

**AN EXPLORATION OF THE RELATIONSHIPS BETWEEN
PSYCHOLOGICAL CAPITAL (HOPE, OPTIMISM, SELF-EFFICACY,
RESILIENCE), OCCUPATIONAL STRESS, BURNOUT AND
EMPLOYEE ENGAGEMENT**

**by
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**THESIS PRESENTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF MASTERS OF COMMERCE (INDUSTRIAL PSYCHOLOGY) AT
THE UNIVERSITY OF STELLENBOSCH**



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December 2011

Declaration

I herewith declare this work to be my own, that I have acknowledged all the sources I have consulted in the assignment/essay itself and not only in the bibliography, that all wording unaccompanied by a reference is my own, and that no part of this assignment/essay has been directly sourced from the internet without providing the necessary recognition.

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ABSTRACT

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AN EXPLORATION OF THE RELATIONSHIPS BETWEEN PSYCHOLOGICAL CAPITAL (HOPE, OPTIMISM, SELF-EFFICACY, RESILIENCE), OCCUPATIONAL STRESS, BURNOUT AND EMPLOYEE ENGAGEMENT

Supervisor: Dr G Görgens-Ekermans, PhD

Occupational stress and Burnout are serious problems in current day organisations. To this end organisations should actively promote positive psychological health and occupational wellbeing in order to harness the full potential of their workforce and increase organisational performance. Studies from the emerging field of Positive Psychology hypothesize that personal resources, like the constructs of Psychological Capital (i.e. Hope, Optimism, Self-Efficacy and Resilience), may contribute to decreased Stress (Avey, Luthans & Jensen, 2009), Burnout (Schaufeli & Bakker, 2001) and increased work Engagement (Avey, Wernsing & Luthans, 2008). Moreover, it has been proven that the Psychological Capital (PsyCap) constructs are state-like and can be developed (Luthans, Avey & Patera, 2008). It may, therefore, be vital for organisations to identify and develop these positive PsyCap factors, which might moderate the effect of Occupational stress on Burnout, as well as curb the initial experiences of Occupational stress and the subsequent development of Burnout in their employees. The presence of PsyCap may also lead to increased Engagement, which is also known to be associated with less Burnout.

The aims of this study were to explore the relationships between Burnout, Employee Engagement, Occupational stress and PsyCap in the South African context, as well as to determine whether PsyCap plays a moderating role in the Occupational stress, Burnout relationship. A non-experimental research design (i.e. exploratory survey study) was used to explore the relationships between these four constructs. In this study, Burnout was defined as a condition characterised by fatigue and exhaustion, divided into Personal Burnout (“the degree of physical and psychological fatigue and

exhaustion experienced by the person”), Work-related Burnout (“the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work”) and Client-related Burnout (“the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients”) (Kristensen, Borritz, Villadsen & Christensen, 2005, p. 197). Employee Engagement was defined as “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (Schaufeli, Salanova, Gonzalez-Roma & Bakker, 2002, p.74). Occupational stress is experienced when an imbalance exists between people’s perceived environmental demands and their perceived ability to cope with these demands (Cooper, Clarke & Rowbottom, 1999). Lastly, PsyCap was described as a second-order construct which included Hope, Optimism, Self-efficacy and Resilience (Luthans, Youssef & Avolio, 2007).

A convenience sample of 209 permanent employees and support staff of a medium size construction company within the Western Cape, South Africa, participated in the research. The Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005), the Utrecht Work Engagement Scale (UWES-9; Schaufeli & Bakker, 2003), the Perceived Stress Scale (PSS; Cohen, Kamarck & Mermelstein, 1983) and the Psychological Capital Questionnaire-Self Rater Version (PCQ-24; Luthans, Avolio & Avey, 2007) were administered.

Consistent with previous research, significant negative relationships were evident between all three dimensions of Burnout and Occupational stress. This indicates that higher Occupational stress is associated with an increased propensity to develop Personal-, Work- and Client Burnout. This was expected as it is known that Burnout develops in reaction to prolonged Stress. The correlational results further revealed that higher levels of Hope, Optimism, Self-efficacy and Resilience (and the PsyCap total score) were associated with lower levels of Occupational stress and Burnout. This suggests that increased levels of PsyCap may probably lead to decreased levels of Occupational stress and Burnout. As expected, multiple moderate positive correlations were evident between the PsyCap sub-dimensions, empirically confirming the discriminant and convergent validity of the dimensions in the South

African context. This implies that by developing one of the constructs, the others are also likely to increase. As hypothesised, both Occupational Stress and Burnout was found to relate negatively to Employee Engagement. The results further revealed that higher PsyCap was related to higher Engagement levels and that Optimism and Self-efficacy, as PsyCap sub-dimensions, emerged as the two strongest predictors of Employee Engagement. These results suggest that the development of PsyCap may hold multiple benefits (e.g. increasing Engagement, lessening Stress and subsequent Burnout). Lastly, PsyCap did indeed emerge as a moderator in the relationship between Occupational stress and Personal- and Work Burnout respectively. This suggests that although Occupational stress is inevitable in any work environment, PsyCap as a personal coping resource, can buffer the development of Burnout over the long term. Limitations of the study as well as suggestions for future research were discussed.

