associated with these work related symptoms were indicative of burnout and he broadly conceptualised burnout as the wearing out, exhaustion and failing of individuals at work. Freudenberger (1989) went on to expand his conceptualisation of burnout by including aspects such as a loss of creativity as well as a general disconnect from clients, co-workers and the overall job as key indicators of burnout.

Freudenberger's (1974, 1989) early ideas are still relevant because his primarily pragmatic understanding and conceptualisation of the concept of burnout broadly expounds on what the experience of burnout entails for employees (Schaufeli & Buunk, 2003). Nevertheless, Freudenberger's (1974) thoughts and conceptualisations of burnout have been superseded by the conceptual positions developed by Maslach, Jackson and Leiter (1986); especially in contemporary research and practice (Watts & Robertson, 2011). This is largely due to the fact that the ideas put forward by Maslach et al., (1986) were based on a more empirical and scientific approach to understanding and conceptualising burnout (Muheim, 2013).

Initially scholars who adopted the approach pioneered by Maslach et al., (1986), closely linked the concept of burnout to human services and presumed that burnout only occurred within occupations where individuals did 'people' work of some kind; this includes occupations such as teaching, social work and various health care professions (Salanova, Peiró, & Schaufeli, 2002). This fact is made evident by one of the most frequently mentioned definitions of burnout; which was put forward by Maslach et al., (1986, p.1), who described burnout as "… a syndrome of emotional exhaustion and cynicism that occurs among individuals who do people work of some kind". However, continued research into burnout has revealed that it occurs in several other fields and impacts various occupational groups, beyond just those in the helping services (Maslach et al., 2001). Contemporary research has reported the appearance of burnout amongst managers, engineers, accountants and many other occupational groups (Maslach & Leiter, 1997). As a result, Maslach, Jackson and Leiter (1996) broadened the definition of burnout by stating that it is a crisis in one's connection with one's job in general and not specifically a crisis in one's relationship with people at work.

Burnout research and conceptualisation has moved beyond these broader definitions, and towards a more focused conceptualisation (Lee & Ashforth, 1996). Burnout is currently most commonly defined by its three key dimensions, which are believed to be interrelated, but conceptually distinct (Maslach et al., 1986). These three dimensions are; exhaustion, cynicism and reduced professional efficacy (Maslach et al., 1986).

Exhaustion. Exhaustion is a state of chronic fatigue, which is primarily brought about by consistently high levels work demands (Maslach & Leiter, 1997). It is epitomised by feelings of being overextended and drained (Bakker, Demerouti, & Dollard, 2008). Employees feel that they are drained of emotional and physical resources and are, therefore, incapable of investing anymore of themselves, physically or psychologically, into their work tasks (Bakker, Demerouti, & Dollard, 2008). This experience of being drained may lead to further frustrations as they are, consequently, unable to display the levels of proficiency that they are accustomed to displaying within their roles (Law, Sweeney, & Summers, 2008). Physical and psychological exhaustion can manifest within the workplace in several ways, for instance; physical exhaustion may be epitomised by a consistent feeling of physical fatigue which may detrimentally effect task proficiency, whereas psychological exhaustion may be epitomised by feelings of trepidation at the prospect of having to go to one's job (Maslach & Leiter, 1997).

Cynicism. Cynicism refers to a state where the individual possesses apathetic and cynical attitudes towards their work (Bakker, Demerouti, & Verbeke, 2004). Employees that are experiencing cynicism lose interest in their job and adopt an indifferent attitude toward their work and the people associated with their job, including colleagues and clients (Schaufeli et al., 2002). Employees experiencing cynicism may become unwilling to perform tasks associated with their job and actively adopt strategies to avoid job related tasks (González-Romá, Schaufeli, Bakker, & Lloret, 2006).

Professional inefficacy. Professional inefficacy can be described as a feeling of inadequacy, particularly with regard to one's work (Schaufeli & Buunk, 1996). This is a negative self-evaluation of one's competence, achievement and effectiveness at one's job (Schaufeli & Salanova, 2007). These negative beliefs could lead to feelings of discontent about oneself and poor beliefs about one's likelihood of reaching goals at work (Schaufeli & Buunk, 1996). The individual may also regularly feel inadequate and unproductive during the completion of work tasks, which may have an adverse impact on the quality of their proficiencies on the job (Cordes & Dougherty, 1993; Philip, 2004).

The current study's conceptualisation of burnout concurred with the arguments put forward by Maslach, Jackson and Leiter (1996) and elected to operationalise burnout using the Maslach Burnout Inventory-General Survey (MBI-GS) due to its wide acceptance in research (Maslach et al., 1996). However, this study only measured exhaustion and cynicism as the core dimensions of burnout (Salanova et al., 2002). Exhaustion, is considered a key facet of burnout, as it represents the stress dimension, whereas cynicism is similarly considered as central because it represents an individual's connection with their job (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Professional inefficacy, on the other hand, is considered to be a weaker dimension of burnout because of its weaker association with the two other dimensions and because it manifests independently (Lee & Ashforth, 1996). Previous research has also considered professional efficacy and inefficacy as the appearance of a personal resource or the lack thereof instead of being a facet of burnout (Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans et al., 2008).

Burnout's outcomes

Burnout's emergence as a prominent subject area in contemporary research is primarily due to the various adverse outcomes that are connected to this construct (Maslach et al., 2001). Previous studies have consistently indicated that burnout is associated with adverse outcomes for employees and the entire organisation (Enzmann et al., 1998). In terms of individual wellbeing; research has indicated that burnout is associated with personal dysfunction, increased drug and alcohol use, marital issues, family conflict (Enzmann et al., 1998), depression, anxiety (Essenko & Rothmann, 2007) and physical exhaustion (Ahola & Hakanen, 2007). In terms of work proficiency and organisational outcomes; burnout has been with associated decreases in communication skills, job satisfaction, morale (Salanova et al., 2002), social abilities (Hakanen, Bakker, & Jokisaari, 2011) and performance in the workplace (Bakker et al., 2004). Burnout has also been linked with increases in turnover intentions (Kim & Stoner, 2008) and absenteeism (Schaufeli, Bakker, & Van Rhenen, 2009). Studies conducted within the South African context have, likewise, underscored the adverse outcomes associated with burnout. Essenko and Rothmann (2007), for instance, revealed that burnout was positively correlated with physical ill health amongst a sample of administrative staff in a South African university.

Antecedents of Burnout

The adverse outcomes associated with burnout have encouraged continued research into its antecedents (Shirom, 2009; Watts & Robertson, 2011). This continued need to identify antecedents of burnout is due to the fact that this kind of research serves as an important means through which employee wellbeing may be promoted in future (Khan & Zafar, 2013). Originally, burnout was attributed to the deficiencies evident within the behaviours as well as the features of individuals (Maslach & Leiter, 1997). However, it is currently more broadly accepted that burnout is a product of the environment in which employees work (Schaufeli et al., 2009). Factors such as job demand overload, role conflict and role ambiguity have been identified as the key antecedents of burnout (Essenko & Rothmann, 2007; Leiter & Maslach, 2003; Schaufeli & Buunk, 2003).

Research around the outcomes linked with burnout (e.g. Bakker, Emmerik, et al., 2008; Hakanen & Schaufeli, 2012), has revealed the detrimental nature of burnout and has underscored the importance of continued research into burnout. However, the abovementioned research into the antecedents of burnout has underscored the fact that this kind of research has been limited. Much of the above mentioned research has focused either on the deficiencies evident in the behaviours and characteristics of individuals as a source of burnout (Maslach & Leiter, 1997); or the environment in which employees work (Schaufeli et al., 2009). Previous research has, therefore, overlooked the potential interactions between environmental factors and personal characteristics in determining the occurrence of burnout (Muheim, 2013). This current research aimed to overcome this deficiency by investigating the interaction between environmental factors (i.e. job demands and job resources) and personal characteristics (i.e. PsyCap) in determining burnout.

Work engagement

Organisational Psychology scholars (e.g. Barkhuizen, Rothmann, & Vijver, 2014; Kahn, 1990; Schaufeli & Bakker, 2004) have recently increased their interest in factors related to employees' optimum performance and encouraging experiences within the workplace (Luthans, 2002). This shift in focus can largely be attributed to criticism levelled at the discipline for its preoccupation with diagnosing and treating

adverse aspects such as physical pathology, mental illness and dysfunctional behaviour; to the neglect of aspects such as wellbeing and human strengths (Seligman & Csikszentmihalyi, 2000). Critics have argued that this disproportional focus on aspects such as stress, burnout, conflict, and various counterproductive behaviours has resulted in a limited understanding of the outcomes and antecedents of exceptional performances and proficiency in the workplace (Seligman & Csikszentmihalyi, 2000). As a result of these critiques, scholars have more recently attempted to embrace more balance, focusing on constructive as well as destructive facets within the workplace (Luthans, 2002). One such effort is the emergent focus on burnout's theoretical antipode; work engagement (Demerouti, Bakker, De Jonge, Janssen, & Schaufeli, 2001).

The concept of work engagement has been a growing subject area of organisational psychology research and literature for almost three decades (Rich, Lepine, & Crawford, 2010). Over this period of time the understanding and conceptualisation of engagement has evolved and expanded, through contributions from several scholars (Demerouti, Bakker, De Jonge, et al., 2001). Currently, most scholars concur that employee engagement is desirable and has an important positive role within the organisational context (Attridge, 2009a). This is because employee engagement possesses psychological and behavioural facets that contribute significantly to desirable employee and organisational outcomes (Attridge, 2009).

Employee engagement, as it is understood today, was initially presented by Kahn (1990). Kahn (1990, p. 694) introduced the models of 'personal engagement' and 'personal disengagement' because he believed that the available concepts at the time, such as organisational commitment and intrinsic motivation, were too far removed from employees' daily experiences within their job roles and he thus intended to introduce concepts that would be more aligned with these experiences.

Kahn (1990, p. 694) conceptualised personal engagement and disengagement as ''…the behaviours by which people bring in or leave out their personal selves during work role performances". He argued that "…personal engagement is the simultaneous employment and expression of a person's *preferred self* in task behaviours that

promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active, full role performances." (Kahn, 1990 p. 700). According to Kahn (1990), the investment of oneself psychologically, emotionally and physically during work role performances (personal engagement) allows employees to be affectively connected, vigilant, and physically involved in their work tasks. Therefore, within this perspective, engaged individuals concurrently express their *preferred selves* and achieve performance requirements (Kahn, 1990).

Numerous contemporary scholars' work has developed beyond Kahn's (1990) early conceptualisations, however, much of this contemporary work still resonates with many of the key ideas promoted by Kahn (1990), when it comes to conceptualising and understanding engagement. Scholars are still largely in agreement that work engagement is epitomised by a positive cognitive, physical, and emotional state in relation to ones work (Bakker & Demerouti, 2008). This corresponds with Kahn's (1990) argument that engagement is characterised by affective connection, vigilance, and heightened physical involvement at work. However, despite this apparent coherence in engagement theory; there are still significant disparities in contemporary engagement research and understanding. Research into work engagement has taken two distinctive but connected routes, which have some key fundamental differences in their conceptualisation and operationalisation (Rothmann, 2003).

Maslach and Leiter (1997) pioneered the first contemporary school of thought; which centres on the idea that engagement and burnout are exact antipodes. Maslach and Leiter, (1997) defined engagement as a positive experience that includes being engrossed in personally fulfilling activities that increase an employee's feelings of efficacy. Engagement, according to these authors, comprises efficacy, involvement, and energy (Maslach et al., 2001). Maslach and Leiter (1997, p. 23) rearticulated burnout as "…an erosion of engagement with the job". Therefore, burnout, from this perspective, occurs when work that was once considered to be significant, important and inspiring is more recently considered to be unpleasant, unrewarding and insignificant (Maslach & Leiter, 1997). Maslach and Leiter (1997) considered the three facets of burnout (i.e. exhaustion, cynicism and lack of professional efficacy) as exact antipodes of their three engagement facets (i.e. involvement, energy and

efficacy). Therefore, according to Maslach and Leiter (1997), one could assess an individual's level of engagement by examining the patterns of results on the three dimensions of the Maslach Burnout Inventory (MBI), which are conventionally used to measure burnout. Maslach and Leiter (1997) propose that low scores of cynicism and exhaustion, and high scores on efficacy, which are indicative of low quantities of burnout, are indicative of high quantities of engagement.

Schaufeli et al., (2002) and his collaborators provide the second and contradictory school of thought. These authors concur with Maslach and Leiter (1997) in that they also consider burnout and engagement as opposed concepts. However, Schaufeli et al., (2002) believe that engagement and burnout are sovereign states that are negatively but not perfectly related and should, therefore, be defined and operationalised independently. Schaufeli et al., (2002) argue that only two dimensions of engagement are clearly associated with burnout. Firstly, vigour is related to exhaustion; these two constructs represent opposite poles of the activation dimension of well-being (Schaufeli et al., 2002). Secondly, dedication and cynicism are related; these two constructs represent the two poles of the identification dimension (Langelaan, Bakker, Van Doornen, & Schaufeli, 2006). Therefore, according to this taxonomy, activation ranges from exhaustion to vigour, whereas identification ranges from cynicism to dedication (Langelaan et al., 2006). Absorption and professional efficacy, on the other hand do not seem to display the same relationship as the aforementioned dimensions according to Schaufeli et al., (2002). Schaufeli et al., (2002) found evidence for their assertions by showing that burnout and engagement were negatively correlated, but only shared between 10% and 25% of their variance; thus proving the significant degree of their independence.

Engagement, according to Schaufeli et al., (2002), is understood to be an assiduous and ubiquitous emotional and psychological state, rather than a more temporary state and it is not focused on a particular object or event (Schaufeli et al., 2002). Schaufeli et al., (2002, p. 74) specifically conceptualised engagement as "…a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption."

Vigour. Vigour is epitomised by elevated amounts of energy and flexibility; an inclination to invest energy into work-related tasks; perseverance when faced with difficulties and not being easily fatigued (Schaufeli et al., 2002). A defining feature of a vigorous employee is their ability to persist even when work tasks become increasingly challenging (Salanova et al., 2002).

Dedication. Dedication pertains to a generally high amount of involvement in one's work and the tasks involved in ones work; it is accompanied by feelings of enthusiasm and pride about one's job and a general sense of encouragement and identification with the work one performs (Maslach et al., 2001). Dedication refers to a particularly strong engrossment that is beyond customary levels of identification with work.

Absorption. Absorption pertains to a state of complete involvement in one's job, that is epitomised by high levels of focus absolute control, intrinsic gratification and a loss of time perception due to a high level concentration (Seligman & Csikszentmihalyi, 2000). A defining feature of absorbed employees is their ability to achieve optimum levels of performance, and a genuine inability to disengage from work (Schaufeli et al., 2002).

This current research's conceptualisation of work engagement concurred with the arguments pioneered by Schaufeli et al., (2002) and elected to define and operationalise burnout and engagement separately. The definition put forward by Schaufeli et al., (2002) was preferred because of its independence from the MBI-GS 's description of burnout and its widespread approval in contemporary research (Bakker, Demerouti, & Euwema, 2005; Barkhuizen et al., 2014). Therefore, this current research conceptualised engagement as an encouraging, rewarding, work-related state of mind that is characterised by vigour, dedication, and absorption (Attridge, 2009b; Bakker & Demerouti, 2008). Moreover, engagement was operationalised through the use of the Utrecht Work Engagement Scale (UWES) (Schaufeli, Bakker, & Salanova, 2006).

Engagement outcomes

Engagement's prominence in contemporary research is due to the fact that is has been associated with various positive outcomes. Several scholars (e.g. Bakker, 2011; Salanova, Schaufeli, Xanthopoulou, & Bakker, 2010) have associated engagement with positive outcomes for employees and the entire organisation. In terms of employee wellbeing; previous research (e.g. Salanova et al., 2002) has indicated that engaged employees experience increased amounts of positive emotions such as contentment and display relatively higher levels of psychological and physical wellbeing (Demerouti, Bakker, De Jonge, et al., 2001; Rothbard, 2001). Hakanen and Schaufeli (2012), for instance, found that engagement was significantly associated with reductions in depressive symptoms (Hakanen & Schaufeli, 2012). In terms of organisational outcomes; engagement has been associated with improvements in employee satisfaction, commitment (Hallberg & Schaufeli, 2006; Salanova, Agut, & Peiró, 2005) as well as individuals' ability to derive benefits from demanding tasks (Britt, Adler, & Bartone, 2001). One of the most consistent findings in previous research (e.g. Bakker, Demerouti, et al., 2008; Schaufeli et al., 2009) is the correlation between engagement and employee proficiency. Bakker et al., (2004), for instance, found that engaged employees performed better than their less engaged colleagues and were willing to invest a relatively greater amount of energy in task performance.

Antecedents of engagement

The significant impact of engagement on employees and organisations has also encouraged continued research into its antecedents (Hakanen, Bakker, & Schaufeli, 2006; Rothmann, 2003). In a similar fashion to burnout, much of the research into the antecedents of engagement has focussed on the influence of work characteristics (Bakker & Demerouti, 2007). Job resources in particular, have been positively correlated with increased levels of engagement (Rich et al., 2010). Resources which have been associated with engagement include social support, information and feedback (Albrecht & Albrecht, 2010; Christian, Garza, & Slaughter, 2011; Hakanen et al., 2006; Ram & Prabhakar, 2011; Rich et al., 2010). Job demands on the other hand have been associated with decreases in engagement. Job demands that have been identified as having a detrimental impact on engagement include role strain, physical demands, interpersonal conflict and job uncertainty (Christian et al., 2011; Rich et al., 2010).

The abovementioned engagement research shares key similarities with research around antecedents and outcomes of burnout. Research around the outcomes associated with engagement (e.g. Britt et al., 2001; Christian et al., 2011; Llorens, Schaufeli, Bakker, & Salanova, 2007) have revealed the positive nature of these outcomes and , as such, have similarly underscored the importance of continued research into engagement. However, the abovementioned research into the antecedents of engagement has similarly underscored the fact that this research has been limited due to overlooking the potential interactions between environmental factors and personal characteristics in determining engagement (Christian et al., 2011; Macey & Schneider, 2008). This current research aimed to overcome this deficiency by investigating the role of PsyCap in conjunction with job demands and job resources in the development of engagement.

The abovementioned comprehensive literature on the outcomes associated with burnout and engagement has highlighted the fundamental nature of these concepts to employee and organisational wellbeing. Nevertheless, the aforementioned limited nature of research into these constructs' antecedents underscore the necessity of continued research of this kind. Such research is best operationalised through the use of a thorough theoretical framework in order to identify, conceptualise and further investigate the causes and underlying processes which result in burnout and engagement (Xanthopoulou et al., 2007). The Job-Demands Resource Model (JD-R Model) provides the theoretical foundation for the understanding this current research aimed to generate. A detailed description of the JD-R model will follow, defining and clarifying its core characteristics and primary psychological mechanisms.

The Job Demands-Resources (JD-R) model

The Job Demands-Resources (JD-R) model (Demerouti et al., 2001) has achieved a high level of prominence and acceptance among various researchers and practitioners since its introduction at the beginning of the twenty-first century (Schaufeli & Taris, 2014). This prominence can largely be attributed to the fact that the JD-R model possesses a wider scope than that of other contemporary workplace theories of wellbeing (Schaufeli & Taris, 2014). The JD-R model's key strength is the fact that it does not limit itself to particular job demands or job resources, but rather includes all

job demands and job resources as potential determinants of employee wellbeing (Schaufeli & Taris, 2014). This broad scope appeals to researchers and practitioners because it means that the model is flexible and can be applied to a wide variety of jobs (Schaufeli & Taris, 2014). Nevertheless, these clear strengths do not preclude the fact that there is a need for the improvement of the model (Schaufeli & Taris, 2014). The following section will provide a comprehensive overview of the JD-R model and discuss the issues pertaining the inclusion of personal resources into this model.

The JD-R model was initially proposed by Demerouti et al., (2001) and was established in an effort to delineate the workplace antecedents of burnout. The framework was subsequently amended by Schaufeli and Bakker (2004) in order to integrate work engagement as an outcome. The JD-R model (Demerouti et al., 2001; Schaufeli & Bakker, 2004) presents four propositions about workplace features and their role in the establishment of employee engagement and burnout; what follows is an overview of these propositions.