OPSOMMING

Marthine Herbert M Comm (Universiteit van Stellenbosch)

’N ONDERSOEK NA DIE VERWANTSKAPPE TUSSEN SIELKUNDIGE KAPITAAL (HOOP, OPTIMISME, SELF-BEKWAAMHEID EN VEERKRAGTIGHEID), WERK STRES, UITBRANDING EN WERKNEMERBETROKKENHEID

Studieleier: Dr. Gina Görgens, PhD

Werk stres en Uitbranding is twee ernstige probleme in die huidige werksomgewing. Organisasies moet dus die positiewe sielkundige gesondheid van hul werknemers bevorder en sodoende die volle potensiaal van hul werknemers probeer verseker, wat die organisasie se algehele prestasie sal verbeter. Studies vanaf die opkomende veld van Positiewe Sielkunde beweer dat persoonlike karaktereienskappe, soos die onderskeie konstrukte van Sielkundige Kapitaal (d.i. Hoop, Optimisme, Self-bekwaamheid en Veerkrachtigheid), ’n vermindering in stres (Avey et al., 2009) en Uitbranding (Schaufeli & Bakker, 2001) tot gevolg kan hê, asook Werknemerbetrokkenheid kan verhoog (Avey et al., 2008). Verder is daar ook bewys dat die konstrukte van Sielkundige Kapitaal ontwikkel kan word (e.g. Luthans et al., 2008). Dit is dus noodsaaklik vir organisasies om hierdie positiewe sielkundige konstrukte te identifiseer en ontwikkel, wat moontlik die effek van Werk stres op Uitbranding kan modereer, sowel as die oorspronklike ondervindings van Werk stress en die gevolglike ontwikkeling van Uitbranding in werknemers, kan inhibeer. Die teenwoordigheid van Sielkundige Kapitaal kan ook aanleiding gee tot ’n verhoging in Werknemerbetrokkenheid, wat ook verwant is aan minder Uitbranding.

Die doelwitte van hierdie studie was om die verwantskappe tussen Uitbranding, Werknemerbetrokkenheid, Werk Stres en Sielkundige Kapitaal in die Suid-Afrikaanse konteks te ondersoek, asook om te bepaal of Sielkundige Kapitaal ’n modererende rol speel in die verband tussen Werk Stres en Uitbranding. ’n Nie-eksperimentele navorsingsontwerp (’n verkennende studie) is gebruik om die

verbande tussen die vier konstrunkte te ondersoek. In hierdie studie word Uitbranding beskryf as 'n toestand gekenmerk deur vermoeienis en uitputting, en word verdeel in Persoonlike Uitbranding (die graad van fisiese en sielkundige vermoeienis en uitputting wat deur die persoon ervaar word), Werks Uitbranding (die graad van fisiese en sielkundige vermoeienis en uitputting wat deur die persoon ervaar word, verwant aan sy/haar werk) en Kliënte Uitbranding (die graad van fisiese en sielkundige vermoeienis en uitputting wat deur die persoon ervaar word wat verwant is aan sy/haar werk met kliënte) (Kristensen et al., 2005). Werknemerbetrokkenheid is gedefinieer as 'n positiewe, vervullende ingesteldheid wat gekenmerk word deur Vitaliteit, Toegewydheid en Verdiepthed (Schaufeli et al., 2002). Werk stres word beskryf as 'n wanbalans tussen 'n persoon se persepsie van sy/haar omgewings vereistes en die persepsie van hul eie vermoëns om hierdie vereistes te hanteer (Cooper et al., 1999). Laastens verwys Sielkundige Kapitaal na 'n tweede-orde konstruk wat bestaan uit vier afsonderlike subkonstrukte naamlik Hoop, Optimisme, Self-bekwaamheid en Veerkragtigheid.

'n Geriefsteekproef van 209 permanente werknemers en steundienstpersoneel van 'n medium grootte konstruksie maatskappy in die Wes-Kaap het aan die navorsingsprojek deelgeneem. Die Copenhagen Uitbranding Vraelys (CBI; Kristensen et al., 2005), die Utrecht Werksbetrokkenheid Skaal (UWES-9) (Schaufeli & Bakker, 2003), die Waargenome Stresskaal (PSS; Cohen et al., 1983) en die Sielkundige Kapitaal – Self-beoordeling Weergawe (PCQ-24; Luthans, Avolio et al., 2007) was gebruik in hierdie studie.

In ooreenstemming met vorige navorsing is beduidende negatiewe verwantskappe tussen die drie dimensies van Uitbranding en Werk stres gevind. Dit dui daarop dat hoër Werk stres geassosieer word met 'n toename in die geneigdheid om Persoonlike-, Werks- en Kliënte Uitbranding te ontwikkel. Hierdie resultate was verwag, aangesien dit bekend is dat Uitbranding die gevolg is van lang termyn Stres. Die resultate het verder onthul dat hoër vlakke van Hoop, Optimisme, Self-Bekwaamheid en Veerkragtigheid (asook die totaalstelling van Sielkundige Kapitaal) geassosieer word met laer vlakke van Werk stres en Uitbranding. Dus, 'n toename in werknemers se Sielkundige Kapitaal kan moontlik lei tot 'n afname in hul Werk stres

en Uitbranding. Verder, en soos wat verwag was, is bevind dat daar verskeie positiewe korrelasies tussen die vier subkonstrukte van Sielkundige Kapitaal bestaan. Dit is ook 'n empiriese aanduiding van die onderskeidings geldigheid van hierdie dimensies binne die Suid-Afrikaanse konteks. Dit beteken dat deur een van hierdie vier konstrunkte te ontwikkel, die ander drie konstrunkte ook terselfdertyd sal verhoog. Verder het Sielkundige Kapitaal verband gehou met 'n toename in Werknemerbetrokkenheid, en Optimisme en Self-Bekwaamheid, as sub-dimensies van Sielkundige Kapitaal, was hier die beste voorspellers van Werknemerbetrokkenheid. Hierdie resultate impliseer dat die ontwikkeling van Sielkundige Kapitaal verskeie voordele vir 'n maatskappy kan inhou (bv. verhoogde Werknemer Betrokkenheid, verlaagde Werk stres, asook Uitbranding). Laastens het hierdie studie bewys dat Sielkundige Kapitaal wel 'n modererende rol speel in die verhouding tussen Werk stres en onderskeidelik Persoonlike- en Werks-Uitbranding. Dit veronderstel dat alhoewel Werk stres onafwendbaar is in die huidige werksomgewing, Sielkundige Kapitaal as 'n persoonlike hanteringsmeganisme of hulpbron, die ontwikkeling van Uitbranding kan buffer. Die beperkings van die studie, asook aanbevelings vir toekomstige navorsing word bespreek.

ACKNOWLEDGEMENTS

I would first and foremost like to thank God, for He has given me the opportunity, constant motivation, mental capacity and will power to complete my studies. With His mighty hand, He made everything fall into place on the right time and provided me with extremely supportive, helpful and patient people in my life, especially during the process of this research.

I would thus like to extend my gratitude and appreciation to the following people, without whom this study would not have been possible:

Gina Görgens-Ekermans, my supervisor, for her constant support, encouragement and commitment during the completion of this study. Her guidance and insights were invaluable and her systematic and precise way of working as well as quick feedback contributed a great deal to the success of this project.

To my parents, Willem and Mariaan, thank you for all your prayers, continuous support, endless words of encouragement, interest and incredible belief in each one of your children. Thank you for the privilege of education; it is the best gift you could have given me. Also, my two sisters, Elsje and Wilmari, for supporting me and having incredible patience and tolerance with my constant devotion to this project.

The participating organization for enabling me to conduct the research within the company as well as the staff for participating in the research. Specifically, Marlene Cronje for assisting in all the arrangements with regards to the data gathering.

All my friends for their care and continuous support, you all hold a dear place in my heart. Specifically, Nadia Brits, words cannot describe the support and inspiration you have been to me throughout our years of studies together. I could not have done it without you. Lené Els, you are the most loyal person I know, thank you for always believing in me. Finally, Theunis Goosen, for your genuine interest in this project, constant motivation and hours of work together, I cannot thank you enough.

The lecturers from the department of Industrial Psychology at the University of Stellenbosch who provided very valuable inputs during the presentation of my research proposal and contributing to the success of this project.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Occupational health and well-being could be regarded as a strategic driver of talent attraction and retention, as well as individual and organisational performance excellence. The goal of Industrial/Organisational (I/O) research should be to accurately try and depict the complex nomological network of latent variables which characterize the person and the perceived environment in which they operate. With this knowledge, The I/O Psychologist's or human resource function's ability to rationally and purposefully affect the work behaviour of employees, are greatly increased. For example, understanding the complexity of the antecedents of Burnout could help the I/O Psychologist to provide appropriate remedies for this occupational health problem.

The environment in which employees in South Africa and elsewhere in the world currently function demands more of them than it did in any previous period. In recent years, the work environment has drastically changed and this can be attributed to many factors (e.g. technological advancement; the need to be globally competitive; continually changing economies; changes in organisational structures; and change in the employment relationship) (Barling, 1999). These changes also caused employees to face a number of additional challenges, e.g. greater work load; increasing job insecurity; lack of role clarity; job insecurity; and diminished choice and control (Johnson, Cooper, Cartwright, Donald, Taylor & Millet, 2005; Martin, 1997). Moreover, many organisations have implemented practices that attempt to reduce costs and increase productivity, which often leads to a mentality that favours profitability over the welfare of people (Turner, Barling & Zacharatoset, 2002). The demands placed on individuals employed in organisations have increased rapidly and these demands can ultimately become excessive and result in the development of Occupational stress and Burnout. For example, research by the Grant Thornton International Business Report (IBR) 2010 (as cited in Stress taking toll on SA business, 2010) covers the opinions of over 7 400 business owners across 36

economies. According to this report, South Africa is ranked as the 16th most stressed country in the world.