The first assumption of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001) is that every profession has strain related risk factors and motivational factors; these facets may be characterised as job demands and job resources, respectively (Demerouti, Bakker, Nachreiner, et al., 2001). Demerouti et al., (2001) defined job demands as "…those physical, social, or organisational aspects of the job that require sustained physical or mental effort and are therefore associated with certain physiological and psychological costs" (p. 501). This includes work overload and interpersonal conflict (Schaufeli & Taris, 2014). Job resources, on the other hand, are workplace factors that are either useful for achieving work objectives; diminish occupational demands or inspire an individual's development (Demerouti et al., 2001). This includes decision latitude, feedback, and social support (Schaufeli & Taris, 2014).

The second proposition of the JD-R model is that two processes are key to the establishment of motivation and strain (Demerouti, Bakker, Nachreiner, et al., 2001); these dual processes are referred to as the health impairment and motivational process (Demerouti, Bakker, Nachreiner, et al., 2001). The health impairment process refers

to the development of strain and burnout due to high job demands and limited amounts of job resources (Demerouti, Bakker, Nachreiner, et al., 2001). Excessive job demands, from which employees do not sufficiently recover, may result in an unremitting state of activation, which results in exhaustion. A lack of resources inhibits the individual's capacity to meet job demands. High job demands and limited job resources are understood to deplete employees' physical and psychological resources and result in the exhaustion of energy reserves and an eventual increase in strain (Xanthopoulou et al., 2007). This exhaustion of energy reserves also results in an increasingly cynical attitude towards work and the experience of burnout, which is a self-protective means to avoid additional energy reduction (Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003).

The motivational process, on the other hand, refers to the development of employee motivation, work engagement, and increased performance (Fernet, Austin, & Vallerand, 2012) due to the availability of job resources (Deci & Ryan, 2000). The motivational process occurs because job resources either play an intrinsic motivational role, by encouraging employee growth and development and satisfying employees' desire for autonomy, kinship, and proficiency (Van den Broeck, Van Ruysseveldt, Smulders, & De Witte, 2011); or they play an extrinsic motivational role because they are instrumental in accomplishing occupational goals (Bakker, Demerouti, & Schaufeli, 2003). In both cases job resources encourage a satisfying, positive state (i.e., work engagement), either through ensuring the achievement of occupational goals or the satisfaction of basic human needs.

The third assumption relates to the health impairment process (Bakker et al., 2005) and proposes that resources *buffer* the adverse effect of job demands on employees(Bakker et al., 2003). A buffer refers to a variable that regulates the direction or strength of the relationship between two other variables (Hayes, 2013). According to this proposition, employees that have sufficient job resources are more able to cope in demanding working conditions and consequently experience relatively lower levels of burnout when compared to employees that experience the same conditions with fewer resources (Bakker et al., 2005). Accordingly, the negative

influence of increased job demands should be especially strong if employees had limited job resources (Bakker et al., 2003).

The fourth assumption refers to the motivational process (Bakker & Demerouti, 2007) and argues that job resource possess significantly higher motivational potential in situations where employees face high job demands. This proposition argues that the positive impact of job resources on motivation is especially evident in situations where demands are high; accordingly, the highest levels of engagement will be experienced when both demands and resources are elevated (Bakker & Demerouti, 2007).

Previous empirical research (e.g. Hakanen, Bakker, & Demerouti, 2005) has substantiated the JD-R model's key propositions. Schaufeli and Bakker (2004), for instance, found evidence of the dual processes of the JD-R model amongst a sample of employees in the Netherlands. Schaufeli and Bakker (2004) discovered that job demands (i.e. emotional demands and workload) predicted the exhaustion dimension of burnout and that job resources (i.e. feedback, coaching and social support) predicted engagement. Comparable results have been reported by numerous other researchers (e.g. Hakanen et al., 2005; Rothmann, Steyn, & Mostert, 2005), who have utilised different samples across various contexts including South Africa. Essenko and Rothmann (2007), for instance, utilised a sample of 334 academic support staff from a South African university and found that the relationship between job demands (role overload) and physiological and psychological wellbeing was mediated by burnout, which provides evidence for the health impairment process of the JD-R model. Rothmann and Joubert (2007), likewise, sampled 202 managers from a South African platinum mine and found that high job demands predicted exhaustion (job insecurity and high workload) and lack of resources (organisational support), moreover, job resources (organisational support) were also found to predict work engagement.

Previous research (e.g. Bakker et al., 2005; Hakanen et al., 2005) has also provided support for the model's interaction assumptions. Research by Bakker et al., (2005), for instance, indicated that numerous demands (e.g., work overload and emotional demands) had not lead to elevated amounts of burnout when workers had job

resources such as decision latitude and a good relationship with their supervisor. Hakanen et al., (2005), likewise, found that resources, such as peer encouragement, helped a sample of Finnish dentists cope with high job demands, such as workload, and mitigate against the development of burnout. Moreover, Hakanen et al., (2005) observed that numerous interactions between numerous job demands and job resources predicted work engagement. Hakanen et al., (2005) particularly found that job resources were most beneficial in preserving work engagement under conditions of high qualitative workload; which is in line with the fourth assumption of the JD-R model. Whereas, Xanthopoulou et al. (2006), established that the highest levels of exhaustion and cynicism, amongst a sample of employees from two home care organisations, resulted from situations in which job demands were high and resources were low.

The abovementioned literature underscores the robustness and relevance of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001) across various occupational contexts (Coetzer & Rothmann, 2007). Nevertheless, the model and the resultant empirical research has disproportionately focused on occupational factors as key precursors of work engagement and burnout, while relatively less research has focused on the function of personal resources (Bakker & Demerouti, 2007; Xanthopoulou et al., 2007). Several researchers (e.g. Karatepe & Olugbade, 2009) have underscored the need to place more emphasis on the role personal resources have in the development of engagement and burnout, in general and in the JD-R model, in particular (Demerouti, Bakker, Nachreiner, et al., 2001). The following section aims to explore the role personal resources could play in the JD-R model.

Personal resources and JD-R model

Personal resources refer to an individual's appraisal of their capacity to control and influence their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). These are resources that play a significant role in improving employee adaptability (Bandura, 2008), personal growth and work proficiency (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009c).

The potentially pivotal role personal resources have in the development of positive and negative outcomes for individuals has been the centre of discussion for several scholars across various fields (e.g. Davis, Zautra, & Smith, 2004; Langelaan et al., 2006). Lazarus, (1995), for instance, proposed that individuals are not passive recipients of their environments, instead individuals are understood to be active participants who employ their perceptions or appraisals onto situations and their capacity to deal with these situations. According to Lazarus (1995) the nature of these appraisals plays a significant role in determining individual's wellbeing ; people undergo strain when they perceive that they lack the resources to meet the difficulties they face. Davis et al., (2004), analogously, contended that cognitive processes, such as appraisals play a substantial role in determining the impact of potentially stressful events. This assertion was also supported by Radey and Figley, (2007) who argued that job demands could readily lead to depression and job strain in the absence of personal resources. A growing number of scholars have concurred with the aforementioned argument and have attempted to integrate various personal resources into the JD-R model in four different ways (Schaufeli & Taris, 2014).

The first means of integrating personal resources into the JD-R model has been through the examination of the direct effect of personal resources on the key outcomes suggested by the JD-R model. Schaufeli and Taris (2014), for instance, proposed that personal resources may reduce burnout and increase engagement. This proposition was empirically supported by longitudinal research with a sample of Spanish teachers by Prieto, Soria, Martínez and Schaufeli (2008). Prieto et al., (2008) found that mental and emotional capabilities at the start of the academic year significantly predicted burnout and engagement levels at the conclusion of that year. Likewise an 18-month longitudinal study by Xanthopoulou et al., (2009c) revealed that personal resources, such as organisation-based self-esteem (OBSE), optimism and self-efficacy, significantly predicted subsequent work engagement. Finally, Simbula, Guglielmi, and Schaufeli (2011) found that job resources and self-efficacy impacted work engagement in the short and long term.

The second means of incorporating personal resources into the JD-R model has been through the exploration of personal resources' influence on an employee's

perception of job characteristics (Schaufeli & Taris, 2014). This is primarily in accordance with the Social Cognitive Theory by Bandura (1997) and propositions put forward by Judge, Bono, and Locke (2000). Bandura (1997) argued that personal resources significantly impact the manner in which individuals perceive their environment and react to it; which eventually determines the impact of the environment on that individual. Judge, Bono, and Locke (2000), likewise, proposed that employee's fundamental self-evaluations influence the manner in which they perceive their job characteristics; which ultimately impacts their satisfaction with their job as well as their proficiency. Xanthopoulou et al., (2007) provided empirical support for these assertions by showing that personal resources, such as organisation-based self-esteem (OBSE), self-efficacy and optimism, predicted perceptions of job resources, which in turn predicted work engagement.

The third means of incorporating personal resources into the JD-R model has been through the exploration of personal resources as mediators of the relationship between job characteristics and well-being (Schaufeli & Taris, 2014). This proposition is based on the key assumptions of the Conservation of Resources theory (COR) by Hobfoll (1989). The Conservation of Resources theory, assumes that resources accumulate (Hobfoll, 1989). For instance, employees that work in an environment with sufficient resources will likely develop feelings of optimism amongst other personal resources (Schaufeli & Taris, 2014). The prominence of these personal resources would, in turn, lead to increases in work engagement (Xanthopoulou, Bakker, Demerouti, and Schaufeli, 2009b). On the other hand, the lack of resources or the presence of excessive demands would drain the available personal resources and eventually lead to strain or burnout (Xanthopoulou, Bakker, Demerouti, and Schaufeli, 2009b). Several studies (e.g. Van den Broeck et al., 2011; Vink, Ouweneel, & Le Blanc, 2011; Xanthopoulou et al., 2007) have found empirical support for the mediating role of personal resources. Van den Broeck et al., (2011), for instance, found that the fulfilment of basic psychological needs mediated multiple relationships between job demands and job resources on the one hand and exhaustion and vigour one the other. Likewise a laboratory study by Llorens, Schaufeli, Bakker and Salanova, (2007) indicated that efficiency perception mediated the relationship between job resources, such as time and decision latitude, and task engagement .

The fourth means of incorporating personal resources into the JD-R model has been through the exploration of the moderating role of personal resources within the key processes of the JD-R model (Schaufeli & Taris, 2014). Previous researchers (e.g. Salanova et al., 2005; Tugade & Fredrickson, 2004; Xanthopoulou et al., 2007) who have developed this perspective have argued that personal resources may buffer negative effects of job demands on burnout and boost positive effects of job resources on engagement. Previous research has provided some support for these assertions; Van den Broeck et al., (2011), for instance, found that intrinsic work motivation boosted the positive impact of decision latitude on work engagement and *buffered* the negative impact of poor learning opportunities on exhaustion. Brenninkmeijer, Demerouti, le Blanc, and Hetty van Emmerik (2010), similarly, found that the harmful effects of workplace conflict and workload on exhaustion were more prominent for those employees that had a relatively stronger prevention focus, (i.e., employees that concerned themselves more with the responsibilities and duties of the job).

The aforementioned research provides robust evidence that personal resources play an important role as predictors, mediators and moderators in the JD–R model. However, this current research aimed to investigate whether personal resources play an even more complex role by acting as moderators in the relationship job-demands on one hand and burnout as well as engagement on the other. Moreover, this research aimed to establish whether personal resources moderate the interaction between job demands and job resources. This current research was, thus, aligned with the arguments put forward by many of the aforementioned scholars (e.g. Davis et al., 2004; Lazarus, 1995; Lazarus & Folkman, 1984; Radey & Figley, 2007) who have underscored the importance of the complex and interrelated interactions between individuals and their environment and their outcomes.

Specifically, this current research, aimed to assess whether the personal resource of Psychological Capital (PsyCap) interacted with job demands and job resources to determine burnout and engagement amongst employees. This focus on the , was due to its growing recognition as an important personal resource within the working

environment (Cheung et al., 2011; Luthans, Avolio, & Youssef-Morgan, 2015). The subsequent sections aim to provide a comprehensive discussion around PsyCap and this current research's key questions and hypotheses.

Psychological Capital

The concept of Psychological Capital (PsyCap) derives from the Positive Organisational Behaviour (POB) school of thought (Luthans, 2002a). POB is "…the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed and effectively managed for performance improvement in today's workplace" (Luthans, 2002a, p. 59). The POB school of thought focuses on constructs that meet a specific set of criteria (Luthans, 2004). The focus of POB are constructs that are "…(1) individual-level positive psychological resources that are (2) measurable; (3) state-like; (4) research as well as (5) theory-based; and (6) related to desired attitudinal and performance outcomes in one's work role" (Luthans, 2002b; Luthans et al., 2015; Youssef & Luthans, 2007). This criteria was developed and utilised in order to ensure that POBs can realise the scientific rigor of academic research, as well as the practical significance and utility of evidence-based practice (Luthans, Youssef, et al., 2007).

Luthans et al., (2007) investigated numerous psychological resources as potential POBs including concepts such as creativity, courage, emotional intelligence, and spirituality (Luthans et al., 2015); and eventually concluded that PsyCap, as well as its four dimensions, best met the aforementioned set of criteria. Luthans et al., (2007) underscored these particular resources' prominence and importance in creating outstanding competences and outcomes within individuals. PsyCap, is conceptualised as:

> An individual's positive psychological state of development characterised by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success (Luthans et al., 2007, p. 3)

Self-efficacy. Self-efficacy, in PsyCap, is grounded in *Social Cognitive Theory* (Bandura, 1997). It is conceptualised as "… an individual's conviction about their abilities to mobilise the motivation, cognitive resources, and courses of action necessary to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998, p. 66). Employees that possess high amounts of self-efficacy are likely to perceive that their likelihood of success is good and would thus approach tasks with greater confidence (Grau, Salanova, & Peiró, 2000). Self-efficacy develops cumulatively through acquiring sufficient experience and optimal proficiency within certain knowledge areas (Setar, Buitendach, & Kanengoni, 2015). These cumulative experiences are vital because they allow an individual to acquire fundamental knowledge and skills required to meet future challenges (Bandura, 2012). Successful experiences increase one's subjective sense of self-efficacy when it comes to particular tasks, whereas perceived failures negatively impact one's perceived self-efficacy (Bandura, 1997). Moreover, self-efficacy could also be developed through vicarious means, such as observing others who succeed or fail in performing particular tasks on the job (Lewis, 2011).

One's beliefs about efficacy impact the manner in which events are understood and the effect these events will have (Stajkovic & Luthans, 1998). Bandura, (2008) and Lazarus, (1995) both argued that the majority of stress experienced by individuals is moderated by perceptions about one's efficacy. Individuals that have a lower efficacy belief are more inclined to believe that the means that are being implemented to meet challenges are useless; these individuals are more prone to acquire adverse signs of strain when faced with significant challenges (Bandura, 2008). Individuals with heightened amounts perceived self-efficacy, on the other hand, display relatively advanced levels of confidence when it comes to facing tasks and are more inclined to view challenges as manageable (Avey, Luthans, & Jensen, 2009), which leads to more positive outcomes for the employee and the organisation (Stajkovic & Luthans, 1998). Matsui and Onglatco (1992) found empirical support for these arguments by showing that beliefs about demand overload were impacted by perceived self-efficacy, and that individuals that had a diminished

amount of efficacy beliefs were more negatively impacted by work demands when compared to counterparts with relatively higher sense of self-efficacy.

Optimism. Optimism, in PsyCap, is an explanatory technique in which one attributes positive results to personal, perpetual and transferable qualities, while adverse results are attributed to exterior, brief, and situation-specific qualities (Seligman, 1998). Optimism is realistic and flexible (Scheier & Carver, 1987). It is realistic because it involves a thorough evaluation of the sources and results of constructive and adverse occurrences before accrediting success to one's self and and attributing failure to external events (Barkhuizen et al., 2014).

Individuals who possess sufficient amounts of optimism display more effective coping styles which makes them better equipped to face challenges and avoid strain (Alarcon, Bowling, & Khazon, 2013). This is due to optimistic individuals viewing challenges in a positive light and anticipating positive outcomes or growth from these events (Seligman, 1998). Optimism has been correlated with a variety of important effects such as physical wellbeing (Scheier & Carver, 1987); depression, mental health (Seligman, 2008), burnout and engagement (Barkhuizen et al., 2014). A meta-analysis performed by Alarcon et al., (2013) indicated that optimism was positively correlated with life satisfaction, happiness, and psychological wellbeing, physical wellbeing and negatively correlated with depression and anxiety. Totterdell, Wood, and Wall, (2006) discovered that optimism moderated the relationship between various job characteristics and employees experience of strain. Employees that possessed comparably higher amounts of optimism were conceptualised by Totterdell et al., (2006, p. 80) to "… be endowed with added protection" (p. 80) and less likely to display symptoms of strain within the workplace. Essenko and Rothmann (2007) discovered that dispositional optimism shared a negative relationship with exhaustion and cynicism amongst employees, whereas, Herbert (2011) discovered that optimism was positively related to employee engagement and performance.

Hope. Hope, in PsyCap, is based on the 'hope theory' by Snyder (2000). Hope is conceptualised as " a cognitive set that is based on a reciprocally defined sense of

successful a) agency (goal directed determination) and b) pathways (planning of ways to meet goals)" (Snyder et al., 1991, p. 571). The agency factor creates the determination or "willpower" (Avey et al., 2009, p. 681), which is person's determination to realise their goals (Luthans & Youssef, 2007). The pathways factor creates the "way-power" (Avey et al., 2009, p. 681); this refers to the capacity to formulate different contingency routes to attain objectives in the event of hindrances (Luthans & Youssef, 2007). Therefore, those that possess high amounts of hope have the ability to anticipate possible obstacles, which may hinder their ability to achieve their goals and employ contingency planning strategies through the identification of various alternative pathways through which their objectives may be obtained (Richard Snyder, 2000). Moreover, individuals that possess significant amounts of hope tend to utilise independent thinking patterns more often and solve problems using more creative solutions (Snyder et al., 1991).

Hope research within various contexts (e.g. Alarcon et al., 2013; Curry Luthans & Jensen, 2002; Rand, Martin, & Shea, 2011) has consistently indicated that that hope may represent an important positive resource that significantly decreases negative feelings and perpetuate positive feelings amongst individuals. Snyder et al., (1991), for instance, have revealed that hope is
negatively correlated with anxiety. Snyder (2000) has also demonstrated that the amount of hope an individual possesses may shield them against perceptions of susceptibility, uncontrollability, and irregularity. Peterson and Byron (2008), on the other hand, have found that hope is positively correlated with work performance. Youssef and Luthans (2010) have, likewise, identified hope as a key resource within the workplace and have associated it with positive performance outcomes for employees.

Resilience. Resilience is conceptualised as the "developable capacity to rebound or bounce back from adversity, conflict, failure, or even positive events, progress, and increased responsibility" (Luthans, 2002b, p. 702). Resilient individuals accept their reality; have an unwavering certainty that all incidents, including adversities, have a purpose and can therefore adapt to these challenges and changes (Avey et al., 2009). Resilient individuals rebound from obstacles met; are encouraged

by challenges faced and are motivated to learn from these conditions (Luthans & Youssef, 2007).

Tugade and Fredrickson (2004) argued that employees that possess resilience are more capable to cope with the demands of a continuously fluctuating workplace because they are open to new experiences and display increased amounts of emotional stability. These authors also discovered that individuals that possessed high amounts of resilience were more able to bounce back from negative experiences (Tugade & Fredrickson, 2004). Tugade, Fredrickson, and Feldman Barrett (2004) found that resilient individuals produce constructive feelings within themselves and elicit these emotions in co-workers as well; this process stimulates a generally supportive work environment that facilitates increased work performances and innovation. Previous research (e.g Coutu, 2002; Ryff & Singer, 2003; Tugade et al., 2004) has also indicated that there is a positive correlation between resilience in employees and their proficiency, as well as their commitment and engagement (Luthans, 2002b; Luthans & Youssef, 2007).

The dimensions of self-efficacy, resilience, hope and optimism are best represented together as the overarching concept of Psychological Capital (PsyCap) (Luthans, Youssef, et al., 2007). The underlying conceptual thread linking the four dimensions of PsyCap is a "…positive appraisal of circumstances and probability for success based on motivated effort and perseverance" (Luthans, Youssef, et al., 2007, p. 550) as well as an internalised sense of control and self-determination (Youssef-Morgan & Luthans, 2013). In other words, the positive appraisal about the amount of control one has in the completion of tasks and one's probability of success (self-efficacy) in these tasks encourages a positive outlook (optimism); a decision to pursue challenging goals (hope) as well as the required investment of resources in the pursuit of these goals despite difficulties and impediments that might be faced (resilience) (Youssef-Morgan & Luthans, 2013).