Traditionally, only people-orientated professions were known to report high incidences of Occupational stress and, more specifically, Burnout. For example, the construction industry was characterised by physical sources of Stress rather than social and other sources of Stress (Melia & Becerril, 2007). However, during the last few decades, due to the changes in the nature of work as previously described, many other sectors have started to experience stressful psychosocial demands (i.e. when a stressor impacts negatively on individual health and organizational outcomes). Statt (1994) carried out a comparative study of the inherent stressfulness of different professions. Their results revealed construction work as the third most stressful profession after mining and police work. Construction processes require a lot of stressful physical activities. It is, more specifically, the production processes which make construction work an inherently dangerous occupation and highly stressful environment (Linda, Goldenhar, Williams & Naomi, 2003; Wahab, 2010). For example, a study by Wahab (2010) among 105 employees (artisans) of the Federation of Building and Civil Engineering Contractors in south-western Nigeria (Lagos and Ibadan) found that 93.3% of respondents reported experiencing Occupational stress at the time of the study. In a study by Melià and Becerril (2007), on a sample of 105 construction workers, high levels of Occupational stress and Burnout was reported, making stress and Burnout psychosocial risk factors of this industry.

Occupational stressors are aspects of the work environment that cause strains and poor psychological health or wellbeing of the individual (Kahn & Byosiere, 1992). The increasing demands in the workplace, as well as the overall increasing demands in the lives of individuals (dual career families, family pressures, advanced technologies, job insecurity) all contribute to increased levels of stress experienced by individuals. According to Cooper, Dewe and O'Driscoll (2001), it is generally accepted that prolonged or intense Stress can have a negative impact on the individual's mental and physical health. Ultimately, excessive exposure to stressors could result in the development of Burnout (Maslach & Goldberg, 1998). Burnout

refers to a, “prolonged response to chronic emotional and interpersonal stressors on the job” (Maslach, Schaufeli & Leiter, 2001, p. 397). In the past, the effects and consequences of Occupational stress and Burnout was not viewed as a prominent workplace problem. However, in recent days more and more organisations realise the impact that these conditions have on the cost of employee health and the bottom-line (Faragher, Cooper & Cartwright, 2004). Physical and psychological symptoms of Stress are known to include coronary heart disease, ulcers, substance abuse and anxiety, which all significantly impact on the lives of individuals and their families. Apart from the fact that prolonged Stress imposes a propensity to develop these abovementioned physical and psychological effects on individuals, it often represents an added cost for organisations in terms of staff turnover, increased absenteeism and poor work performance (Faragher et al., 2004).

Many of today’s organisations compete and try to survive on the basis of cutting prices and costs through redesigning business processes and downsizing the number of employees (Bakker, 2007). Since there is a limit to cutting prices and downsizing, new thinking and new approaches have become necessary for organizations to survive and to create sustainable growth and development (Bakker & Schaufeli, 2008). For example, Bakker (2007) has argued and shown that Employee/Work Engagement (a positive, fulfilling, work-related state of mind, characterized by Vigour, Dedication, and Absorption; Schaufeli et al., 2002) can make a true difference in an organization’s success and offers a competitive advantage to organizations. Schaufeli and Bakker (2001), for example, have reported that some individuals, regardless of high job demands and long working hours, do not show symptoms of Burnout. Instead, it seemed that they found pleasure in working hard and dealing with job demands. From a Positive Psychology perspective (Seligman & Csikszentmihalyi, 2000), such individuals could be described as engaged in their work. The ‘positive psychology’ paradigm helps to understand the relationship between work, and more specifically goal directed, structured activity, and well-being (Kelloway & Barling, 1991). The focus on Engagement as the positive antithesis of Burnout promises to yield new perspectives on the interventions to promote healthy perceptions, beliefs and physical well-being (Salovey, Rothman, Detweiler & Steward, 2000), and to alleviate Burnout (Maslach,

et al., 2001). Engagement holds many advantages for the individual as well as the organisation as a whole. Some of these advantages include individual performance, organizational productivity and performance, higher employee retention and less turnover, higher organization financial performance, as well as shareholder returns on investment (Bates, 2004; Harter, Schmidt & Hayes, 2002). Moreover, it has also been proven that an increase in the work Engagement of employees will decrease the Occupational stress and Burnout experienced by them (Rothmann, Steyn & Mostert, 2004; Schaufeli et al., 2002; Schaufeli, Taris & van Rhenen, 2008).

The mere presence of workplace stressors does not automatically result in negative impacts on individuals (e.g. high perceived Occupational stress and possible Burnout over the long term). It is well known that individuals differ in their reactions to the various organizational conditions and demands placed on them (Spector, 2003). Work on Occupational stress has been dominated by models linking job conditions (job stressors) to health-related outcomes (job strains). The general idea is that exposure to these stressors leads to a variety of strains. However, many models have failed to fully develop the role of individual differences in this process. It is essential to make a distinction between the objective features of the environmental stressors and the perception of the individual thereof. For example, Lazarus (1995) has argued that we should not accept that individuals are passive respondents in their environments, but rather that the perceptions or appraisal of situations and stressors, which is most relevant to well-being, will vary from one individual to another. Others (e.g. Davis, Zautra & Smith, 2004) support this view by emphasising the importance of individual difference variables in the Stress process. The constraint on a person's resources and their personal competencies play a major role in how they react to perceived threats in the workplace. Thus, if there is a misalignment between the external demands and a person's capability, the person will experience Stress. With regard to Burnout, Schaufeli and Bakker (2001) have also argued that individual differences have an important role to play. Burnout may not merely be a result of excessive direct occupational related pressures, but it could also be affected by non-work pressures, like individual differences (such as personality, emotional intelligence or personal attributes). Research on Burnout has found that some employees, regardless of high job demands and long working

hours, did not develop Burnout. A Positive Psychological perspective would attribute this phenomenon to the possible effects of Employee Engagement and the fact that certain psychological strengths and characteristics embedded within the individual, could prevent Burnout.

Certain factors, such as an individual's characteristics of being Hopeful, Optimistic, Self-efficient and Resilient, may possibly decrease the prevalence of Occupational stress and Burnout experienced by the individual (Avey et al., 2009; Federickson, Tugade, Waugh & Larkin, 2003). Moreover, the four constructs of Hope, Optimism, Self-efficacy and Resilience, as well as a combination of them into a second order factor, PsyCap, have been shown to be state-like and open to change and development (Bandura, 1997; Carver & Scheier, 2005; Luthans et al., 2008). Henceforth, it could be argued that the prevalence of these constructs in an individual and the developmental potential of them could potentially impact on the development of Occupational stress or Burnout for the individual. This may further influence their work quality, and subsequently the profitability of the organisation. It may, therefore, be vital for organisations to identify and develop these positive PsyCap factors, which might moderate the effect of Occupational stress on Burnout, as well as curb the initial experiences of Occupational stress and the subsequent development of Burnout in employees in the workplace.

To summarise, it has been argued that the task of the human resource function or I/O Psychologist is to affect the work performance of employees in a manner that adds value to the organization. The active management of employee well-being/psychological health should be one of the human resource interventions through which this objective is pursued. However, the management of employee well-being/psychological health should not only be geared towards minimizing the incidences of work performance pathology amongst employees. Such interventions should also actively promote employee well-being. Traditionally, the management of employee well-being was viewed as a process that was aimed at the prevention, detection and treatment of performance pathology. The focus was on pathology and its prevention and treatment. Subsequently in psychology, as well as I/O psychology, there is has been a tendency to focus mainly on negative aspects of well-being in research and practice. Burnout, Stress, violations of psychological contracts, job

insecurity and downsizing remain the most popular topics for study (Turner et al., 2002). For example, Diener, Suh, Lucas and Smith (1999) showed that 17 times more scientific articles were published on negative feelings than on positive feelings. Schaufeli and Bakker (2001) also reported that since 1996 only 6% of the articles published in the *Journal of Occupational Health Psychology* focused on positive aspects of health and well-being. The other 94% were related to Burnout, post-traumatic stress disorder, Stress, conflict and psychosomatic complaints. However, lately there have been a growing interest in the positive emotions and positive individual characteristics, and how these can impact on employee health and well-being (e.g. Occupational stress and Burnout).

In this study it is argued that the management of employee well-being needs to move beyond the mere prevention and treatment of performance pathology and also actively promote positive psychological health if employee wellness interventions really want to contribute to organisational performance. Thus, by fostering PsyCap (Hope, Optimism, Self-efficacy and Resilience), HR managers / I/O Psychologists may provide a new human resource development approach to help employees build the critical resources needed in today's stress-filled workplace. Thus, human resource development (HRD) strategies aimed at enhancing the components of employees' overall PsyCap may reduce their perceptions of the symptoms of Stress, and possible subsequent Burnout, as well as limit the harmful consequences of this epidemic to the individual as well as the organization (Avey et al., 2009). Therefore it is argued that the development of PsyCap may not only lead to a decrease in the Occupational stress and Burnout experienced by employees, but may also buffer against the development of Burnout once Stress is experienced. In addition, higher PsyCap in an individual may also help facilitate more Engagement of employees in their jobs. This may also help decrease incidences of Burnout in the workforce.

1.2 PURPOSE OF THIS STUDY

To date most research conducted on the antecedents of Burnout has focused on job and situational stressors that contribute to the development of Burnout such as workload, role stress and role conflict. Little research has focused on the individual characteristics and emotional aspects, like PsyCap, associated with Burnout.

Moreover, the bulk of research in this field has focused mostly on the helping professions (nursing and teaching) with little focus on the relationship between Occupational stress and Burnout in other industries as well.