The existence of the overarching concept of PsyCap is demonstrated in how its four dimensions are depicted in relation to each other. Snyder, (2000), for instance, argued that employees that possess significant amounts of hope are more likely display

resilience when faced with challenges due to their capacity to create alternate pathways toward their objectives. Bandura (1997), similarly, argued that employees who possessed elevated amounts of self-efficacy are more inclined to be hopeful and establish alternative pathways towards goals when they are met with challenges and hindrances. The above mentioned scholars, clearly show that the four elements of PsyCap share an underlying connection which bind them together to form the overarching dimension of PsyCap (Luthans et al., 2015).

There is also a growing amount of empirical evidence in support of the existence of the overarching construct of PsyCap (e.g. Alarcon et al., 2013; Rand et al., 2011). Luthans et al, (2007), for instance, found empirical support for this assertion by analysing and comparing a variety of models for PsyCap, and finding that the overarching construct of PsyCap produced the best model fit. Larson and Luthans (2006), likewise, conducted research that displayed that PsyCap, as a single construct, was more constant in predicting various outcome variables such performance when when compared to its individual dimensions.

Rationale for using PsyCap as a Personal Resource

This present research placed its emphasis on the personal resource of Psychological Capital (PsyCap), for two reasons. Firstly, previous research (e.g. Avey, Luthans, & Youssef, 2010; Avey, Reichard, Luthans, & Mhatre, 2011; Roche, Haar, & Luthans, 2014; Youssef-Morgan & Luthans, 2013) has shown that PsyCap represents a potentially pivotal resource that can promote well-being and performance within the workplace, while also mitigating against the adverse impact of various organisational factors (Youssef-Morgan & Luthans, 2013). A meta-analysis of a sample of fifty one studies by Avey, Reichard, Luthans, and Mhatre (2011), for instance, revealed that PsyCap has consistently been associated with employee wellbeing, job satisfaction and various performance outcomes, across the sampled studies. Moreover, PsyCap has also been negatively correlated with adverse aspects such as cynicism, negative behaviours and turnover intentions (Avey et al., 2009).

Secondly, the state-like taxonomy of PsyCap makes it an especially important prospective resource within the organisation (Luthans, & Avey, 2014). Youssef and

Luthans (2007) illustrate the trait-state continuum as having two extremes: at one extreme are the fixed traits that are hereditarily determined; on the other pole of this continuum are pure states, which are highly volatile. Luthans and Youssef (2007) place trait-like characteristics between these two poles; these are aspects such as an individual's personality, which are relatively constant amongst adults; however, they still may experience further developments throughout an individual's lifespan. This taxonomy, likewise, places state-like aspects such as PsyCap in between the two extremes of the continuum. State-like aspects are relatively more malleable than fixed traits and trait-like aspects, however, they are not as volatile as 'pure' states (Luthans et al., 2015). Luthans et al. (2007) provided empirical support for this theoretical taxonomy by utilising test retest reliability measures to show that PsyCap ($r = .52^{**}$) is more stable over a period of time when compared to emotions ($r = .46^{**}$) (i.e. a purer state); but is more volatile than personality characteristics ($r = .76^{**}$) (i.e. trait-like characteristics) like extroversion. Previous research (e.g. Luthans et al., 2014; Luthans, Avey, Avolio, Norman, & Combs, 2006; Luthans, Avey, Avolio, & Peterson, 2010; Luthans et al., 2008) has also underscored the developmental potential of PsyCap by uncovering that PsyCap could be successfully established through concise training interventions.

This state-like characteristics of PsyCap makes it an ideal potential resource for future development in the workplace This is due to the fact that it could be easily developed within the organisation and remain relatively stable after development efforts, which would ensure that it can be called upon, by employees, when needed (Luthans, & Avey, 2014).

Empirical evidence of PsyCap's moderation effects in the JD-R model

Empirical support for the aforementioned theoretical propositions is limited, especially when it comes to the moderating effect of PsyCap (Brouze, 2014; Cheung et al., 2011; Herbert, 2011). This is due to the fact that PsyCap is still a fairly new construct and is yet to have a comprehensive amount of empirical literature around the concept (Setar et al., 2015). However, it is worth noting that research that has focused on each of the four dimensions of PsyCap, individually, has provided some

support for this current research's key propositions. Grau, Salanova, and Peiró, (2000), for instance, found that employee's professional self-efficacy *buffered* the negative impact of high role conflict on cynicism. Riollo and Savicki (2003) found that the impact of chronic stressors on exhaustion and depersonalisation were moderated by optimism. Yavas, Karatepe, and Babakus (2013) found that hope buffered the impact of stress and exhaustion on employees' intentions to quit. Finally, Jackson, Firtko, and Edenborough, (2007) conducted a meta-analysis on a sample of fifty studies and found that personal resilience reduced sampled employees' vulnerability to workplace adversity.

Cheung et al., (2011) constructed one of the only research studies that attempted to integrate the overarching construct of PsyCap into the JD-R model. Cheung et al., (2011), investigated whether PsyCap moderated the relationship between three emotional labour approaches (i.e. deep acting, surface acting, and the expression of naturally felt emotion) and two outcome variables (burnout and job satisfaction). Cheung et al., (2011) conducted 12 moderated regression analyses and found that a total of five interactions were significant. One of the key findings was a stronger positive correlation between deep acting and job satisfaction among participants that possessed relatively higher amounts of PsyCap, when compared to participants low in PsyCap (Cheung et al., 2011). Cheung et al., (2011) also found that the positive correlation between surface acting and depersonalisation as well as the negative correlation between surface acting and job satisfaction, were weaker when PsyCap was high; thus proving that PsyCap did in fact buffer the adverse impact of emotional labour on employee and organisational outcomes. Finally, Cheung et al., (2011) also found that high levels of PsyCap facilitated a significant positive relationship between surface acting and job satisfaction (Cheung et al., 2011). This outcome was especially important because surface acting more regularly leads to adverse outcomes such as burnout, job dissatisfaction and psychological ill-health, according to numerous previous studies (e.g. Beal, Trougakos, Weiss, & Green, 2006; Brotheridge & Grandey, 2002; Grandey, 2003). Cheung et al., (2011) argued that their result suggests that the availability of PsyCap empowers the employee to offset the emotional and psychological loss that is associated with surface acting which allows them to attain better job outcomes and satisfaction.

Herbert (2011), conducted a research study in order to determine PsyCap's relationship with burnout, employee engagement and occupational stress amongst a sample of workers in a South African construction organisation. One of the central findings from Herbert's (2011) study was that PsyCap did moderate the occupational stress and work burnout relationship. Herbert (2011), argued that this significant moderation effect showed that the PsyCap might significantly increase the adaptive capabilities of employees in stressful situations and, consequently, decrease the negative consequences of occupational stressors.

Finally, Brouze (2014), conducted research in the aim of determining whether PsyCap moderated the job demands and burnout relationship. Brouze (2014) did in fact find a significant moderation effect. More specifically, Brouze (2014) found that individuals that possessed a high amount of PsyCap were significantly less prone to develop or display cynicism, when increased workload is elevated, when compared to counterparts who had relatively low amounts of PsyCap. Therefore, PsyCap *buffered* the impact of workload on cynicism.

The aforementioned research, provides some validation for the moderating role of PsyCap and underscores the potentially pivotal role that PsyCap might play in mitigating burnout and ensuring engagement. However, the aforementioned research provides limited generalisability. Cheung et al., (2011), for instance, sampled 264 full-time schoolteachers from six schools in the People's Republic of China. Cheung et al., (2011) conceded that it was unclear whether their findings could be generalised to other occupational groups, given the limited nature of their sample and proposed that future research, with more diverse samples was still necessary. Similarly, Herbert (2011) sampled 209 permanent employees and support staff of a single medium size construction company in South Africa. Herbert (2011), likewise, recognised the importance of future research that used samples that consisted of individuals from diverse occupational groups in order to increase generalisability of findings. Finally, Brouze's (2014) research utilised a sample of 143 participants from a single South African retail organisation. Brouze (2014), congruently, recognised that this sample significantly limited the generalisability of results across occupational settings and

underscored the need for further research in order to assess whether these findings are applicable across various other occupational contexts.

All of the aforementioned research is also inherently limited because this research has investigated the moderating role of PsyCap in the two processes of the JD-R model while observing both models separately (Brouze, 2014; Cheung et al., 2011; Hobfoll, 2002). This has meant that this research has failed to consider the fact that previous theoretical and empirical literature that illustrates the interaction between these two processes. The third assumption of the JD-R model, for instance, proposes that job resources *buffer* the adverse effect of job demands on employees (Bakker et al., 2003). Similarly, the fourth assumption argues that job resources possess significantly higher motivational potential in situations where employees face high job demands; accordingly the highest levels of engagement will be experienced when both demands and resources are elevated (Bakker & Demerouti, 2007). Both of these assumptions and their supporting empirical literature highlight the importance of the interaction between job demands and job resources in determining engagement and burnout.

It would therefore be essential to investigate the potential role of PsyCap within the context of this imperative interaction as well; which has not been the case in previous research. Demerouti and Bakker (2011, p. 4) provided support for this assertion by highlighting the need for future research to "…examine whether the complex interaction of individual resources with the work environment takes the form of a three-way interaction between job demands, job resources, and personal resources so that personal resources qualify the two-way interactions between job demands and job resources" . This research aimed to address this gap by investigating the three-way interaction between job resources, job demands and PsyCap in order to assess whether the PsyCap qualified the two-way interactions between job demands and job resources. This research investigated whether the moderation of X's[1] effect on Y[2] by M[3] is itself moderated by W[4], a condition that is referred to as a moderated moderation (Hayes, 2012b).

[1] The independent variable (i.e. job demands)
[2] The dependent variable(s) (i.e. engagement and burnout)
[3] The primary moderator (i.e. Job resources)
[4] The secondary moderator (i.e. PsyCap)

This current research, ultimately aimed to contribute to the foundations set by these aforementioned scholars (e.g. Brouze, 2014; Cheung et al., 2011; Du Plessis & Barkhuizen, 2012; Luthans et al., 2010; Setar et al., 2015) by examining the potential moderating role of PsyCap in the JD-R model with the use of a sample of employees from numerous different organisations to increase generalisability. It was believed that this research would provide further evidence of the importance of PsyCap in the development of burnout and engagement amongst employees in various occupational contexts (Karatepe & Olugbade, 2009). Moreover, this current research aimed to contribute to the theoretical development of the JD-R model by investigating the three-way interaction between job demands, PsyCap and job resources. What follows is a more detailed discussion of the rationale behind this current research.

Rationale for the Current Study

As previously stated the current research aimed to incorporate the personal resource of Psychological Capital (PsyCap) (Luthans et al., 2004) into the JD-R model's dual processes. This research, specifically, investigated whether the third and fourth proposition of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001) hold true if PsyCap (Larson & Luthans, 2006) is the resource in question and whether a three way interaction between Job demands, Job resources, and PsyCap exists. The current study may be justified for the following reasons:

Firstly, this current research contributes to what is comprehended about the processes that are involved in the development of both employee burnout and engagement within the workplace. This is particularly important when one considers the significant impact these factors have within the workplace. Employee burnout, for instance, is associated with various adverse outcomes such as depression, anxiety (Essenko & Rothmann, 2007); physical exhaustion (Ahola & Hakanen, 2007) and diminished performance in the workplace (Bakker et al., 2004). Therefore burnout represents a key threat in the organisation; one that must be comprehensively understood in order to be potentially mitigated or averted in future. This current study contributes to this understanding. Employee engagement, on the other hand, is associated with positive outcomes such as increases in psychological and physical wellbeing (Demerouti, Bakker, De Jonge, et al., 2001; Rothbard, 2001) as well as

improved performance (Bakker, Demerouti, et al., 2008; Salanova et al., 2005; Schaufeli et al., 2009). Therefore, employee engagement represents a key potential factor within the workplace, one that must, likewise, be comprehensively understood in order to potentially facilitate its development within employees and organisations. This current study contributes to this understanding as well.

Secondly, the Job demands-resources model (JD-R) represents one of the most prominent and robust models of wellbeing (Bakker & Demerouti, 2013). It is utilised by several scholars (e.g. Demerouti, Bakker, Nachreiner, et al., 2001; Essenko & Rothmann, 2007; Rich et al., 2010) and human resource (HR) practitioners (e.g. Ahola & Hakanen, 2007; Hakanen et al., 2005) across several contexts. Nevertheless, the JD-R model has overlooked the role personal resources may have in the development of burnout and engagement (Demerouti & Bakker, 2011a). Moreover, the limited research that has attempted to overcome this deficiency by investigating PsyCap's moderating effect in the health impairment process have failed to consider the role of job resources in this moderation effect. This deficiency represents an opportunity to explore the complex role personal resources play within the JD-R model's processes, with the aim of establishing a more comprehensive JD-R model (Rothmann, 2003). The current study, therefore, aimed to fulfil this need through examining the complex role of the personal resource of psychological capital (PsyCap) in the JD-R model's key processes.

Thirdly, PsyCap in particular, is an under-researched personal resource (Herbert, 2011; Xanthopoulou, 2007; 2009a). This is largely due to the fact that PsyCap is still a relatively new construct (Luthans, Youssef, Sweetman, & Harms, 2012) . There is therefore a need for more research in order to expand knowledge around the concept of PsyCap and its role in the organisational setting (Setar et al., 2015). It is argued that this current study achieves this by investigating PsyCap's relationship with key organisational constructs and employee outcomes such as job resources, job demands engagement and burnout. It is argued therefore argued that this current research contributes significantly to the much-needed pool of knowledge around the concept of PsyCap.

Theoretical Research Models

As previously stated, the current research aimed to explore the potential moderating role of PsyCap in the JD-R model. More specifically, this research aimed to investigate whether the third and fourth proposition of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001) hold true if PsyCap (Larson & Luthans, 2006) is the resource in question. Therefore, this current research firstly centred around two main research questions, namely:

> *RQ1*: Does PsyCap moderate the effect of job demands on burnout?
> *RQ2*: Does PsyCap moderate the effect of job demands on engagement?

The JD-R model's (Demerouti, Bakker, Nachreiner, et al., 2001) third and fourth propositions as well as the, abovementioned, body of empirical research that has provided support to these propositions provide a clear indication of the potential nature of the moderation effects that were investigated in this current study. The JD-R model's two propositions about job demand and job resource interactions would suggest that:

> *Hypothesis 1*: PsyCap *buffers* the effect of job demands on employee burnout.
> *Hypothesis 2:* The greatest levels of engagement are observed in situations where job demands and PsyCap are both high.

This current research also aimed to investigate whether PsyCap qualifies the the two-way interactions between job demands and job resources. Therefore, this current research also centred around two additional research questions, namely:

> *RQ3*: Does PsyCap moderate the interaction between job demands and job resources on burnout?
> *RQ4*: Does PsyCap moderate the interaction between job demands and job resources on engagement?

It was hypothesised that:

> *Hypothesis 3*: Job resources buffer the job demand-exhaustion and job-cynicism relationship when PsyCap is relatively high.
> *Hypothesis 4*: Job resource's moderating effect in the Job demand-engagement relationship is only significant when PsyCap is relatively high.

Based on the arguments presented above and the hypothesised expansions of the JD-R model through the inclusion of PsyCap, the theoretical models that were tested are presented in figures below.

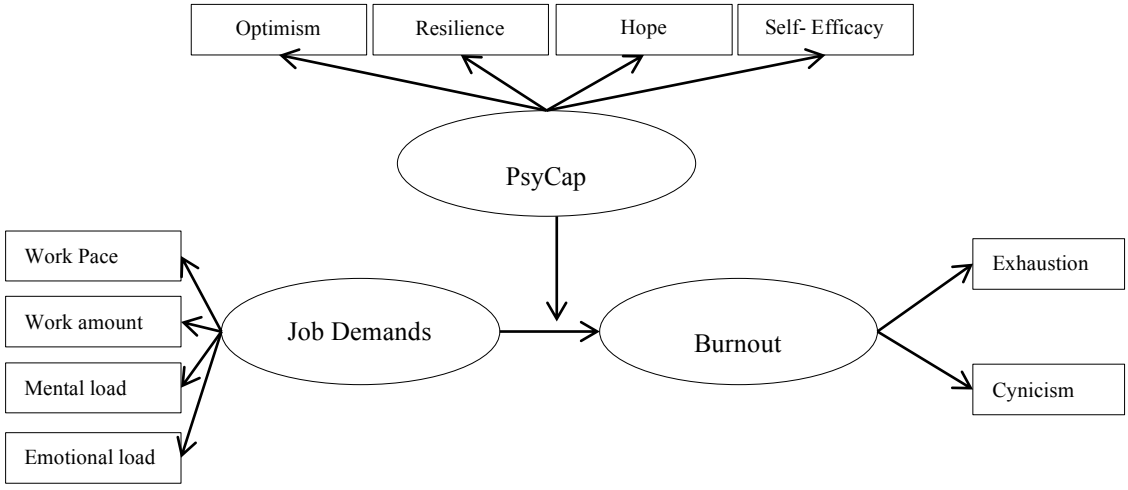


Figure 1 ***Hypothesised buffering effect of PsyCap in the relationship between Job Demands and Burnout***

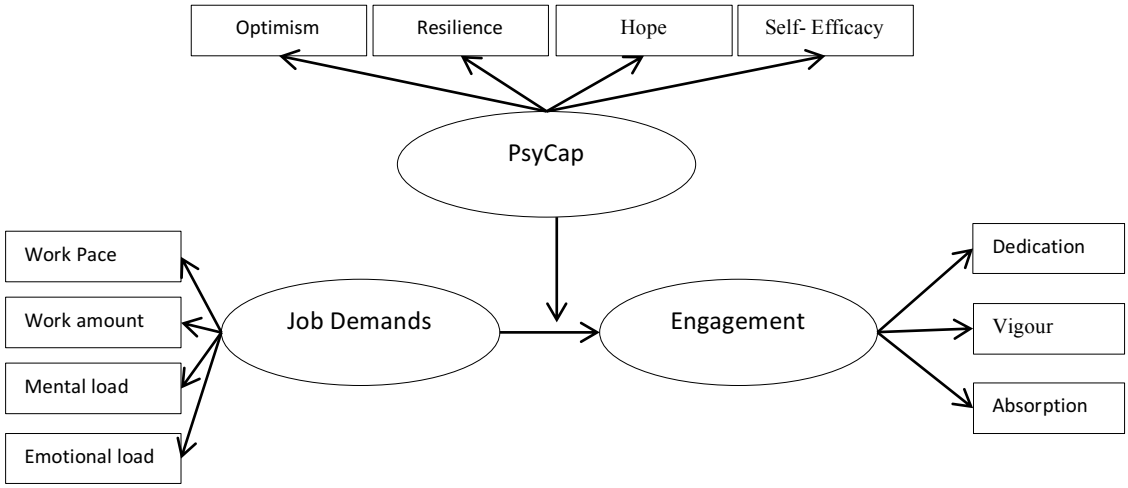


Figure 2 *Hypothesised relationship between Job Demands PsyCap and Engagement*

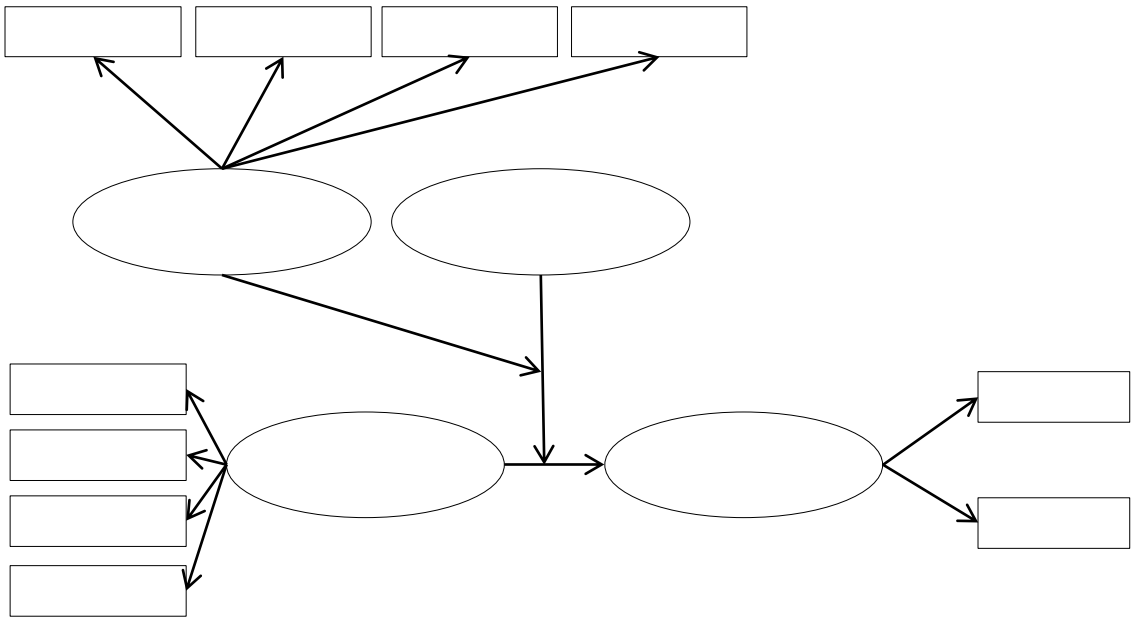


Figure 3 *Hypothesised Moderated Moderation effect of PsyCap on the Job demands, Job resources interaction.*