The purpose of the proposed study is to investigate the respective relationships between the four constructs of Burnout, Employee Engagement, Occupational stress and PsyCap (Hope, Optimism, Self-efficacy and Resilience) within the construction industry in South Africa. The focus will be on determining the relationships between Burnout, Employee Engagement, Occupational stress and PsyCap and on employees in the construction industry. More specifically, it will be investigated whether Occupational stress experienced by employees in the construction industry is associated with Burnout; and whether the PsyCap levels of the employees is related to their current levels of Occupational stress and Burnout, as well as Employee Engagement. Further to this it will be investigated whether PsyCap may buffer the development of Burnout once Occupational stress is experienced.

The benefit of such knowledge is to assist organisations in developing human-resource practices that ensure the development of employees' level of PsyCap and subsequent well-being through appropriate training programmes. In addition, an understanding of how PsyCap impacts on perceived Occupational stress and Burnout, as well as Engagement, and the ability to manage Occupational stress, Burnout and Engagement, might assist organisations in highlighting new areas of organisational development and training related to these constructs. Henceforth, the research results could provide insight into the dynamics of the constructs that are being studied which could be utilised to effectively plan change interventions and training initiatives to further develop necessary skills and coping mechanisms to deal with Occupational stress and Burnout, as well as enhance Engagement. All of this could result in a happier and healthier workforce leading to a healthier, more successful and profitable organisation.

1.3 DEFINITION OF CONSTRUCTS

1.3.1 Burnout

The most common and popular definition of Burnout is that of Maslach and Jackson (as cited in Schaufeli & Buunk 2003, p.386) which states that “burnout is a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do people work of some kind.” Burnout was later broadened to include all occupations and was then regarded as comprising three components: exhaustion, cynicism and professional efficacy (Schaufeli, Leiter, Maslach & Jackson, 1996). However, the definition used for Burnout in this research study is the one given by the researchers from the National Institute of Occupational Health (NIOH), Copenhagen (Denmark) in their PUMA (which is a Danish acronym for a project on Burnout, Motivation and Job Satisfaction) study. The core of Burnout, according to the CBI, is fatigue and exhaustion. The inventory consists of three subscales, namely (1) Personal Burnout (“the degree of physical and psychological fatigue and exhaustion experienced by the person”), (2) Work-related Burnout (“the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work”), and (3) Client-related Burnout (“the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients”) (Kristensen et al., 2005, p. 197).

1.3.2 Employee Engagement

Controversy exists regarding the definition of employee Engagement and there are numerous definitions of the construct. However, as Macey and Schneider (2008) note, there is agreement that Employee Engagement is desirable, has an organizational purpose, and has both psychological and behavioural facets which involves energy, enthusiasm, and focused effort. For the purpose of this study, the main focus will be on the definition by Schaufeli et al. (2002). They define work engagement as: “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (Schaufeli et al., 2002, p. 74). Thus, rather than a momentary and specific state, they believe Engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour.

1.3.3 Occupational Stress

As with Burnout, a spectrum of definitions has been used to describe Occupational stress. Other words that have been used in the past as a substitute for Stress are conflict, frustration, trauma, alienation, anxiety, depression and emotional distress (Lazarus, 1990). Stress can be defined as an imbalance between a person's perceived environmental demands and their perceived ability to cope with these demands. In the workplace Stress can be caused when the demands placed on the worker becomes excessive (Matthews, Zeidner & Roberts, 2002). These demands could include, for example, work load and time pressure, role ambiguity, lack of social support and client related demands. Stress is generally thought to be subjective in nature, rather than objective (Cox, 1978; Lazarus & Folkman, 1984). Thus, Occupational stress is known to occur within a person's appraisal of their ability to cope with exposure to psychosocial and physical conditions in their workplace (Cooper et al., 1999). The focus of Occupational stress is on the perception of the stressors and not necessarily on an objective evaluation of the stressors or demands of a person's environment.

1.3.4 PsyCap

Luthans, Youssef and Avolio (2007, p. 3) define PsyCap as: "an individual's positive psychological state of development characterized 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 towards 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 (Resiliency) to attain success." Thus, the four constructs included in this second order construct of PsyCap, is Hope, Optimism, Self-efficacy and Resilience.

Research has shown that the PsyCap, as well as each component included in it, may have some stability over time. However, these constructs are not as stable as personality traits and other core evaluations, and have been shown to have state-like characteristics, rendering them to be fairly malleable (Carver & Scheier, 2005;

Luthans et al., 2008; Luthans, Vogelgesang & Lester 2006; Masten & Reed, 2002; Seligman, 1998).

1.4 FRAMEWORK OF THIS STUDY

This thesis will firstly, in chapter 2, present the theoretical framework for this study. It will present the major research conducted on each of these constructs and their relationships amongst each other. This will be done to ground the current research and pave the way to establishing the need and utility for this study. Chapter 3 will introduce the rationale, aims and objectives of this research as well as the research methodology that were used. An analysis of the results of this the study will be presented in chapter 4. In chapter 5 a discussion of the results and how it compares to existing literature as well as limitations of the study and recommendations for future research, is presented.