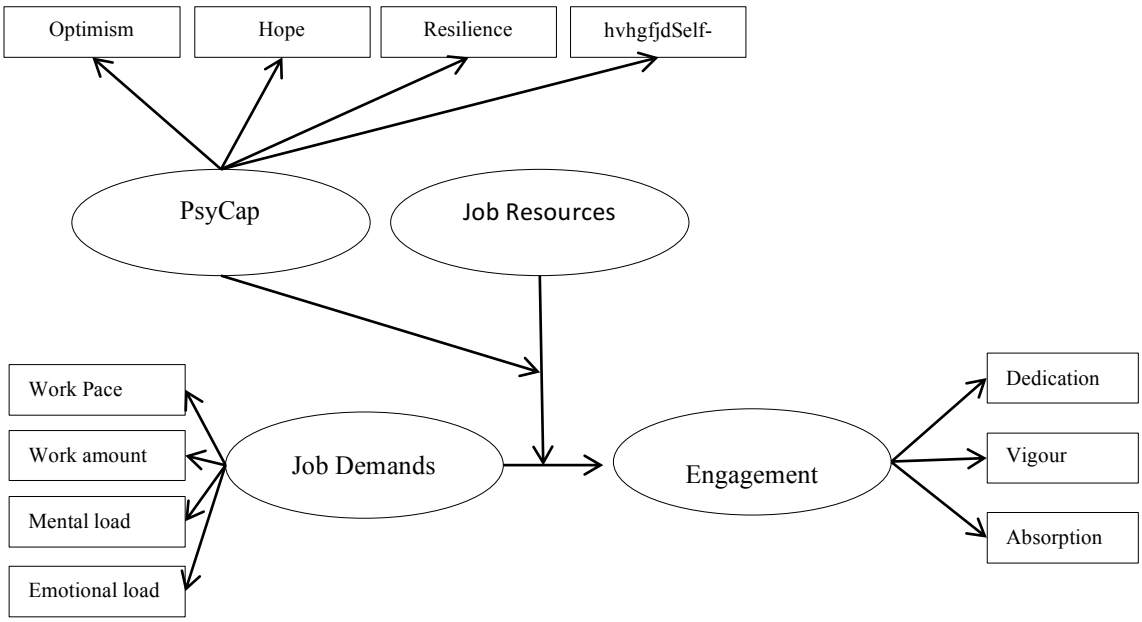


Figure 4 *Hypothesised Moderated Moderation effect of PsyCap on the Job demands, Job resources interaction.*

Method(s)

The method(s) section will discuss the techniques and procedures that have been utilised within this current study. This section will specifically review the sampling methods; sample characteristics; research design; measurement instruments; research procedures, ethical considerations.

Research design

The current study employed a cross-sectional, non-experimental, quantitative, correlational research design. It is considered cross-sectional because data was collected at one point in time (Creswell, 2013). This research is non-experimental because there was no manipulation of any variables (Creswell, 2013). Moreover, it is classified as quantitative because the data for this research was numerical and all research questions were answered by utilising statistical techniques performed on numerical data (Hayes, 2013). Finally, this research is correlational because it assessed the linear relationships between two or more variables (Lee & Ashforth, 1996).

Procedure

Once ethical clearance was acquired from the University of the Witwatersrand's Human Research Ethics Committee (see appendix A), the researcher utilised non-probability sampling techniques such as snowball and convenience sampling to obtain a sampling frame of fifteen organisations to approach. All of these organisations' Chief Executive Officers (CEOs) were sent a letter requesting organisational access (see appendix B). This letter provided information about the proposed research and requested permission to approach and utilise employees within their organisations as prospective participants for this study. This letter also provided pertinent information of the research including: the voluntary nature of participation; employee's ability to withdraw from taking part in the research at any time during the completion of the questionnaire; confidentiality of employee responses; anonymity of respondents and their organisations; the fact that submission of completed questionnaires would be interpreted as informed consent and the manner in which research outcomes would be reported.

Permission was obtained from eleven of the organisations approached, which represents a response rate of 73 %. Once permission was obtained the researcher collected relevant email addresses from the human resource managers in order to distribute the electronic survey via email. The emails that were sent to employees firstly consisted of a cover letter (see Appendix C) and a link that directed participants to the research questionnaire which contained all of the scales used in this current research. Moreover, hard copies of the cover letter and research survey were also provided to participating organisations for participant convenience. Participants were informed that they could only fill a single survey each.

Four weeks after the distribution of the questionnaires the electronic survey site was closed; hard copies were collected and all employees and organisations were acknowledged and thanked for participating in the study. The gathered employee data was then coded into an excel spreadsheet in order to import the data into IBM SPSS version 24 statistics software which was utilised for data analysis.

Ethical considerations

Ethical clearance was required from the University of the Witwatersrand's Human Research Ethics Committee before this study could begin. This requisite ethical clearance was sanctioned and obtained (See Appendix A).

All ethical considerations were adhered to within this current research. There was no risk nor harm inflicted on any research participants; and, all participation was voluntary in nature. Individuals were provided with an information sheet that disclosed this information as well as all of the aforementioned pertinent information concerning the study; including the voluntary nature of participation and the manner in which informed consent would be obtained. Therefore, once the participant had completed and submitted the questionnaire, informed consent was deemed to have been given. All participants were able to contact the researcher or his supervisor if they had any enquiries or concerns pertaining the information disclosed in the information sheet or the research itself.

Participants were not required to identify which organisation they currently worked for in order to ensure anonymity for their organisations. Moreover, questionnaires did not require participants to provide any personal identifiers (e.g. names or employee numbers) and only required them to disclose some demographic information (e.g. age and gender). This ensured that anonymity was maintained for the participants themselves. The absence of any personal identifiers from any questionnaire submitted also ensured confidentiality; which was further maintained by the fact that only the researcher and the research supervisor had access to the data, which was and will continue to be stored on a password protected computer and electronic location. Furthermore, all analyses were conducted at a group level, which means that responses were only viewed in relation to all other responses, which also ensured anonymity.

Feedback on the findings of the current research was provided in summary form to the CEOs of participating organisations. This summary was also emailed to all employees in the sample pool with the consent of the human resource managers of each organisation. The more comprehensive account of the outcomes from this

current study have been presented in this research report which will be submitted to the Cullen Library as well as the wired space blog site via the University of the Witwatersrand's online portal. Therefore, any individual with access to the Cullen Library or the wired space blog site would have access to this final research report.

Sample

A non-probability convenience sampling methodology was used to obtain the participants that were utilised in this current research. The organisations, from which sampled employees were obtained, were also selected utilising non-probability convenience methodology. As previously stated, permission was obtained from eleven of the fifteen organisations approached, which represents a response rate of 73 % on the organisational level. The final sample of employees consisted of 280 respondents (N=280) from a sampling frame of 600 employees, which represents a response rate of 47 %. The average age of the sample was 29 years old (M= 29) the sample age ranged from 18 to 70. Other pertinent demographic characteristics of the research participants are presented from table 1 to table 5

Table 1

Sample Demographic Characteristic (Gender)

Gender	**Frequency**	**Percentage (%)**
Male	101	32,9
Female	179	58,3
Total	280	100

Table 2

Sample Demographic Characteristic (Marital status)

Marital status	**Frequency**	**Percentage (%)**
Married	1	0,3
Living together like married partners	71	23,1
Never married	41	13,4
Widower/ Widow	118	38,4
Separated	30	9,8
Divorced	10	3,3
Total	280	100

Table 3

Sample Demographic Characteristics (Ethnic Origin)

Ethnic origin	**Frequency**	**Percentage (%)**
Black African	196	63,8
Coloured	15	4,9
Indian or Asian	36	11,7
White	26	8,5
Other	6	2,0
Prefer not to answer	2	0,7
Total	280	100

Table 4

Sample Demographic Characteristics (Organisational Sector of current Employer)

Organisational Sector of current Employer	**Frequency**	**Percentage (%)**
Finance	58	18,9
Manufacturing	7	2,3
Communications	23	7,5
Marketing	84	27,4
Information technology	16	5,2
Professional services	12	3,9
Education	4	1,3
Retail services	25	8,1
Services	16	5,2
Other	24	7,8
Total		

Table 5

Sample Demographic Characteristics (Current Job)

Current Job	**Frequency**	**Percentage (%)**
Executive, administrator, or senior manager	24	7,8
Professional	32	10,4
Technical support	25	8,1
Sales	118	38,4
Clerical and administrative support	37	12,1
Service occupation	27	8,8
Chemical/production operator	8	2,6
Total	280	100

Instruments

All research data was collected using self-report questionnaires. The electronic version of the questionnaire was emailed to all individuals in the sample pool and hard copies were also made available to participating organisations. All psychometric instruments that were used in this current study were specifically chosen due to their extensive use and established reliability and validity within the South African context. A discussion around these instruments will follow.

Demographic characteristics (see appendix D)

A self-developed demographic questionnaire was created to assess the demographic features of the sample. This questionnaire covered aspects such as gender, age, ethnicity, and various organisational aspects.

Job demands (see appendix E)

Workload was assessed using the *overload* sub-scale (OS) from the Job Demands-Resources Scale (JDRS) (Rothmann, Mostert, & Strydom, 2006). This sub-scale consists of eight items, which ask participants about the amount and pace of work, mental load and emotional load they experience at work. Items are rated on a four-point scale, which ranges from 1 (never) to 4 (always) (Rothmann et al., 2006). High scores on the overload scale indicate that the individual experiences high amounts of job demands. Rothmann et al., (2006) found the scale has acceptable internal consistency (α= .75) and the scale items displayed adequate factor loading which ranged between r = .48 to r = .73.

Job resources (see appendix F)

This current research also included a self-developed item that was created in order to determine the extent to which participants believed their organisation had provided a sufficient amount of resources to cope with the various demands of their work. This item was rated on a four-point scale, which ranged from 1 (never) to 4 (always). Research methodology scholars have traditionally warned against the use of single items as measures (Loo, 2002). However, it is worth noting that previous researchers

(e.g. Dolbier, Webster, McCalister, Mallon, & Steinhardt, 2005; Oshagbemi, 1999) have been able to use single items successfully. Dolbier et al., (2005), for instance, investigated the utility of a single item measure of job satisfaction and posited that single-item measures habitually possess relatively high face validity and may produce important outcomes with real actionable meaning given their short format. Loo (2002), on the other hand, warned against the use of single items but still conceded that her research provided support for the utility of single item measures. Loo (2002) cited these scale's relative ease and flexibility as a key strength that can help to ensure accurate and valid responses from respondents. In line with previous scholars (e.g. Dolbier et al., 2005; Oshagbemi, 1999) , this current research utilised this self-developed single item measure of job resources while remaining cognoscente its potential inherent limitations and advantages.

Burnout (see appendix F)

The Maslach Burnout Indicator (MBI) (Schaufeli & Leiter, 1996) is a widely acknowledged instrument for measuring burnout (Enzmann et al., 1998). The MBI-GS is the general survey version of the scale, which consists of items that are applicable to various occupations (Enzmann et al., 1998). This current research utilised two of the MBI-GS subscales namely: exhaustion (five items) and cynicism (five items) (Schaufeli & Leiter, 1996). All scale items are scored on a seven-point scale ranging from 0 ('never') to 6 ('always'). High scores on exhaustion and cynicism scales indicate burnout (Maslach et al., 1986).

The internal consistency of the MBI-GS sub-scales (Maslach et al., 1986) has been found to be adequate in South Africa. Research by Malan and Rothmann (2002), sampled senior managers in the manufacturing industry in the South African context and found satisfactory alpha coefficients: exhaustion (α=.79) and cynicism (α=.84). This current research found higher internal consistency for both subscales exhaustion (α=.95) and cynicism (α=.93). This scale's validity has also been supported by previous research. Confirmatory factor analysis by Schutte, Toppinen, Kalimo, and Schaufeli (2000), for instance revealed that a three-factor model displayed better model fit compared to one and two-factor models tested; this indicates the validity of the instrument. Moreover, Storm and Rothmann (2003) sampled managers in South

Africa and found comparable results by using structural equation modelling, thus underscoring the validity of the instrument within this context.

Engagement (see appendix G)

The Utrecht Work Engagement Scale (UWES) was utilised in this current research to assess engagement. The UWES comprises of 17-items, which measure three factors namely: Vigour (six items), Dedication (five items), and Absorption (six items). All scale items are scored on a seven-point scale ranging from 0 ('never') to 6 ('always'). Higher scores on the UWES are indicative of higher engagement.

Storm and Rothmann, (2003) investigated the internal consistency and the validity of the UWES (Schaufeli et al., 2002) in South Africa. Cronbach alpha coefficients ranged between α=. 78 (Vigour) and α=. 89 (Dedication) (Storm & Rothmann, 2003). This current study found an alpha of 0.62 (α=. 62) for vigour, 0.85 (α=. 85) for dedication, 0.85 (α=. 85) for self-efficacy and 0.86 (α=. 86) for the entire UWES scale. Previous research has also demonstrated the factorial validity of this instrument. Structural equation modelling conducted by Storm and Rothmann (2003), for instance, indicated that a three-factor model displayed superior model fit when compared to a one-factor model of work engagement. Similar results were described by Schaufeli et al., (2002) after conducting a confirmatory factor analysis.

Psychological Capital *(see appendix H)*

The Psychological Capital Questionnaire (PCQ) was constructed by (Luthans, Avolio, et al., 2007). The PSQ (Luthans, Avolio, et al., 2007) comprises 24 items, which measure four factors, namely: Self-efficacy (six items), Hope (six items), Resilience (six items), and Optimism (six items). All subscales are measured on a on a six-point scale ranging from 1 (strongly disagree) to 6 (strongly agree). Higher scores on the PCQ suggest high Psychological Capital (Vink et al., 2011). Du Plessis and Barkhuizen (2012) conducted research using a sample of employees in South Africa and found adequate Cronbach alpha coefficients: Efficacy (α=. 86), Hope (α=. 87), Resilience (α=. 86), Optimism (α=. 77), and overall PCQ (α=. 81). This current study similarly found adequate Cronbach alpha coefficients: Efficacy (α=. 84), Hope (α=. 87), Resilience (α=. 88), Optimism (α=. 76), and overall PsyCap as a single scale (α=. 81). The validity of the PCQ has also been confirmed by previous research.

Confirmatory factor analytic model comparisons conducted by Avey et al., (2010), for instance, indicated that the model in which the factors were distinct and presented as indicators of a core underlying factor (PsyCap) displayed the best model fit. This confirmed assertions made by Luthans et al., (2007), about the existence of the overarching factor that is PsyCap.

Analysis

Once data was gathered from the completed surveys it was coded into an excel spreadsheet and imported into the IBM SPSS 24 statistics programme. Numerous statistical analyses were implemented in order to describe the data collected in a clear and meaningful way; establish the reliability of the various scales used; determine the linear relationships between the key research variables and answer the focal research questions. What follows is a detailed description of these various statistical techniques.

Descriptive Statistics

Descriptive statistics were utilised in order to provide a clear and meaningful description of the data collected. This current study initially calculated frequencies in order to describe the demographic characteristics of the sample. Moreover, skewness and kurtosis coefficients were calculated along with means in order to evaluate the broad response trends on this research's scales and establish their normality.

Reliability

This current research calculated the internal consistency reliability of all the scales utilised. Internal consistency reliability uses participants' responses at one point in time to determine the extent to which the items of the instrument are related to each other and measure the same underlying construct (Huck, 2004). This current study specifically calculated Cronbach alpha coefficients for each scale utilised in order to determine their internal consistency reliability. In line with convention, a Cronbach alpha that was equal to or higher than $\alpha = .60$ was deemed acceptable (Creswell, 2013).

Correlation analyses

Pearson's product-moment correlation coefficients (r) were calculated in order to evaluate the nature of the relationships between job demands, job resources, PsyCap, engagement and the burnout dimensions of exhaustion and cynicism. This analysis

provided quantitative expressions of the significance, strength and direction of the associations between this current study's key variables (Huck, 2004).

Moderated Multiple Regression

The moderating role of PsyCap was investigated through the use of the *PROCESS* moderated multiple regression computational tool developed by Hayes (2012). Moderated multiple regression analysis is a regression based analysis approach that is utilised in order to establish whether the effect of a variable on another is dependent on the nature of a third variable (Hayes, 2012a). PROCESS is a computational tool for the statistics software IBM SPSS 24 which produces regression slopes in order to establish whether moderation has occurred with one or multiple potential moderators (Hayes, 2012a) .

The logic of the PROCESS computational tool parallels the more conventional hierarchical variable entry regression analysis (Hayes, 2012a). This traditional hierarchical variable entry approach aims to establish whether adding a moderator into a regression model results in a better model than one in which the impact of the IV is positioned as unconditional on the value of the moderator (Hayes, 2012a). This is established by calculating whether the model that includes the interaction between the IV and the moderator accounts for more variance in the DV when compared to a model that does not include this interaction (Hayes, 2012a). The Baron and Kenny (1986) derivative, for instance, establishes moderation by finding that the model that includes the interaction between moderator and the independent variable (i.e. the conditional model) makes a unique contribution to the variance (ΔR^2) in the DV over and above that of the previous model that did not include the interaction term (i.e. the unconditional model) (Baron & Kenny, 1986).

The PROCESS computational tool aims to, similarly, determine moderation by establishing whether ΔR^2 is significant (Hayes, 2017). However, this tool achieves this without constructing the regression model hierarchically (Hayes, 2012a). This is due to the understanding of the fact that the F-ratio for ΔR^2 is same as square of unstandardized beta coefficient of the interaction term divided by its standard error (i.e. b_3/se_{b3}) and that the p-value for F-ratio of ΔR^2 and that of the interaction term are the same (Hayes, 2012a). This allows the PROCESS computational tool to produce the same outcome as a hierarchically built model and establish whether moderation

has occurred with the same amount of certainty (Hayes, 2009, 2012a). The PROCESS computational tool also provides an indication of the proportion of variance in the DV that is uniquely accounted for by the interaction between the independent variable and the moderator(s). This is calculated from the understanding that ΔR^2 is equal to the squared semi-partial correlation for the interaction term (Hayes, 2012a). This allows PROCESS to produce a value that represents the difference between the R^2 for each model produced in a traditional hierarchical moderated multiple regression (i.e. ΔR^2)

The distinctive advantage of utilising PROCCESS is that it allows for a further probing of the nature of significant two-way and three-way moderation effects (Hayes, 2013). In terms of significant two-way interactions, PROCESS generates values to visualise the effects of the moderation effects at different levels of the IV and the moderator. This factor was utilised to further investigate significant two-way interactions between job demands and PsyCap.

When it comes to significant three-way interactions, the PROCESS computational tool generates estimates for the interaction effects between the hypothesised independent variable (i.e. job demands) and the primary moderator (i.e. job resources) along a distribution of values of the secondary moderator (i.e. PsyCap). These estimates include a p-value for the two-way interaction and its associated unstandardised beta coefficients. Hayes (2012) suggests that these unstandardised beta coefficients provide an indication of the nature of the interaction effect. Hayes (2012), specifically suggested that this coefficient indicates the nature of the relationship between the IV and the DV at different levels of the primary moderator. When this coefficient is positive it suggests that high scores in the primary moderator are associated with a positive relationship between the IV and the DV, whereas a negative coefficient suggests that high scores in the primary moderator are associated with a negative relationship between the IV and the DV (Hayes, 2017). Overall these additional outputs allows one to probe the appearance and the nature of the moderation effects of the primary moderator when the secondary moderator is average, relatively low or relatively high (Hayes, 2012a). This analysis of moderation effects at the different levels of the secondary moderator is referred to as the Johnson–

Neyman technique (Hayes, 2012a). This technique was used to investigate the nature of the significant three-way interactions in this current study (Hayes, 2017).

Results

The results for this current research are presented over five segments. This will include a segment that will provide the descriptive data for each scale. This will be followed by the results of the correlation analyses conducted between the job demands, PsyCap, exhaustion, cynicism and engagement scales. Finally, the moderated multiple regression results will be presented. The section will begin by discussing the descriptive statistics of the scales employed within this current research.

Descriptive Data

Descriptive statistics for all of the measures employed within the current study are demonstrated in table 2. The mean scores for the reported levels of job demands (M= 3.22, SD= 5.4) and job resources (M= 3.03, SD= 5.20) are above the midpoint of the scale of 2.5 which suggest that, on average, sampled individuals believed they experienced high amounts of demands from their work, but also had numerous resources to meet these demands. The mean scores of exhaustion (M=3.00, SD=1.75) cynicism (M=2.62, SD= 1.82), and engagement (M= 2.99, SD=0.58) are equal to their scales' respective midpoints of 3, which suggests that sampled individuals, on average indicated that they experienced exhaustion cynicism, and engagement sometimes. Finally, the mean score for PsyCap (M= 3.37, SD= 0.58) is above the scale's midpoint, of 2.5. This indicates that participants reported that they were experiencing high levels of PsyCap.

Table 2 also provides the skewness and kurtosis coefficients for each of the aforementioned variables. According to George and Mallery (2010) values for that have skewness and kurtosis coefficients that are between -2 and +2 are an indication of normality in a univariate distribution. Therefore, according to this principle, the skewness coefficients for all scales met this condition and therefore possess a distribution that is normal.

Finally, Table 2 displays the internal consistency of the the scales utilised. This table specifically indicates the Cronbach alpha coefficients for each scale utilised in order

to determine their internal consistency reliability. As previously mentioned this current research aligned with convention, a Cronbach alpha that was equal to or higher than $\alpha = .60$ was deemed acceptable (Creswell, 2013). As can be seen in table 6 this criterion was met for all of the scales.

Table 6

Descriptive Statistics of variables

Variable	α	Mean	Std.Dev	Skewness	Kurtosis
Work Overload	0.85	3.13	5.40	-0,36	-0,11
Job Resources	N/A	3.03	5.20	-0,30	-0,09
Exhaustion	0.81	3.20	1.75	0,05	-0,90
Cynicism	0.85	2,57	1.82	0,35	-0,51
Engagement	0.86	3.74	0.58	-0,53	0,15
PsyCap	0.81	4.47	0.58	-0,82	1,63

Measures: Workload (overload sub-scale from the Job Demands-Resources Scale (JDRS); Job Resources (self-developed item) Exhaustion and Cynicism (MBI-GS); Engagement (UWES) and PsyCap (PCQ-24).

Correlation Analyses

The results of the Pearson product moment correlation analyses for the scales of all of the variables utilised in this current study (i.e. job demands, job resources, cynicism, exhaustion, engagement and PsyCap are displayed in table 3. This table demonstrates that job demands had a significant moderate to positive relationship with exhaustion (r =.40***) and cynicism (r =.66***). It also displayed a weaker positive relationship with engagement (r =.01***) and a negative relationship with PsyCap (r = -.01***). PsyCap, on the other hand, displayed a strong positive relationship with engagement (r = .74***) and moderate to strong negative relationships with cynicism (r = -.35***) and exhaustion (r= -.60***).

It is important to note that Table 3 also highlights the fact that the hypothesised predictor (i.e. job demands, job resources and PsyCap) and outcome variables (i.e. exhaustion, cynicism and engagement) are highly correlated with each other. This is the very condition where mean centring is habitually described as being important in order to avoid the potential threat of multicollinearity (Hayes, 2009). Mean centering pertains to subtracting the variable mean from the variable score in order to avoid multicollinearity (Howell, 2012). As such, this mean centering process was conducted for all of the predictor and these new centred variable scores were utilised to construct all the interaction terms (i.e. for the interactions between job demands, job resources, and PsyCap) which were employed in the regression analyses.

Table 10

Pearson's correlation analysis between research variables

Variable	Cynicism	Exhaustion	Demands	Engagement	PsyCap
Cynicism					
Exhaustion	.664***				
Demands	.663***	.399***			
Engagement	-.349***	-.779***	.013*		
PsyCap	-.350***	-.595***	-.014*	.716***	

***p < .001. **p < .01. *p < .05

Moderation analyses

Table 11 illustrates the PROCESS output for the first regression analysis performed. This was, the regression of Job demands, Job resources, PsyCap as well as their interactions on exhaustion. The first key finding displayed by Table 11 is the significant interaction between Job demands and PsyCap t (280) = -4.76 P< 0.001. The interaction between job demands and PsyCap uniquely accounts for 1 % of the variance in exhaustion F (1, 270) = 22.71, p < .001, ΔR^2= .01. The second key finding was the significant three-way interaction between Job demands, Job resources and PsyCap on exhaustion t (280) = -3.71 P< 0.001. This interaction made a significant contribution to exhaustion's variance ΔF (1, 266) = 13.74, P< 0.001, ΔR^2= .001

Table 11

Regression analysis of Job demands, Job resource and PsyCap interaction on Exhaustion

Variable	b	Std. Error	t	p
Job Demands	-7.43	3.00	2.19	***
Resources	-7.42	3.77	-2.48	***
Job Demands x Resources	2.12	1.10	-.98	p > .05.
PsyCap	-7.20	3.10	1.92	***
Job Demands x PsyCap	2.72	-2.32	-2.32	***
Resources x PsyCap	-1.41	1.32	1.32	**
Job Demands x Job resources x PsyCap	--76	-2.43	-2.43	***

All variables in the regression analysis are standardized. ***p < .001. **p < .01. *p < .05.

A line chart was constructed to further examine the moderating effect of PsyCap in the job demands-exhaustion relationship. Figure 5 depicts this line chart. It can be deduced from this line chart (figure 5) that employees that indicated higher amounts of PsyCap (i.e. depicted with a solid line) indicated that they experienced decreased levels of exhaustion as job demands increased, when compared to their lower PsyCap counterparts (depicted by a dotted line), who progressively got more exhausted as job demands increased.

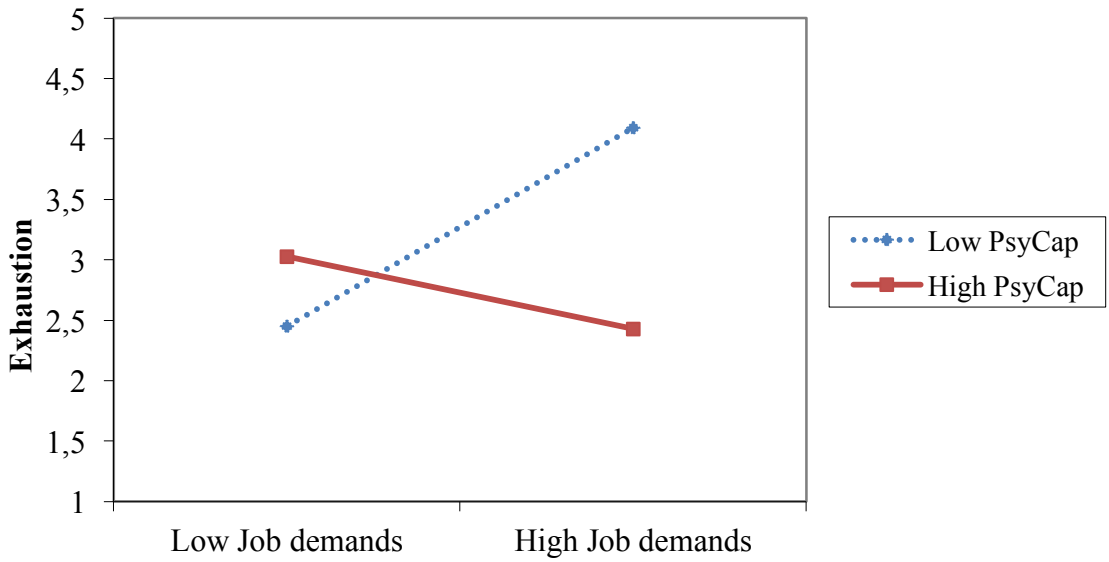


Figure 5 Job demands and PsyCap interaction on exhaustion.

The Johnson–Neyman technique was utilized in order to ascertain the conditional interaction between job demands and job resources along the distribution of PsyCap scores. This was performed in order to further investigate the significant three-way interaction between job demands, job resources and PsyCap. Table 12 (see appendix) displays the outcome from this analysis. Table 12 (see appendix) indicates that the interaction between Job demands and Job resources is significant at lower levels of PsyCap. However, the unstandardised beta coefficient associated with these significant interactions are positive. This means that positive scores in perceived resources is associated with a positive relationship between job demands and exhaustion. Table 12 also indicates that the moderation effect is also significant at

relatively higher levels of PsyCap, however, the unstandardised beta coefficient associated with the job demands resources interaction at this level of PsyCap is negative. This means that high scores in perceived job resources is now associated with the negative relationship between job demands and exhaustion.

Table 13 illustrates the PROCESS output for the regression analysis of job demands, job resources, PsyCap as well as their interactions on cynicism. The first key outcome illustrated by Table 13 is the significant interaction between job demands and PsyCap t (280) = -4.76 P< 0.001. The moderation by PsyCap uniquely accounts for 1 % of the variance in cynicism F (1, 270) = 22.71, p < .001, ΔR^2= .01. The second key finding was the significant three-way interaction between job demands, job resources and PsyCap on cynicism t (280) = -3.71 P< 0.001. This interaction made a significant contribution to exhaustion's variance ΔF (1, 266) = 14.67, P< 0.001, ΔR^2= .001.

Table 13

Regression analysis of Job demands, Job resource and PsyCap interaction on Cynicism.

Model	coefficient	Std. Error	t	p
Job Demands	.33	.10	3.11	***
Resources	-.18	.05	-3.88	***
Job Demands x Resources	.33	.09	3.52	***
PsyCap	-2.78	.09	-29.14	***
Job Demands x PsyCap	-.69	.15	-4.48	***
Resources x PsyCap	-.23	.08	2.93	***
Job Demands x Job resources x PsyCap	-.57	.15	-3.83	***

All variables in the regression analysis are standardized. ***p < .001. **p < .01. *p < .05.

A line chart was constructed to further examine the nature of the moderating effect of PsyCap in the job demands-cynicism relationship. Figure 6 depicts this line chart. It can be deduced from this line chart (figure 6) that employees that indicated higher amounts of PsyCap (i.e. depicted with a solid line) indicated that they experienced decreased levels of cynicism as job demands increased, when compared to employees who indicated lower amounts of PsyCap (depicted by the dotted line), who progressively got more cynical as job demands increased.

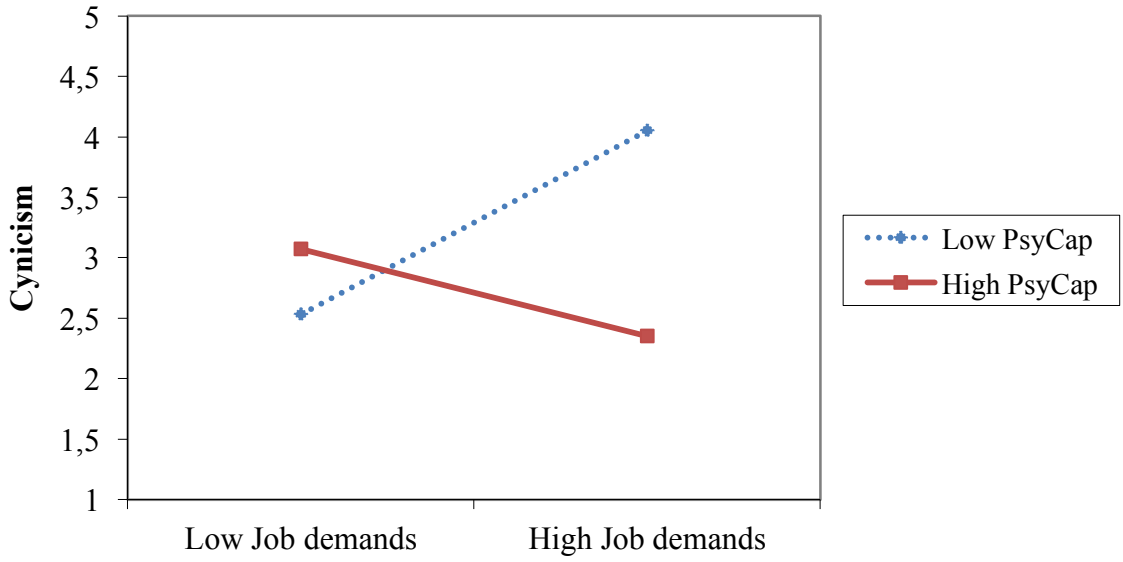


Figure 6: Job demands and PsyCap Interaction on Cynicism

The Johnson–Neyman technique was utilized in order to ascertain the conditional interaction between Job demands and job resources along the distribution of PsyCap scores. This was performed in order to further investigate the significant three-way interaction between job demands, job resources and PsyCap. Table 14 (see appendix) displays the outcome from this analysis. Table 14 (see appendix) indicates that the interaction between job demands and job resources is significant at lower levels of PsyCap. However, the unstandardised beta coefficient associated with these significant interactions are positive. This means that positive scores in perceived resources is associated with a positive relationship between job demands and cynicism. Table 14 also indicates that the moderation effect is also significant at relatively higher levels of PsyCap, however, the unstandardised beta coefficients associated with the job demands resources interaction at this level of PsyCap is negative. This means that high scores in perceived job resources is now associated with the negative relationship between job demands and cynicism.

Finally, Table 15 illustrates the PROCESS output for the regression analysis of job demands, job resources, PsyCap as well as their interactions on engagement. The first key outcome illustrated by Table 14 is the significant interaction between Job demands and PsyCap $t(280) = -4.76$ $P < 0.001$. The moderation by PsyCap uniquely

accounts for 1 % of variance in engagement $\Delta F\ (1, 270) = 20.11, P< 0.001, \Delta R^2= .01$. The second key finding was the significant three-way interaction between job demands, job resources and PsyCap on engagement t (280) = -3.71 P< 0.001. This interaction made a significant contribution to engagement's variance $\Delta F\ (1, 266) = 5.46, P< 0.001, \Delta R^2= .001$

Table 15

Regression analysis of Job demands, Job resource and PsyCap interaction on Engagement

Variable	coefficient	Std. Error	t	p
Job Demands	.03	.03	1.17	p > .05.
Resources	-.01	.01	-.79	p > .05.
Job Demands x Resources	-.06	.02	-2.37	*
PsyCap	.91	.02	36.47	***
Job Demands x PsyCap	.12	.04	2.91	***
Resources x PsyCap	-.16	.02	-7.76	***
Job Demands x Job resources x PsyCap	-.09	.04	-2.34	*

All variables in the regression analysis are standardized. ***p < .001. **p < .01. *p < .05.

A line chart was constructed to further examine the nature of the moderating effect of PsyCap in the job demands- engagement relationship. Figure 7 depicts this line chart. It can be deduced from this line chart (figure 7) that employees that indicated higher amounts of PsyCap (i.e. depicted with a solid line) indicated that they experienced higher levels of engagement as job demands increased, when compared to employees who indicated lower amounts of PsyCap (depicted by the dotted line), who progressively got who displayed a comparatively lower increase in engagement as demands increased.

The Johnson–Neyman technique was utilized in order to ascertain the conditional interaction between Job demands and job resources along the distribution of PsyCap. This was conducted in order to investigate the significant three-way interaction between job demands job resources and PsyCap. Table 16 (see appendix) displays the outcome from this investigation. The interaction between Job demands and Job resources transitions between statistically significant and nonsignificant at PsyCap = 38.114. Above this level of PsyCap there is a significant positive two-way interaction

between Job demands and job resources on engagement. The positive unstandardised beta coefficients associated with these interactions suggest that at a relatively high level of PsyCap, this means that high scores in perceived job resources is associated with a positive relationship between job demands and engagement.

The aforementioned research results confirm this current studies central hypotheses. Firstly, the significant interaction effects between job demands and PsyCap on exhaustion, cynicism, and engagement as well as their respective line graphs validate this studies first two key hypotheses. These outcomes, specifically support the assertion that PsyCap *buffers* the effect of job demands on employee burnout (hypothesis 1) and that the greatest levels of engagement are observed in situations where job demands and PsyCap are both high (hypothesis 2). Secondly, the significant three-way interactions between job demands, job resources and PsyCap on exhaustion, cynicism, and engagement as well as their associated Johnson–Neyman analyses confirm this research's final two hypotheses. These outcomes specifically highlight the fact that job resources buffer the job demand-burnout relationship when PsyCap is relatively high (hypothesis 3) and that job resource's moderating effect in the job demand-engagement relationship is only significant when PsyCap is relatively high (hypothesis 4). These results will be elaborated in the proceeding section.

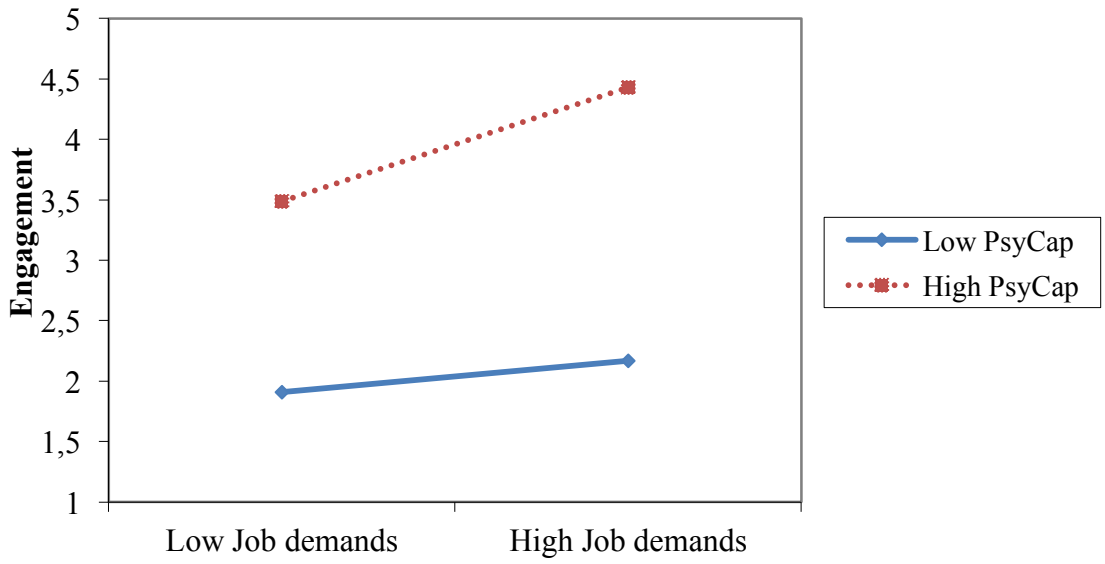


Figure 7 Job demands and PsyCap interaction on engagement

Discussion

The central aim of this current research was to establish a better comprehension of the role PsyCap plays within the JD-R model's processes as well as develop a more comprehensive understanding of burnout and engagement in the workplace. The following section aims to discuss this current research's key finding within the context of these aims. This will include an overview of this research's theoretical and practical contributions. Moreover, the limitations of this current research and suggestions for imminent studies will also be considered along with the key research conclusions.

Correlations amongst Variables

This current research's correlation analyses revealed a positive correlation between job resources, PsyCap and engagement and a positive relationship between job demands and burnout (i.e. exhaustion and cynicism). This outcome is in line with previous research (e.g. Llorens et al., 2007; Rich et al., 2010; Xanthopoulou et al., 2009b) which has found similar relationships. Schaufeli and Bakker (2004), for instance, found that job demands were predictors of the exhaustion dimension of burnout and that job resources were the most significant predictors of engagement. Rothmann and Joubert (2007), likewise established that high amounts of demands predicted exhaustion and work engagement was predicted by job resources.