1.5 CHAPTER SUMMARY

The purpose of this chapter was to provide an overview of this study. The current work environment was introduced and the major problems employees experience within this changed work environment was highlighted. The main constructs, Burnout, Employee Engagement, Occupational stress and PsyCap was introduced and defined and both the motivation for, and purpose of the study, were clarified. The next chapter will provide a detailed overview of the constructs already introduced in this chapter and specific reference will be made to important literature and previous research involving these constructs.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The current chapter explores in detail the four constructs (Burnout, Employee Engagement, Occupational stress and PsyCap) included in this study. Different definitions, theories, antecedents and consequences with regards to these four constructs, as well as previous empirical research will be presented in such a manner so as to build the theoretical framework for this study. The final section of this chapter will discuss the relationships between all of the constructs, setting the stage for the research rationale and aims of this study which will be discussed in chapter 3.

2.2 BURNOUT

2.2.1 Introduction

A large proportion of today's workforce finds itself coping with major responsibilities at home, as well as rising expectations and demands on the job. The combination of work and family demands often leads to time pressure and conflict. As a result, a growing number of employees in today's organizations are suffering from Burnout. Burnout has severe consequences for the individual (like negative psychological-, psychological- and behavioural outcomes), the family (including diminished positive affect, increased marital conflicts, and feelings of stress among family members), as well as a negative effect on work outcomes (such as decreased work performance, organizational commitment, as well as increased absenteeism levels). These consequences encompass a severe negative impact on an organization as a whole and not just the individual person.

It is well known that Burnout is a serious problem in many professions and it has been studied among human service and health professions, doctors, nurses, psychologists, teachers as well as managers (Siyong, Zhu, Huangyuan, Wang & Wang, 2008). Existing research on Burnout has focused mostly on individuals in the helping professions, specifically health services, social services, teaching and childcare. It is typically believed to be most frequently and intensely experienced in

these occupations because of the high level of arousal from direct, frequent and intense interactions with clients (Cordes & Dougherty, 1993; Low, Cravens, Grant & Moncrief, 2001). Although the concept of Burnout was initially closely linked to the human services where individuals do 'people' work of some kind, it has been expanded to all other professions and occupational groups. Cordes and Dougherty (1993) also argue that Burnout is not exclusively the domain of these traditional helping professions but are also prevalent in other types of occupations, such as supervisory and managerial positions and work settings, which are focused on client service delivery. Thus, in the past research on Burnout have been mostly restricted to the helping professions, however, more recent literature supports the view of Cordes and Dougherty (1993) that Burnout is experienced by a variety of occupational groups beyond nurses, teachers and social workers. For example, research in the Netherlands showed that between 4% and 10% of the working population reported serious Burnout complaints (Bakker, Schaufeli & Van Dierendonck, as cited in Rothmann, 2003). Studies in South Africa obtained similar findings, like Pienaar (as cited in Rothmann, 2003), who found that 8,64% of a sample of 2 396 police officers showed serious levels of suicide ideation, while 15% reported stress related problems. Levert, Lucas and Ortlepp (2000) reported that 54,9% of psychiatric nurses in their study in South African government hospitals experienced a high level of emotional exhaustion (a dimension of Burnout; Maslach, Jackson & Leiter, 1996), whilst Van der Linde, Van der Westhuizen and Wissing (1999) found that 29% of female teachers in their study showed high levels of emotional exhaustion.

Over the years the concept of Burnout has grown immensely in popularity among researchers. Since 1975 research into the Burnout construct really started to take off. In the early eighties, the average publications were 200 per year, which increased to 300 at the end of 1980. At the turn of the century, in excess of 6 000 publications on Burnout had appeared (Schaufeli & Buunk, 2003). This rapid increase in research about Burnout is a good indication of the visible manifestation of this phenomenon in the workplace over the past few years.

2.2.2 Definition of Burnout

It was only in the late 1970s and early 1980s that systematic studies were conducted and published on Burnout (Cordes & Dougherty, 1993), paving the way for a clearer conceptualisation and definition thereof. Since then, several definitions of Burnout have been used in research and some of these more relevant definitions are stated below.

- Cherniss (1980, p. 145) described Burnout as a “process in which a previously committed professional disengages from his or her work in response to stress and strain experienced in the job”.
- Chronic stress is mostly caused by constant emotional pressure which the individual cannot control. Burnout is considered to be a condition that occurs over time and is characterised by emotional exhaustion and negative attitudes that include boredom, discontent, cynicism, inadequacy and failure. It usually occurs when a person experiences physical, psychological and/or spiritual fatigue and can no longer cope (Crampton, Hodge, Mishra & Prices, 1995).
- Burnout is defined as an extreme case of chronic stress (Cooper et al., 2001).
- Burnout is also defined as, “...a prolonged response to chronic emotional and interpersonal stressors on the job” (Maslach et al., 2001, p. 397) and encompasses three distinct states in which employees feel emotionally “spent” (emotional exhaustion), display a detached attitude toward others (depersonalisation), and experience a low sense of efficacy at work (diminished personal accomplishment) (Maslach & Jackson, 1986; Brotheridge & Grandey, 2002).
- According to Maslach (2003), Job Burnout is a psychological syndrome that involves a prolonged response to stressors in the workplace and it is a chronic strain that results from incongruence between the worker and his job.