PsyCap as a Moderator within the JD-R model

Outcomes from this current research's two-way moderation analyses firstly indicated that PsyCap did moderate the job demands-exhaustion relationship as well as the job demands-cynicism relationship. These findings are in line with hypothesis 1 because they indicate that employees that display high levels of PsyCap are significantly less prone to feel drained by their work (i.e. exhaustion) or experience detachment from their work (i.e. cynicism) when workload is high (Hobfoll, 1989). Therefore, PsyCap effectively *buffers* the impact of work demands on burnout. This outcome aligns with research by Herbert, (2011) which indicated that employees that indicated higher levels of PsyCap experienced a decreased amount of burnout as a result of workplace

stressors when compared with their relatively lower PsyCap counterparts. This outcome is also aligned with Cheung et al. (2011) and Brouze's (2014) research which found that PsyCap buffered the negative impact of job demands in the job demand-cynicism relationship. However, this research's finding of a moderation effect of PsyCap in the job demands-exhaustion relationship is inconsistent with the arguments and findings of Brouze, (2014); Cheung et al., (2011) and Xanthopoulou et al., (2007); who did not find this moderation effect was significant. Cheung et al., (2011) posited that a moderation is most probable when the nature of the moderator corresponds with that of the strain. Cheung et al. (2011) suggested that a non-significant result would be more probable in a moderation analysis of this kind because there is an incongruity between the PsyCap's nature (i.e. a cognitive resource) and the nature of exhaustion (i.e. an emotional strain). However, this research found no evidence to support this argument and instead found that PsyCap was a useful buffer across the outcomes investigated, including exhaustion.

This research also found that PsyCap interacted with job demands to predict engagement. More precisely it was revealed that individuals that reported higher amounts of PsyCap indicated that they experienced higher levels of engagement as job demands increased, when compared to their lower PsyCap counterparts who displayed lower increases in engagement as job demands increased, which is in line with hypothesis 2. This outcome also aligns with the COR theory which posits that resource gain, in itself, has only a minor impact on employee wellbeing, instead it attains its salience within the context of resource loss or the threat there of (Hobfoll, 2002). This means that the positive impact of PsyCap is significantly intensified, within the context of resource loss, or the threat there of (i.e. heightened job demands) (Hobfoll, 1989). This outcome is also aligns with the fourth proposition of the JD-R model (Demerouti, Bakker, Nachreiner, et al., 2001), which proposes that job resources obtain their motivational impact primarily when workers experience elevated job demands (Bakker & Demerouti, 2007).

Interaction between Job demands, Job Resources and PsyCap

The significant three-way interaction between job demands, job-resources and PsyCap indicated that PsyCap has a significant function in qualifying the two-way interaction between job demands and job resources on burnout and engagement. This

research's significant three-way interaction on the burnout (i.e. exhaustion and cynicism) highlight the fact that job resources *buffer* the job demand-burnout relationship when PsyCap is relatively high, which is in line with hypothesis 3. Whereas this research's significant three-way interaction on engagement indicates that job resource's moderating effect in the Job demand-engagement relationship is only significant when PsyCap is relatively high, which is in line with hypothesis 4. Overall, these interaction effects highlight the fact that the level of PsyCap an individual possesses plays a significant role in allowing them to perceive organisational resources as tools they can utilise effectively to cope with occupational demands.

Although this kind of relationship has not been evaluated before (Demerouti & Bakker, 2011a); this outcome is still in line with arguments put forward by several scholars across multiple disciplines who have underscored pivotal role personal resources have within the development of positive and negative outcomes for individuals (e.g. Davis et al., 2004; Langelaan et al., 2006). Davis et al., (2004), for instance, contended that cognitive processes such as appraisals have a substantial role in determining the effect of potentially stressful events. Lazarus, (1995) similarly posited that individuals are active participants who employ their perceptions or appraisals onto situations and their capacity to deal with these situations; the nature of these appraisals plays a significant role in determining an individual's wellbeing. According to Lazarus (1995) people undergo strain when they believe they do not have the resources to cope with the difficulties they face. Most importantly Bandura's (1997) *Social Cognitive Theory* is grounded in the belief that "… an individual's conviction about their abilities to mobilise the motivation, cognitive resources, and courses of action necessary to successfully execute a specific task within a given context" (Stajkovic & Luthans, 1998, p. 66) will determine the impact of that task on the individual. This is precisely what was observed with PsyCap within this current research. Relatively high levels of PsyCap (i.e. hope, efficacy, resilience and optimism) seemed to facilitate encouraging perceptions about the employee's ability to mobilise available organisational resources to cope with job demands; mitigate against cynicism and exhaustion; and increase engagement.

Theoretical Contributions

This current research has made several theoretical contributions. Firstly, this current research provided additional evidence of the importance of personal resources in the JD-R model. The current research affirmed the necessity of integrating personal resources in the JD-R model by revealing that PsyCap did in fact moderate the job demands-engagement as well the job demands-burnout relationships and that PsyCap qualified the two-way interaction between job demands and job resources on engagement and burnout. These significant outcomes suggest a more complex and wide-ranging model for understanding burnout and engagement; one that goes beyond the traditional JD-R model's focus on occupational factors by highlighting the importance of the personal resources such as PsyCap in the JD-R model's processes.

Secondly, the current study provides empirical support for the *Conservation of Resources Theory* as well as the *Social Cognitive Theory*. The *Conservation of Resources Theory* was supported because this research found that PsyCap helps employees cope with workload and safeguard against the development of cynicism and exhaustion. This finding provides support for the COR assumption that posits that the investment of resources helps to buffer the undesirable impacts of environmental strains (Hobfoll, 1989). Moreover, this study found that employees that reported high amounts of PsyCap indicated that they experienced higher levels of engagement as job demands increased, when compared to their lower PsyCap counterparts who experienced a decrease in engagement. This outcome aligns with the COR theory which posits that resource gain, in itself, has only a minor impact on employee wellbeing, instead it attains its saliency within a situation epitomised by resource loss or the threat there of (Hobfoll, 2002). Support for the *Social Cognitive Theory* was provided because this research found that PsyCap qualified the two-way interaction between the Job demands and job resources. Thus indicating that individual's personal resources and self-evaluations play a significant role in determining whether they believe that they can mobilise job resources that are available to handle the demands they face.

Practical Implications

This current research has provided an increased understanding of the underlying mechanisms that influence employee engagement, cynicism and exhaustion by empirically establishing the important role of PsyCap. The practical implications of the knowledge generated by this current research will be discussed below.

The knowledge developed within this research provides an essential foundation for establishing work engagement and counteracting cynicism and exhaustion amongst employees within organisations. For instance, this research's finding of a positive correlation between job demands and the burnout (i.e. exhaustion and cynicism) highlights the necessity for organisations to reduce excessive job demands in order to mitigate against burnout and its associated adverse outcomes (Hakanen & Schaufeli, 2012). Whilst, the significant association between job resources, PsyCap and engagement underscores the importance of job resources and PsyCap in facilitating engagement (Luthans et al., 2012).

This current research also helped to establish the importance of PsyCap in the JD-R model by finding significant two-way and three-way interactions. These findings underscore the potential utility of organisational efforts to develop PsyCap amongst employees. This is especially important when one considers that there is still limited consensus on the validity of many interventions that purport to enhance employee well-being and proficiency; which has resulted in a deficiency of empirically supported interventions (Cascio, 2006). The clearly demonstrated effectiveness that PsyCap has in protecting against adverse outcomes of job demands (i.e. cynicism and exhaustion) and promoting positive outcomes (i.e. engagement) underscores the fact that interventions aimed at facilitating PsyCap are well-positioned to address this gap and fulfil organisational needs. This assertion has been supported by previous research. Avey et al., (2011), for instance performed a meta-analysis of 51 research studies and found support for significant relationships between employees' PsyCap and various work-related outcomes. Moreover, the state-like nature of PsyCap means that it constitutes an ideal resource for development in the workplace, due to the fact that it amalgamates flexibility with comparative constancy to produce an equitable return of investment from its development. Previous research (e.g. Luthans et al.,

2014; Luthans et al., 2006, 2010) has provided support these assertions by uncovering the developmental potential of PsyCap, which has been proven to be achievable through comparatively brief *interventions*. Whereas other research (e.g. Setar et al., 2015), including this current study, has shown that PsyCap is stable enough to be called upon in challenging situations.

Limitations and Recommendations for Future Research

As is the case with any other study, this current research does have inherent limitations that must be discussed and ought to be used to guide future studies. Firstly, this research employed a non-probability convenience sampling approach to obtain a sample of employees. This approach to sampling may increase the likelihood of volunteer bias. This is due to the fact that self-selection of participants may lead to a sample that is significantly different from the population in some way which limits the generalisability of the study. Moreover, the sample only consisted of 280 employees (N=280); which could be argued to be too small to successfully generalise the research outcomes to every employee in the South African context. As can be seen from the demographic characteristics of this current research's sample; this current research sample was diverse in terms of race, gender, sector of current employer and position within their respective organisations however one could not posit that the sample represented employees from every, race, gender, organisational sector and occupational position; due to the sheer variability of these aspects in the target population. Consequently, research outcomes generalisability may be limited to particular groups. Future research should, therefore, employ more probability based sampling techniques as well as larger samples in order to ensure increasingly more generalizable results (Burns & Burns, 2008).

The second set of weaknesses stem from the data collection methodology. Firstly, this current research's use of self-report measures which constituted of several multiple-item scales within a single questionnaire represents a limitation. This is due to the fact that the use of several multiple-item scales within a single questionnaire may increase the probability for the occurrence of common methods bias, which could have influenced this current research's results. This method of measurement may cause effects that are due to the nature of the measurement instruments utilised rather than

the constructs being analysed. Secondly, this study's use of a self-report measure could have increased the chances of social desirability bias and priming effects; this is an especially significant risk when one considers the fact that questionnaires were distributed in individual's working environments which could have made it psychologically challenging to respond in a negative fashion (Creswell, 2013). Another weakness when it comes to data collection is the use of a single item to assess the availability of job resources; this item may not measure the entire construct it is intended to evaluate. Future research should therefore, consider using alternative measures for constructs; such as researcher observations in order to decrease biasing effects.

Thirdly the research design has inherent limitations. The current research utilised a cross-sectional, non-experimental, quantitative, correlational research design. This type of design limits the capacity to make causal interpretations (Burns & Burns, 2008). As such it cannot be entirely concluded that job resources, job demands, PsyCap or their interactions caused burnout or engagement. As such, future studies should explore and means to mitigate these in research design such as employing a longitudinal approach (Buchanan & Bryman, 2009; Xanthopoulou et al., 2009a).

The final limitation of this current research is their respective amounts of variance added by the two-way and three-way interactions (i.e. ΔR^2). The added variance ranged between $\Delta R^2 = .001$ and $\Delta R^2 = .01$, which is relatively small (Baron & Kenny, 1986). However, the significant P-values as well as the additional probing methods used for each of these interactions provides compelling evidence of the practical significance of each of these significant interactions (Bauer & Curran, 2005). Bauer and Curran (2005) underscored the importance and actionable nature of the outcomes obtained from a combination of inferential and graphical statistical techniques. This research's use of both inferential and graphical statistical techniques and the consistency of the outcomes gained from this integrated approach underscores the practical and actionable significance of this current research's key interaction findings. However, future researchers should replicate this current research in order to assess the consistency of outcomes and provide more impetus to the proposed expansion of the JD-R model.

Conclusions

This current research aimed to further develop the JD-R model by integrating PsyCap into the model's key processes. The key findings from this study was that PsyCap moderated the job demand-burnout and the job demand-engagement relationships. Moreover, this research also found that PsyCap moderated the interaction between job demands and job resources on burnout and engagement. This final section aims to provide a concluding discussion around the importance of these key findings.

This research's key contribution to JD-R literature is the highlighting of the important nature of PsyCap in the JD-R model's process and in the development of burnout and engagement. Firstly, the two-way interactions between job demands and PsyCap highlight the utility of PsyCap as a potential resource that can be mobilised to defend against demands, mitigate against the establishment of burnout and ensure engagement in the workplace. Moreover, the significant three-way interaction between job demands, job resources and PsyCap underscores the importance of PsyCap as an aspect that facilitates the long established interaction between job demands and resources on engagement and burnout. Overall, this research's outcomes as a whole suggest a more complex iteration of the JD-R model is more suitable; one that recognises the importance of personal resources such as PsyCap into the JD-R model's key processes. This outcome is especially important due to the fact that it represents an especially novel contribution to literature that has not been undertaken previously (Demerouti & Bakker, 2011a).

These research outcomes also provide impetus for organisations to invest in the development of PsyCap and other personal resources amongst employees. This research highlights the fact that investments made into developing personal resources such as PsyCap can help employees defend against demands, mitigate against the development of burnout and ensure engagement in the workplace. These outcomes also highlight the fact that providing job resources in order to help employees cope with demands, mitigate against burnout and ensure engagement may be inadequate without the development of employee personal resources such as PsyCap as well.

References

Ahola, K., & Hakanen, J. (2007). Job strain, burnout, and depressive symptoms: A prospective study among dentists. *Journal of Affective Disorders*, *104*(1), 103–110.

Alarcon, G. M., Bowling, N. A., & Khazon, S. (2013). Great expectations: A meta-analytic examination of optimism and hope. *Personality and Individual Differences*, *54*(7), 821–827. https://doi.org/10.1016/j.paid.2012.12.004

Albrecht, S. L., & Albrecht, S. (2010). *Handbook of employee engagement*. Edward Elgar Publishing Limited Cheltenham.

Attridge, M. (2009a). Measuring and managing employee work engagement: A review of the research and business literature. *Journal of Workplace Behavioral Health*, *24*(4), 383–398.

Attridge, M. (2009b). Measuring and managing employee work engagement: A review of the research and business literature. *Journal of Workplace Behavioral Health*, *24*(4), 383–398.

Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management*, *48*(5), 677–693. https://doi.org/10.1002/hrm.20294

Avey, J. B., Luthans, F., & Youssef, C. M. (2010). The Additive Value of Positive Psychological Capital in Predicting Work Attitudes and Behaviors. *Journal of Management*, *36*(2), 430–452. https://doi.org/10.1177/0149206308329961

Avey, J. B., Reichard, R. J., Luthans, F., & Mhatre, K. H. (2011). Meta-analysis of the impact of positive psychological capital on employee attitudes, behaviors, and performance. *Human Resource Development Quarterly*, *22*(2), 127–152. https://doi.org/10.1002/hrdq.20070

Bakker, A. B. (2011). An evidence-based model of work engagement. *Current Directions in Psychological Science*, *20*(4), 265–269.

Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*, *22*(3), 309–328. https://doi.org/10.1108/02683940710733115

Bakker, A. B., & Demerouti, E. (2008). Towards a model of work engagement. *Career Development International*, *13*(3), 209–223.

Bakker, A. B., & Demerouti, E. (2013). The Job Demands-Resources model: state of the art. *Journal of Managerial Psychology*. https://doi.org/10.1108/02683940710733115

Bakker, A. B., Demerouti, E., & Dollard, M. F. (2008). How job demands affect partners' experience of exhaustion: integrating work-family conflict and crossover theory. *Journal of Applied Psychology*, *93*(4), 901.

Bakker, A. B., Demerouti, E., & Euwema, M. C. (2005). Job Resources Buffer the Impact of Job Demands on Burnout. *Journal of Occupational Health Psychology*, *10*(2), 170. https://doi.org/10.1037/1076-8998.10.2.170

Bakker, A. B., Demerouti, E., Taris, T. W., Schaufeli, W. B., & Schreurs, P. J. (2003). A multigroup analysis of the job demands-resources model in four home care organizations. *International Journal of Stress Management*, *10*(1), 16.

Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the job demands-resources model to predict burnout and performance. *Human Resource Management*, *43*(1), 83–104.

Bakker, A. B., Emmerik, H. V., & Riet, P. V. (2008). How job demands, resources, and burnout predict objective performance: A constructive replication. *Anxiety, Stress, & Coping*, *21*(3), 309–324. https://doi.org/10.1080/10615800801958637

Bakker, A., Demerouti, E., & Schaufeli, W. (2003). Dual processes at work in a call centre: An application of the job demands – resources model. *European Journal of Work and Organizational Psychology*, *12*(4), 393–417. https://doi.org/10.1080/13594320344000165

Bandura, A. (1997). *Self-efficacy: The exercise of control*. Macmillan.

Bandura, A. (2008). An agentic perspective on positive psychology. *Positive Psychology*, *1*, 167–196.

Bandura, A. (2012). *On the functional properties of perceived self-efficacy revisited*. SAGE Publications Sage CA: Los Angeles, CA. Retrieved from http://journals.sagepub.com/doi/abs/10.1177/0149206311410606

Barkhuizen, N., Rothmann, S., & Vijver, F. J. (2014). Burnout and work engagement of academics in higher education institutions: Effects of dispositional optimism. *Stress and Health*, *30*(4), 322–332.

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, *51*(6), 1173.

Bauer, D. J., & Curran, P. J. (2005). Probing interactions in fixed and multilevel regression: Inferential and graphical techniques. *Multivariate Behavioral Research*, *40*(3), 373–400.

Beal, D. J., Trougakos, J. P., Weiss, H. M., & Green, S. G. (2006). Episodic processes in emotional labor: perceptions of affective delivery and regulation strategies. *Journal of Applied Psychology*, *91*(5), 1053.

Boudrias, J.-S., Desrumaux, P., Gaudreau, P., Nelson, K., Brunet, L., & Savoie, A. (2011). Modeling the experience of psychological health at work: The role of personal resources, social-organizational resources, and job demands. *International Journal of Stress Management*, *18*(4), 372.

Bradley, H. B. (1969). Community-based treatment for young adult offenders. *NPPA Journal*, *15*(3), 359–370.

Brenninkmeijer, V., Demerouti, E., le Blanc, P. M., & Hetty van Emmerik, I. (2010). Regulatory focus at work: The moderating role of regulatory focus in the job demands-resources model. *Career Development International*, *15*(7), 708–728.

Britt, T. W., Adler, A. B., & Bartone, P. T. (2001). Deriving benefits from stressful events: The role of engagement in meaningful work and hardiness. *Journal of Occupational Health Psychology*, *6*(1), 53.

Brotheridge, C. M., & Grandey, A. A. (2002). Emotional labor and burnout: Comparing two perspectives of "people work." *Journal of Vocational Behavior*, *60*(1), 17–39.

Brouze, K. L. (2014). *Examining the mediating and moderating role of psychological capital in the job demands-resources model*. University of Cape Town. Retrieved from http://137.158.155.94/handle/11427/8537

Bryant, F. B., & Cvengros, J. A. (2004). Distinguishing Hope and Optimism: Two Sides of a Coin, or Two Separate Coins? *Journal of Social and Clinical Psychology*, *23*(2), 273–302. https://doi.org/10.1521/jscp.23.2.273.31018

Cascio, W. (2006). Managing Human Resources: productivity, quality of work life, profits 7th Edition Tata McGraw-Hill. *Abnormal and Social Psychology*, *62*, 401–407.

Cheung, F., Tang, C. S., & Tang, S. (2011). Psychological capital as a moderator between emotional labor, burnout, and job satisfaction among school teachers in China. *International Journal of Stress Management*, *18*(4), 348–371. https://doi.org/10.1037/a0025787

Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, *64*(1), 89–136.

Coetzer, C. F., & Rothmann, S. (2007). Job demands, job resources and work engagement of employees in a manufacturing organisation. *Southern African Business Review*, *11*(3), 17–32.

Coutu, D. L. (2002). How resilience works. *Harvard Business Review*, *80*(5), 46–56.

Creswell, J. W. (2013). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.

Curry, L. A., Snyder, C. R., Cook, D. L., Ruby, B. C., & Rehm, M. (1997). Role of hope in academic and sport achievement. *Journal of Personality and Social Psychology*, *73*(6), 1257.

Davis, M. C., Zautra, A. J., & Smith, B. W. (2004). Chronic pain, stress, and the dynamics of affective differentiation. *Journal of Personality*, *72*(6), 1133–1160.

Deci, E. L., & Ryan, R. M. (2000). The" what" and" why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, *11*(4), 227–268.

Demerouti, E., & Bakker, A. B. (2011a). The job demands-resources model: Challenges for future research. *SA Journal of Industrial Psychology*, *37*(2), 01–09.

Demerouti, E., & Bakker, A. B. (2011b). The Job Demands–Resources model: Challenges for future research. *SA Journal of Industrial Psychology*, *37*(2), 9 pages. https://doi.org/10.4102/sajip.v37i2.974

Demerouti, E., Bakker, A. B., De Jonge, J., Janssen, P. P., & Schaufeli, W. B. (2001). Burnout and engagement at work as a function of demands and control. *Scandinavian Journal of Work, Environment & Health*, 279–286.

Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, *86*(3), 499. https://doi.org/10.1037/0021-9010.86.3.499

Dolbier, C. L., Webster, J. A., McCalister, K. T., Mallon, M. W., & Steinhardt, M. A. (2005). Reliability and Validity of a Single-Item Measure of Job Satisfaction. *American Journal of Health Promotion*, *19*(3), 194–198. https://doi.org/10.4278/0890-1171-19.3.194

Du Plessis, Y., & Barkhuizen, N. (2012). Psychological capital, a requisite for organisational performance in South Africa. *South African Journal of Economic and Management Sciences*, *15*(1), 16–30.

Enzmann, D., Schaufeli, W. B., Janssen, P., & Rozeman, A. (1998). Dimensionality and validity of the Burnout Measure. *Journal of Occupational and Organizational Psychology*, *71*(4), 331–351.

Essenko, N., & Rothmann, S. (2007). Job characteristics, optimism, burnout, and ill health of support staff in a higher education institution in South Africa. *South African Journal of Psychology*, *37*(1), 135–152.

Fernet, C., Austin, S., & Vallerand, R. J. (2012). The effects of work motivation on employee exhaustion and commitment: An extension of the JD-R model. *Work & Stress*, *26*(3), 213–229.

Freudenberger, H. J. (1974). Staff burn-out. *Journal of Social Issues*, *30*(1), 159–165.

Freudenberger, H. J. (1989). Burnout: Past, present, and future concerns. *Loss, Grief & Care*, *3*(1–2), 1–10.

Gallagher, M. W., & Lopez, S. J. (2009). Positive expectancies and mental health: Identifying the unique contributions of hope and optimism. *The Journal of Positive Psychology*, *4*(6), 548–556. https://doi.org/10.1080/17439760903157166

George, D., & Mallery, P. (2010). *SPSS for Windows step by step. A simple study guide and reference (10. Baskı)*. Boston, MA: Pearson Education, Inc.

González-Romá, V., Schaufeli, W. B., Bakker, A. B., & Lloret, S. (2006). Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*, *68*(1), 165–174.

Grandey, A. A. (2003). When "the show must go on": Surface acting and deep acting as determinants of emotional exhaustion and peer-rated service delivery. *Academy of Management Journal*, *46*(1), 86–96.

Grau, R., Salanova, M., & Peiró, J. M. (2000). Moderator effects of self-efficacy on occupational stress. *Apuntes de Psicología*, *18*(1), 57–75.

Guest, D. (2002). Human resource management, corporate performance and employee wellbeing: Building the worker into HRM. *The Journal of Industrial Relations*, *44*(3), 335–358.

Hakanen, J. J., Bakker, A. B., & Demerouti, E. (2005). How dentists cope with their job demands and stay engaged: The moderating role of job resources. *European Journal of Oral Sciences*, *113*(6), 479–487.

Hakanen, J. J., Bakker, A. B., & Jokisaari, M. (2011). A 35-year follow-up study on burnout among Finnish employees. *Journal of Occupational Health Psychology*, *16*(3), 345.

Hakanen, J. J., Bakker, A. B., & Schaufeli, W. B. (2006). Burnout and work engagement among teachers. *Journal of School Psychology*, *43*(6), 495–513.

Hakanen, J. J., & Schaufeli, W. B. (2012). Do burnout and work engagement predict depressive symptoms and life satisfaction? A three-wave seven-year prospective study. *Journal of Affective Disorders*, *141*(2), 415–424.

Hallberg, U. E., & Schaufeli, W. B. (2006). "Same same" but different? Can work engagement be discriminated from job involvement and organizational commitment? *European Psychologist*, *11*(2), 119–127.

Hayes, A. F. (2009). Beyond Baron and Kenny: Statistical mediation analysis in the new millennium. *Communication Monographs*, *76*(4), 408–420.

Hayes, A. F. (2012a). An analytical primer and computational tool for observed variable moderation, mediation, and conditional process modeling. *Manuscript Submitted for Publication*.

Hayes, A. F. (2012b). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling [White paper]. 2012. *URL: Http://Imaging. Mrc-Cbu. Cam. Ac. Uk/Statswiki/FAQ/SobelTest*.

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Publications.

Herbert, M. (2011, December). *An exploration of the relationships between psychological capital (hope, optimism, self-efficacy, resilience), occupational stress, burnout and employee engagement* (Thesis). Stellenbosch : Stellenbosch University. Retrieved from http://scholar.sun.ac.za/handle/10019.1/17829

Hobfoll, S. E. (1989). Conservation of resources: A new attempt at conceptualizing stress. *American Psychologist*, *44*(3), 513.

Hobfoll, S. E. (2002). Social and psychological resources and adaptation. *Review of General Psychology*, *6*(4), 307.

Hobfoll, S. E., Johnson, R. J., Ennis, N., & Jackson, A. P. (2003). Resource loss, resource gain, and emotional outcomes among inner city women. *Journal of Personality and Social Psychology*, *84*(3), 632.

Jackson, D., Firtko, A., & Edenborough, M. (2007). Personal resilience as a strategy for surviving and thriving in the face of workplace adversity: a literature review. *Journal of Advanced Nursing*, *60*(1), 1–9. https://doi.org/10.1111/j.1365-2648.2007.04412.x

Judge, T. A., Bono, J. E., & Locke, E. A. (2000). Personality and job satisfaction: The mediating role of job characteristics. *Journal of Applied Psychology*, *85*(2), 237.

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, *33*(4), 692–724.

Karasek Jr, R. A. (1979). Job demands, job decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 285–308.

Karasek, R. A., Russell, R. S., & Theorell, T. (1982). Physiology of stress and regeneration in job related cardiovascular illness. *Journal of Human Stress*, *8*(1), 29–42.

Karatepe, O. M., & Olugbade, O. A. (2009). The effects of job and personal resources on hotel employees' work engagement. *International Journal of Hospitality Management*, *28*(4), 504–512.

Khan, S. N., & Zafar, S. (2013). Exploring the causes and consequences of job burnout in a developing country. Retrieved from http://121.52.153.178:8080/xmlui/handle/123456789/12369

Kim, H., & Stoner, M. (2008). Burnout and turnover intention among social workers: Effects of role stress, job autonomy and social support. *Administration in Social Work*, *32*(3), 5–25.

Langelaan, S., Bakker, A. B., Van Doornen, L. J., & Schaufeli, W. B. (2006). Burnout and work engagement: Do individual differences make a difference? *Personality and Individual Differences*, *40*(3), 521–532.

Larson, M., & Luthans, F. (2006). Potential added value of psychological capital in predicting work attitudes. *Journal of Leadership & Organizational Studies*, *13*(1), 45–62.

Law, D. W., Sweeney, J. T., & Summers, S. L. (2008). An examination of the influence of contextual and individual variables on public accountants' exhaustion. In *Advances in accounting behavioral research* (pp. 129–153). Emerald Group Publishing Limited.

Lazarus, R. S. (1995). Psychological stress in the workplace. *Occupational Stress: A Handbook*, *1*, 3–14.

Lazarus, R. S., & Folkman, S. (1984). Coping and adaptation. *The Handbook of Behavioral Medicine*, 282–325.

Lee, R. T., & Ashforth, B. E. (1996). *A meta-analytic examination of the correlates of the three dimensions of job burnout.* American Psychological Association. Retrieved from http://psycnet.apa.org/journals/apl/81/2/123/

Leiter, M. P., & Maslach, C. (2003). Areas of worklife: A structured approach to organizational predictors of job burnout. In *Emotional and physiological processes and positive intervention strategies* (pp. 91–134). Emerald Group Publishing Limited. Retrieved from http://www.emeraldinsight.com/doi/pdf/10.1016/S1479-3555(03)03003-8

Lewis, S. (2011). *Positive psychology at work: How positive leadership and appreciative inquiry create inspiring organizations*. John Wiley & Sons.

Llorens, S., Schaufeli, W., Bakker, A., & Salanova, M. (2007). Does a positive gain spiral of resources, efficacy beliefs and engagement exist? *Computers in Human Behavior*, *23*(1), 825–841.

Loo, R. (2002). A caveat on using single-item versus multiple-item scales. *Journal of Managerial Psychology*, *17*(1), 68–75. https://doi.org/10.1108/02683940210415933

Luthans, B. C., Luthans, K. W., & Avey, J. B. (2014). Building the Leaders of Tomorrow: The Development of Academic Psychological Capital. *Journal of Leadership & Organizational Studies*, *21*(2), 191–199. https://doi.org/10.1177/1548051813517003

Luthans, F. (2002a). Positive organizational behavior: Developing and managing psychological strengths. *The Academy of Management Executive*, *16*(1), 57–72.

Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, *23*(6), 695–706. https://doi.org/10.1002/job.165

Luthans, F., Avey, J. B., Avolio, B. J., Norman, S. M., & Combs, G. M. (2006). Psychological capital development: toward a micro-intervention. *Journal of Organizational Behavior*, *27*(3), 387–393.

Luthans, F., Avey, J. B., Avolio, B. J., & Peterson, S. J. (2010). The development and resulting performance impact of positive psychological capital. *Human Resource Development Quarterly*, *21*(1), 41–67. https://doi.org/10.1002/hrdq.20034

Luthans, F., Avey, J. B., & Patera, J. L. (2008). Experimental analysis of a web-based training intervention to develop positive psychological capital. *Academy of Management Learning & Education*, *7*(2), 209–221.

Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, *60*(3), 541–572.

Luthans, F., Avolio, B. J., & Youssef-Morgan, C. M. (2015). *Psychological capital and beyond*. Oxford university press. Retrieved from https://books.google.com/books?hl=en&lr=&id=jTQcBgAAQBAJ&oi=fnd&pg=PP1&dq=Luthans,+F.,+Youssef-Morgan,+C.+M.,+%26+Avolio,+B.+(2015).+Psychological+capital+and+beyond.+New+York:+Oxford+University+Press.&ots=oM36NZQUun&sig=Rhr8flx9Qgtp0JgETSYCm_mtJ88

Luthans, F., & Jensen, S. M. (2002). Hope: A new positive strength for human resource development. *Human Resource Development Review*, *1*(3), 304–322.

Luthans, F., Luthans, K. W., & Luthans, B. C. (2004). Positive psychological capital: Beyond human and social capital. Retrieved from http://digitalcommons.unl.edu/managementfacpub/145/

Luthans, F., & Youssef, C. M. (2007). Emerging positive organizational behavior. *Journal of Management*, *33*(3), 321–349.

Luthans, F., Youssef, C. M., Avolio, B. J., & others. (2007). *Psychological capital: Developing the human competitive edge*. Oxford University Press Oxford. Retrieved from http://www.academia.edu/download/43468935/_Fred_Luthans_Carolyn_M._Youssef_Bruce_J._Avolio__BookFi.org.pdf

Luthans, F., Youssef, C. M., Sweetman, D. S., & Harms, P. D. (2012). Meeting the Leadership Challenge of Employee Well-Being Through Relationship

PsyCap and Health PsyCap. *Journal of Leadership & Organizational Studies*. https://doi.org/10.1177/1548051812465893

Macey, W. H., & Schneider, B. (2008). The meaning of employee engagement. *Industrial and Organizational Psychology*, *1*(1), 3–30.

Malan, H., & Rothmann, S. (2002). Sense of coherence, self-efficacy, locus of control and burnout of social workers (pp. 18–19). Presented at the First South African Burnout Conference, Potchefstroom.

Maslach, C., Jackson, S. E., & Leiter, M. P. (1996). *MBI Maslach Burnout Inventory*. CPP, Incorporated. Retrieved from https://www.psychaanalyse.com/pdf/LE%20MBI%20-%20BURN%20OUT%20-%20ECHELLE%20DE%20MESURE%20DE%20L%20EPUISEMENT%20PROFESSIONNEL%20DU%20SOIGNANT%20(3%20pages%20-%2082%20ko).pdf

Maslach, C., Jackson, S. E., Leiter, M. P., & others. (1986). *Maslach Burnout Inventory. Palo Alto*. CA: Consulting psychologists press.

Maslach, C., & Leiter, M. P. (1997). *The truth about burnout*. San Francisco: Jossey-Bass.

Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, *52*(1), 397–422.

Matsui, T., & Onglatco, M.-L. (1992). Career self-efficacy as a moderator of the relation between occupational stress and strain. *Journal of Vocational Behavior*, *41*(1), 79–88.

Minervini, I., & Fontani, S. (2003). Between difficulties and opportunities: The social representation of special support teachers. *Review of Psychology*, *10*(1), 33–40.

Muheim, F. (2013). Burnout: History of a Phenomenon. In S. Bährer-Kohler (Ed.), *Burnout for Experts* (pp. 37–46). Springer US. https://doi.org/10.1007/978-1-4614-4391-9_3

Oshagbemi, T. (1999). Overall job satisfaction: how good are single versus multiple-item measures? *Journal of Managerial Psychology*, *14*(5), 388–403. https://doi.org/10.1108/02683949910277148

Peterson, S. J., & Byron, K. (2008). Exploring the role of hope in job performance: results from four studies. *Journal of Organizational Behavior*, *29*(6), 785–803. https://doi.org/10.1002/job.492

Prieto, L. L., Soria, M. S., Martínez, I. M., & Schaufeli, W. (2008). Extension of the Job Demands-Resources model in the prediction of burnout and engagement among teachers over time. *Psicothema*, *20*(3), 354–360.

Radey, M., & Figley, C. R. (2007). The social psychology of compassion. *Clinical Social Work Journal*, *35*(3), 207–214.

Ram, P., & Prabhakar, G. V. (2011). The role of employee engagement in work-related outcomes. *Interdisciplinary Journal of Research in Business*, *1*(3), 47–61.

Rand, K. L., Martin, A. D., & Shea, A. M. (2011). Hope, but not optimism, predicts academic performance of law students beyond previous academic achievement. *Journal of Research in Personality*, *45*(6), 683–686. https://doi.org/10.1016/j.jrp.2011.08.004

Rich, B. L., Lepine, J. A., & Crawford, E. R. (2010). Job engagement: Antecedents and effects on job performance. *Academy of Management Journal*, *53*(3), 617–635.

Roche, M., Haar, J. M., & Luthans, F. (2014). The role of mindfulness and psychological capital on the well-being of leaders. *Journal of Occupational Health Psychology*, *19*(4), 476–489. https://doi.org/10.1037/a0037183

Rothbard, N. P. (2001). Enriching or depleting? The dynamics of engagement in work and family roles. *Administrative Science Quarterly*, *46*(4), 655–684.

Rothmann, S. (2003). Burnout and engagement: A South African perspective. *SA Journal of Industrial Psychology*, *29*(4), 16–25.

Rothmann, S. (2008). Job satisfaction, occupational stress, burnout and work engagement as components of work-related wellbeing. *SA Journal of Industrial Psychology*, *34*(3), 11–16.

Rothmann, S., & Joubert, J. (2007). Job demands, job resources, burnout and work engagement of managers at a platinum mine in the North West Province. *South African Journal of Business Management*, *38*(3), 49–61.

Rothmann, S., Mostert, K., & Strydom, M. (2006). A psychometric evaluation of the Job Demands-Resources Scale in South Africa. *SA Journal of Industrial Psychology*, *32*(4), 76–86.

Rothmann, S., Steyn, L. J., & Mostert, K. (2005). Job stress, sense of coherence and work wellness in an electricity supply organisation. *South African Journal of Business Management*, *36*(1), 55–63.

Ryff, C. D., & Singer, B. (2003). Flourishing under fire: Resilience as a prototype of challenged thriving. *Flourishing: Positive Psychology and the Life Well-Lived*, 15–36.

Salanova, M., Agut, S., & Peiró, J. M. (2005). Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *Journal of Applied Psychology*, *90*(6), 1217.

Salanova, M., Peiró, J. M., & Schaufeli, W. B. (2002). Self-efficacy specificity and burnout among information technology workers: An extension of the job demand-control model. *European Journal of Work and Organizational Psychology*, *11*(1), 1–25.

Salanova, M., Schaufeli, W. B., Xanthopoulou, D., & Bakker, A. B. (2010). The gain spiral of resources and work engagement: Sustaining a positive worklife. *Work Engagement: A Handbook of Essential Theory and Research*, 118–131.

Schaufeli, W. B., & Bakker, A. B. (2004a). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, *25*(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W. B., & Bakker, A. B. (2004b). Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*, *25*(3), 293–315. https://doi.org/10.1002/job.248

Schaufeli, W. B., Bakker, A. B., & Van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of Organizational Behavior*, *30*(7), 893–917. https://doi.org/10.1002/job.595

Schaufeli, W. B., & Buunk, B. P. (1996). Professional burnout. *Handbook of Work and Health Psychology*, 311–346.

Schaufeli, W. B., & Buunk, B. P. (2003). Burnout: An overview of 25 years of research and theorizing. *The Handbook of Work and Health Psychology*, *2*, 282–424.

Schaufeli, W. B., & Leiter, M. P. (1996). Maslach burnout inventory-general survey. *The Maslach Burnout Inventory-Test Manual*, *1*, 19–26.

Schaufeli, W. B., & Salanova, M. (2007). Efficacy or inefficacy, that's the question: Burnout and work engagement, and their relationships with efficacy beliefs. *Anxiety, Stress, and Coping*, *20*(2), 177–196.

Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, *3*(1), 71–92.

Schaufeli, W. B., & Taris, T. W. (2014). A critical review of the Job Demands-Resources Model: Implications for improving work and health. In *Bridging occupational, organizational and public health* (pp. 43–68). Springer. Retrieved from http://link.springer.com/10.1007/978-94-007-5640-3_4

Scheier, M. E., & Carver, C. S. (1987). Dispositional Optimism and Physical Well-Being: The Influence of Generalized Outcome Expectancies on Health. *Journal of Personality*, *55*(2), 169–210. https://doi.org/10.1111/j.1467-6494.1987.tb00434.x

Schutte, N., Toppinen, S., Kalimo, R., & Schaufeli, W. (2000). The factorial validity of the Maslach Burnout Inventory-General Survey (MBI-GS) across occupational groups and nations. *Journal of Occupational and Organizational Psychology*, *73*(1), 53–66.

Seligman, M. (1998). Learned optimism. New York: Pocket. Shifren, K., & Hooker, K. 1995. Stability and change in optimism: A study among spouse caregivers. *Experimental Aging Research*, *21*, 59–76.

Seligman, M. E. (2008). Positive health. *Applied Psychology*, *57*(s1), 3–18.

Seligman, M. E., & Csikszentmihalyi, M. (2000). Special issue on happiness, excellence, and optimal human functioning. *American Psychologist*, *55*(1), 5–183.

Seligman, M. E. P., Abramson, L. Y., Semmel, A., & Von Bayer, C. (1998). Learned Optimism New York Pocket Books.

Setar, S. B., Buitendach, J. H., & Kanengoni, H. (2015). The moderating role of psychological capital in the relationship between job stress and the outcomes of incivility and job involvement amongst call centre employees. *SA Journal of Industrial Psychology*, *41*(1), 1–13.

Shirom, A. (2009). Epilogue: mapping future research on burnout and health. *Stress and Health*, *25*(4), 375–380. https://doi.org/10.1002/smi.1284

Simbula, S., Guglielmi, D., & Schaufeli, W. B. (2011). A three-wave study of job resources, self-efficacy, and work engagement among Italian schoolteachers. *European Journal of Work and Organizational Psychology*, *20*(3), 285–304.

Snyder, C. R. (2000). *Handbook of hope: Theory, measures, and applications*. Academic press. Retrieved from https://books.google.com/books?hl=en&lr=&id=2KHRRaqqxTMC&oi=fnd&pg=PP2&dq=Snyder,+C.+R.+(2000).+Handbook+of+hope.+San+Diego:+Academic+Press.&ots=4C8bVQSOwR&sig=MImvRBgmv-hmwJwL9a7SKh1j1lE

Snyder, C. R., Harris, C., Anderson, J. R., Holleran, S. A., Irving, L. M., Sigmon, S. T., … Harney, P. (1991). The will and the ways: development and validation of an individual-differences measure of hope. *Journal of Personality and Social Psychology*, *60*(4), 570.

Stajkovic, A. D., & Luthans, F. (1998). Social cognitive theory and self-efficacy: Goin beyond traditional motivational and behavioral approaches. *Organizational Dynamics*, *26*(4), 62–74.

Storm, K., & Rothmann, S. (2003). A psychometric analysis of the Maslach Burnout Inventory-General Survey in the South African police service. *South African Journal of Psychology*, *33*(4), 219–226.

Totterdell, P., Wood, S., & Wall, T. (2006). An intra-individual test of the demands-control model: A weekly diary study of psychological strain in portfolio workers. *Journal of Occupational and Organizational Psychology*, *79*(1), 63–84.

Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of Personality and Social Psychology*, *86*(2), 320.

Tugade, M. M., Fredrickson, B. L., & Feldman Barrett, L. (2004). Psychological resilience and positive emotional granularity: Examining the benefits of positive emotions on coping and health. *Journal of Personality*, *72*(6), 1161–1190.

Turner, N., Barling, J., & Zacharatos, A. (2002). Positive psychology at work. *Handbook of Positive Psychology*, *52*, 715–728.

Van den Broeck, A., Van Ruysseveldt, J., Smulders, P., & De Witte, H. (2011). Does an intrinsic work value orientation strengthen the impact of job

resources? A perspective from the Job Demands–Resources Model. *European Journal of Work and Organizational Psychology*, *20*(5), 581–609.

Vink, J., Ouweneel, E., & Le Blanc, P. (2011). Psychological resources for engaged employees: psychological capital in the Job Demands-Resources Model. *Gedrag & Organisatie*, *24*(2), 101–120.

Warr, P. (1987). *Work, unemployment, and mental health.* Oxford University Press.

Watts, J., & Robertson, N. (2011). Burnout in university teaching staff: a systematic literature review. *Educational Research*, *53*(1), 33–50.

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2007). The role of personal resources in the job demands-resources model. *International Journal of Stress Management*, *14*(2), 121. https://doi.org/10.1037/1072-5245.14.2.121

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009a). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, *74*(3), 235–244. https://doi.org/10.1016/j.jvb.2008.11.003

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009b). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, *74*(3), 235–244. https://doi.org/10.1016/j.jvb.2008.11.003

Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009c). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, *82*(1), 183–200.

Yavas, U., Karatepe, O. M., & Babakus, E. (2013). Does hope buffer the impacts of stress and exhaustion on frontline hotel employees' turnover intentions? *Turizam : Međunarodni Znanstveno-Stručni Časopis*, *61*(1), 29–39.

Youssef, C. M., & Luthans, F. (2007). Positive Organizational Behavior in the Workplace: The Impact of Hope, Optimism, and Resilience. *Journal of Management*, *33*(5), 774–800. https://doi.org/10.1177/0149206307305562

Youssef, C. M., & Luthans, F. (2010). An integrated model of psychological capital in the workplace. Retrieved from http://www.oxfordhandbooks.com/view/10.1093/oxfordhb/9780195335446.001.0001/oxfordhb-9780195335446-e-22?mediaType=Article

Youssef-Morgan, C. M., & Luthans, F. (2013). Psychological Capital Theory: Toward a Positive Holistic Model. In *Advances in Positive Organizational Psychology* (Vol. 1, pp. 145–166). Emerald Group Publishing Limited. https://doi.org/10.1108/S2046-410X(2013)0000001009

Appendices

Appendix A: University Ethics Approval Letter for Research

University of the Witwatersrand, Johannesburg

Faculty of Humanities – Postgraduate Office

Private Bag 3, Wits 2050, South Africa • **Tel:** +27 11 717 4007• **Fax:** +27 11 717 4037• **Email:** madile.moeketsi@wits.ac.za

Student Number: 1533922

Mr Sean Gift Mtolo
6 Wilhemina Place
Halfway Gardens Ext.4
Midrand
1685
Gauteng South Africa

13 July 2017

Dear Mr Mtolo

APPROVAL OF PROPOSAL FOR THE DEGREE OF MASTER OF ARTS BY COURSEWORK AND RESEARCH IN ORGANISATIONAL PSYCHOLOGY

I am pleased to be able to advise you that the readers of the Graduate Studies Committee have approved your proposal entitled "***Psychological capital as a resource in the job demands - resources model***". I confirm that Prof Karen Milner has been appointed as your supervisor in the SHCD.

The research report is normally submitted to the Faculty Office by 15 February, if you have started the beginning of the year, and for mid-year the deadline is 31 July. All students are required to RE-REGISTER at the beginning of each year.

You are required to submit 2 bound copies and one unbound copy plus 1 CD in pdf (Adobe) format of your research report to the Faculty Office. The 2 bound copies go to the examiners and are retained by them and the unbound copy is retained by the Faculty Office as back up.

Please note that should you miss the deadline of 15 February or 31 July you will be required to submit an application for extension of time and register for the research report extension. Any candidate who misses the deadline of 15 February will be charged fees for the research report extension.

Kindly keep us informed of any changes of address during the year.

Note: All MA and PhD candidates who intend graduating shortly must meet your ETD requirements at least 6 weeks after your supervisor has received the examiners reports. **A student must remain registered at the Faculty Office until graduation.**

Yours Sincerely

MM Moeketsi

Madile Moeketsi (Ms)
Postgraduate Division
Faculty of Humanities
Private Bag X 3
Wits, 2050

Appendix B: Access Letter Requesting Access to Employee Sample

Psychology
School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559

To whom it may concern

My name is Sean Mtolo and I am studying towards a Master's Degree in Organisational Psychology at the University of the Witwatersrand. As part of my course I am conducting a research study titled: *Psychological Capital as a resource in the Job demands-Resources model*. The aim of my research is to provide greater insight into the processes that are involved in the development of employee burnout and engagement within the workplace. This is an increasingly significant area of study that has implications for organisations.

I would like to request permission to conduct my research within your organization and approach employees from your organization, to take part in the study. Participation will include employees completing an electronic questionnaire, which will be made available on SAKAI. The survey will take approximately 20 minutes to complete. Participation is voluntary and participants can withdraw from the study at any time prior to the final submission of the questionnaire. Employees will only be included once they have submitted a completed questionnaire, which will be interpreted as consent to be included in the study. This will be explained to employees in an information sheet. Anonymity will be ensured for all participants as well as your organisation, as employees will not be requested to provide any personal identifier on the survey or be asked to identify which organisation they work for. Confidentiality will be maintained for all participating organisations and participants as only my supervisor and myself will have access to the final data set and this data will be stored on a secure password protected computer. Moreover, responses will only be looked at

in relation to all other responses in order to establish trends and only these broad trends will be reported, rather than individual's responses, which will also ensure anonymity and confidentiality.

Feedback will be made available after the completion of the research project. This feedback will be made available to participating organisations, via a summarised report of research outcomes that will be emailed to the organisation and every employee. The completed project will also be submitted to the Cullen Library, at The University of the Witwatersrand and uploaded to the university's blog site, wiredspace.wits.ac.za .

Your consent for this study would be greatly appreciated. Should you have any inquiries or concerns about this study, please feel free to contact my supervisor or myself. We would be more than willing to discuss the research.

Regards

Student: Sean Mtolo
Email: Seangmtolo@gmail.com

Supervisor: Karen Milner
Email: Karen.Millner@wits.ac.za

Sean Mtolo (student): _____

Karen Milner (supervisor): _____

Appendix C: Participant information sheet

Psychology
School of Human & Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011) 717 4500 Fax: (011) 717 4559

Good day,

My name is Sean Mtolo and I would like to invite you to participate in a research study that I am conducting with the aim of obtaining a Master's Degree in Organisational Psychology at the University of Witwatersrand. As part of this course I am required to conduct supervised research in an area of Organisational Psychology. The research study that I have chosen examines the relationships between Job demands and Psychological Capital, in relation to burnout and engagement.

Anyone over the age of 18 and employed currently can participate. Employment is important because the research focuses on your experiences at work. Participation will involve completing an electronic questionnaire, which will be made available through physical copies of the survey that are attached to this sheet. The survey would take roughly 20 minutes to complete. Participation is voluntary and you may withdraw from this study at any time prior to final submission.

The questionnaire is completely anonymous, some of the questions will ask you about your personal demographic characteristics (e.g. ethnicity), however, you will not be asked to provide any information that compromises your anonymity or that of your organisation, like your name or employee number. Moreover, the research procedure will also ensure confidentiality, as your completed questionnaire will not be seen by anyone except my supervisor and myself. Your responses will also only be looked at in relation to all other responses in order to establish trends and only these broad trends will be reported in the final research report.

Feedback will be made available after the completion of the research project; this will be an overarching summary of the overall findings of the project, therefore it will not disclose individual responses. Feedback will be made available after the completion of the research project. This feedback will be made available to participating organisations, via a summarised report of research outcomes that will be emailed to the organisation and every employee. The completed project will also be submitted as a complete masters research report to the Cullen Library, at The University of the Witwatersrand; as well as the wired space university blog via the university's online portal.

If you are willing to participate in this research please complete the electronic of the questionnaire, which is accessed through the link provided on your student Sakai page. The completion and submission of the questionnaire will be considered as consent to be included in the research. Your participation would be greatly appreciated. Should you have any enquiries, please feel free to contact either my supervisor Karen Milner or myself.

Regards

Student: Sean Mtolo
Email: Seangmtolo@gmail.com

Supervisor: Karen Milner
Email: Karen.Milner@wits.ac.za

Sean Mtolo (student): _____

Karen Milner (supervisor): _____

Appendix D: Demographic Questionnaire

Please answer the demographic questions below by selecting the most applicable option or providing the information that is requested. Please note that the following questions are for statistical purposes only and are not intended to cause any offense

1. What is your sex?
    - ☐ Male
    - ☐ Female
2. How many dependent children (under the age of 18) do you have?
    - ☐ None
    - ☐ 1
    - ☐ 2
    - ☐ 3
    - ☐ 4 or more than 4
3. What is your current marital status?
    - ☐ Married
    - ☐ Living together like married partners
    - ☐ Never married
    - ☐ Widower/ Widow
    - ☐ Separated
    - ☐ Divorced
4. What is your ethnic origin?
    - ☐ Black African
    - ☐ Coloured
    - ☐ Indian or Asian
    - ☐ White
    - ☐ Other
    - ☐ Prefer not to answer

5. What is the highest level of education you have received?
    - ☐ Grade 12
    - ☐ Higher Certificate
    - ☐ Diploma
    - ☐ Bachelor's degree
    - ☐ Postgraduate diploma
    - ☐ Postgraduate degree (Honours, Masters, Doctorate)

6. Which faculty are you registered in?
    - ☐ Humanities
    - ☐ Health Science
    - ☐ Engineering & the Built Environment
    - ☐ Science
    - ☐ Commerce, Law & Management
7. What year of study are you currently in?
    - ☐ 1st year
    - ☐ 2nd year
    - ☐ 3rd year
    - ☐ 4th year
    - ☐ Other (please specify) _____
8. In which sector does your current employer operate in? Please select the classification that best describes the **organisation** you currently work in. If none of the categories fit your organisation exactly, please respond with the category closest to your organisation.
    - ☐ Finance
    - ☐ Manufacturing
    - ☐ Communication
    - ☐ Marketing
    - ☐ Information technology
    - ☐ Professional services
    - ☐ Nongovernmental organization,
    - ☐ Education
    - ☐ Retail services

- ☐ Services
- ☐ Other (transport, construction, wholesale, or retail trade)

9. What is your **current job** within this organisation? Please select a category that best describes your **main job**, if none of the categories fit your job exactly, please select the category most closely resembles your main job.
   - ☐ Executive, administrator, or senior manager (e.g., CEO, sales VP, plant manager)
   - ☐ Professional (e.g., engineer, accountant, systems analyst)
   - ☐ Technical support (e.g., lab technician, legal assistant, computer programmer)
   - ☐ Sales (e.g., sales representative, stockbroker, retail sales)
   - ☐ Clerical and administrative support (e.g., secretary, billing clerk, office supervisor)
   - ☐ Service occupation (e.g., security officer, food service worker, janitor)
   - ☐ Precision production and crafts worker (e.g., mechanic, carpenter, machinist)
   - ☐ Chemical/production operator (e.g., shift supervisors and hourly employees)
   - ☐ Labourer (e.g., truck driver, construction worker)

Appendix E: Job overload scale

There are a number of statements listed below; these are statements, which could be used to describe a job. Please read each statement carefully and indicate the how often the statement applies to **your** job. 1= Never, 4=Always.

1. Do you have too much work to do?

Never			Always
1	2	3	4

2. Do you work under time pressure?

Never			Always
1	2	3	4

3. Do you have to be attentive to many things at the same time?

Never			Always
1	2	3	4

4. Do you have to give continuous attention to your work?

Never			Always
1	2	3	4

5. Do you have to remember many things in your work?

Never			Always
1	2	3	4

6. Are you confronted in your work with things that affect you personally?

Never			Always
1	2	3	4

7. Do you have contact with difficult people in your work?

Never			Always
1	2	3	4

8. Does your work put you in emotionally upsetting situations?

Never			Always
1	2	3	4

Appendix F: Job resources item

The statement listed below describes the resources you have available in your job role. Please read each statement carefully and indicate the how often the statement applies to **your** job. 1= Never, 4=Always.

1. Does your work organisation provide you with enough resources to cope with these demands?

Never			Always
1	2	3	4

Appendix G: The Maslach Burnout Indicator-General survey (MBI-GS)

The following 10 statements pertain to job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job. Cross the "0" (zero) if you have never had a certain feeling. If you have had this feeling, indicate ***how often*** you feel it by selecting the number (from 1 to 6) corresponding phrase that best describes how frequently you feel that way.

The phrases describing the frequency are:

0=never
1=Almost never (A few times a year or less)
2=Rarely (Once a month or less)
3=Sometimes (A few times a month or less)
4=Often (once a week)
5=Very often (A few times a week)
6=Always (Everyday)

1. I feel emotionally drained from my work

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

2. I feel used up at the end of the workday.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

3. I feel fatigued when I get up in the morning and have to face another day on the job.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

4. Working all day is really a strain for me.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

5. I feel burned out from my work.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

6. I have become less interested in my work since I started this job.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

7. I have become less enthusiastic about my work.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

8. I just want to do my job and not to be bothered.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

9. I doubt the significance of my work.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

10. I have become more cynical about whether my work contributes anything.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

Appendix H: The Utrecht Work Engagement Scale (UWES)

The following 17 statements pertain to job-related feelings. Please read each statement carefully and decide if you ever feel this way about your job. Cross the "0" (zero) if you have never had a certain feeling. If you have had this feeling, indicate ***how often*** you feel it by selecting the number (from 1 to 6) corresponding phrase that best describes how frequently you feel that way.

The phrases describing the frequency are:

0=never
1=Almost never (A few times a year or less)
2=Rarely (Once a month or less)
3=Sometimes (A few times a month or less)
4=Often (once a week)
5=Very often (A few times a week)
6=Always (Everyday)

1. At my work, I feel bursting with energy

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

2. I find the work that I do full of meaning and purpose

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

3. Time flies when I'm working

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

4. At my job, I feel strong and vigorous

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

5. I am enthusiastic about my job

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

6. When I am working I forget everything else around me

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

7. My job inspires me

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

8. When I get up in the morning, I feel like going to work

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

9. I feel happy when I am working intensely

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

10. I am proud of the work that I do.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

11. I am immersed in my work.

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

12. I can continue working for very long periods at a time

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

13. To me, my job is challenging

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

14. I get carried away when I'm working

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

15. At my job, I am very resilient, mentally

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

16. It is difficult to detach myself from my job

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

17. At my work I always persevere, even when things do not go well

Never	Almost never	Rarely	Sometimes	Often	Very often	Always
0	1	2	3	4	5	6

Appendix I: The Psychological Capital Questionnaire (PCQ-24)

The following statements describe how you may think about yourself **right now.** We request that you consider each question relative to your work life and work-related aspects. Use the scale below to indicate your level of **agreement** or **disagreement** with each statement. Please use the list below as a scoring reference.
1= strongly disagree 2= disagree 3= somewhat disagree 4= sometimes agree
5= agree 6= strongly agree.

1. I feel confident in analysing a problem and finding a long term solution

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

2. I feel confident in representing my work area in meetings.

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

3. I feel confident contributing to discussions about the organisation's strategy

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

4. I feel confident helping to set targets/goals in my work area

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

5. I feel confident contacting people outside the organisation (e.g. Suppliers, customers) to discuss problems

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

6. I feel confident presenting information to a group of my colleagues

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

7. If I should find myself in a jam at work, I could think of many ways to get out of it.

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

8. At the present time, I am energetically pursuing my goals.

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

9. There are lots of ways around a problem

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

10. Right now I see myself as being pretty successful at work

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

11. I can think of many ways to reach my current work goals

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

12. At this time, I am meeting the work goals that I have set myself

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

13. When I have a setback at work, I have trouble recovering from it, moving on (reverse scored)

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

14. I usually manage difficulties one way or another at work

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

15. I can be "on my own" so to speak, at work if I have to

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

16. I usually take stressful things at work in stride

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

17. I can get through difficult times at work because I've experienced difficulties before

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

18. I feel I can handle many things at a time at this job

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

19. When things are uncertain for me at work, I usually expect the best

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

20. If something can go wrong for me, it will (reverse scored)

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

21. I always look on the bright side of things regarding my job

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

22. I'm optimistic about what will happen to me in future as it pertains to work

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

23. In this job, things never work out the way I want them to (reverse scored)

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

24. I approach this job as if "every cloud has a silver lining"

Strongly Disagree	Disagree	Somewhat Disagree	Somewhat agree	Agree	Strongly agree
1	2	3	4	5	6

Appendix I: Permission to use The Psychological Capital Questionnaire (PCQ)

Sean Mtolo

mind garden

To whom it may concern,

This letter is to grant permission for Sean Mtolo to use the following copyright material:

Instrument: ***Psychological Capital (PsyCap) Questionnaire (PCQ)***

Authors: ***Fred Luthans, Bruce J. Avolio & James B. Avey.***

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for his/her thesis/dissertation research.

Three sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any other published material.

Sincerely,

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Appendix J: Tables of Johnson–Neyman technique outputs

Table 9

Job Demands and Resources interaction on exhaustion at values of PsyCap

PsyCap	b	Std.Error	t	p
-1.62	1.25	.27	4.64	***
-1.45	1.16	.25	4.69	***
-1.29	1.07	.22	4.74	***
-1.13	.97	.20	4.79	***
-.97	.88	.18	4.84	***
-.80	.79	.16	4.88	***
-.64	.69	.14	4.89	***
-.48	.60	.12	4.83	***
-.32	.51	.11	4.63	***
-.23	.42	.10	4.21	***
-.15	.32	.09	3.48	***
.01	.23	.09	2.47	***
.17	.19	.10	1.97	P>0.5
.33	.14	.10	1.37	P>0.5
.50	.04	.11	.39	P>0.5
.55	-.05	.13	-.39	P>0.5
.66	-.14	.14	-.99	P>0.5
.82	-.24	.16	-1.44	P>0.5
.98	-.33	.18	-1.79	P>0.5
1.15	-.39	.20	-1.97	P>0.5
1.31	-.42	.20	-2.06	*
1.47	-.51	.23	-2.27	*
1.63	-.61	.25	-2.44	*

Table 11

job Demands and Resources interaction on Cynicism at values of PsyCap

PsyCap	b	Std.Error	t	p
-1.62	.87	.24	3.60	***
-1.45	.79	.22	3.56	***
-1.29	.71	.20	3.52	***
-1.13	.63	.18	3.45	***
-.97	.55	.16	3.36	***
-.80	.47	.14	3.23	***
-.64	.39	.13	3.04	***
-.48	.31	.11	2.74	***
-.32	.23	.10	2.29	***
-.23	.18	.09	1.97	P>0.5
-.15	.14	.09	1.64	P>0.5
.01	.06	.08	.77	P>0.5
.17	-.02	.08	-.20	P>0.5
.33	-.10	.09	-1.09	P>0.5
.50	-.18	.10	-1.79	P>0.5
.55	-.20	.10	-1.97	P>0.5
.66	-.26	.11	-2.29	***
.82	-.34	.13	-2.63	***
.98	-.42	.15	-2.87	***
1.15	-.50	.16	-3.04	***
1.31	-.58	.28	-3.16	***
1.47	-.66	.20	-3.25	***
1.63	-.74	.22	-3.32	***

Table 13

job Demands and Resources interaction on Engagement at values of PsyCap

PsyCap	b	Std.Error	t	p
-1.62	.09	.07	1.28	P>0.5
-1.45	.08	.07	1.16	P>0.5
-1.29	.06	.06	1.03	P>0.5
-1.13	.05	.06	.86	P>0.5
-.97	.03	.05	.65	P>0.5
-.80	.02	.05	.38	P>0.5
-.64	.00	.04	.03	P>0.5
-.48	-.01	.04	-.42	P>0.5
-.32	-.03	.03	-1.00	P>0.5
-.23	-.04	.03	-1.68	P>0.5
-.15	-.05	.03	-1.97	P>0.5
.01	-.06	.03	-2.40	***
.17	-.07	.02	-3.00	***
.33	-.09	.02	-3.38	***
.50	-.10	.03	-3.54	***
.55	-.12	.03	-3.57	***
.66	-.13	.04	-3.52	***
.82	-.15	.04	-3.45	***
.98	-.16	.05	-3.37	***
1.15	-.18	.05	-3.30	***
1.31	-.19	.06	-3.23	***
1.47	.21	.07	-3.17	***