The most common and popular definition of Burnout is that of Maslach and Jackson (as cited in Schaufeli & Buunk 2003, p. 386) which states that “burnout is a syndrome of emotional exhaustion, depersonalization and reduced personal accomplishment that can occur among individuals who do people work of some kind.” Burnout was later broadened to include all occupations and was thereafter

regarded as a construct that comprises three components: exhaustion, cynicism and professional efficacy (Schaufeli et al., 1996).

2.2.3 History and theories of Burnout

The first person to identify the concept of Burnout was Bradley (as cited in Schaufeli & Buunk, 2003, p. 383) when he used the term “staff burnout” in an article about probation officers who ran a community based treatment programme for juvenile delinquents in 1969. However, in 1974 Herbert Freudenberger, who was a psychiatrist, introduced the term in a paper entitled: “*staff burnout*,” and he is therefore considered to be the founding father of the concept of Burnout (Kristensen et al., 2005; Schaufeli, 2003). Freudenberger observed that many of the volunteers, who worked in a free health care clinic for drug addicts in New York, suffered from gradual energy depletion and loss of motivation and commitment. This condition was accompanied by a wide array of mental and physical symptoms. He chose the word “burnout,” as it was a word which was common at the time to describe the effects of chronic drug abuse (Schaufeli & Buunk, 2003).

According to Perlman and Hertman (1982), Freudenberger originally described Burnout as exhaustion, wearing out and failing. Later he expanded his definition of the concept to include elements such as loss of creativity and commitment for work; an estrangement from clients, co-workers and job; a response to chronic stress of making it to the top; and a syndrome of inappropriate attitudes towards clients and yourself, which is often associated with uncomfortable physical and emotional symptoms. Freudenberger used a clinical approach and defined Burnout as a mental disorder. According to him, the disorder could result from personal characteristics such as intra-personal conflicts, dysfunctional personality traits and ineffective coping mechanisms (Schaufeli, 2003).

Another approach to the concept of Burnout is that of Christina Maslach which originated in 1976. During the same time as Freudenberger she conceptualized Burnout in a more scientific manner (Kristensen et al., 2005; Maslach et al., 2001). In cooperation with Jackson they developed an accepted, standardised and psychometrically sound instrument, the Maslach Burnout Inventory (MBI; Maslach &

Jackson, 1986), to measure this construct (Cordes & Dougherty, 1993). At that point in time (1986), Burnout was restricted to the helping profession. This definition of Burnout (previously described) is made up of three negative response patterns, namely (a) *emotional exhaustion*, (b) *depersonalization* and (c) *diminished personal accomplishment* (Maslach, 1982; Maslach & Jackson 1981; Pines & Maslach 1981

a.) *Emotional exhaustion*

Emotional exhaustion is characterized by a lack of energy and a feeling that one's emotional resources are depleted. Employees with Burnout feel unable to give more of themselves at a psychological level. This may coexist with feelings of frustration and tension as employees feel they cannot continue to give of themselves or be responsible for clients in the same way as they have been in the past (Cordes & Dougherty, 1993). Emotional exhaustion can be noted in physical characteristics such as waking up just as tired as when having gone to bed, or lacking the required energy to take on another task or face another encounter (Maslach & Leiter, 1997). A common symptom of emotional exhaustion is dread at the prospect of returning to another day of work (Cordes & Dougherty, 1993).

A number of determinants of emotional exhaustion have been defined by Cordes and Dougherty (1993) with the three most important ones being (i) work overload; (ii) role conflict; and (iii) interpersonal relationships. Work overload is defined as 'the perception of too much work to accomplish in the time available' (Powell, 1993, p. 53), which is suggestive of the existence of a mismatch between the person and the job. Role conflict is the second source of emotional exhaustion and may occur when an individual has certain job expectations which may be in conflict with individuals already within the organisation. Trying to reconcile these differences can lead to frustration and emotional exhaustion (Jackson, Schwab & Schuler, 1986). Personal expectations can also add further to emotional exhaustion. Having unrealistic expectations of the job that one has newly undertaken and coming to the realisation that these expectations are not met further adds to this frustration (Philip, 2004). The third source of emotional exhaustion is interpersonal relationships, which can especially contribute to emotional exhaustion when the relationships of an employee are very intense and emotional.

b.) Depersonalisation

Depersonalization has been defined as the development of negative, cynical attitudes and feelings, which may be linked to the experience of emotional exhaustion, i.e. a callous, dehumanized and unsympathetic perception and attitude of others. Cynicism also indicates that an employee is no longer willing to perform duties due to decreasing tolerance levels to put in any effort (Mostert & Joubert, 2005). This stage is characterised by a detachment from work and people. Also, other people are treated as impersonal objects and this is especially experienced by employees in disciplines which work closely with people on a daily basis (Philip, 2004). Visible symptoms include the use of derogatory language when referring to clients; withdrawal from the job through taking longer breaks; engaging in extended conversations with co-workers during work time; or the increased use of work related terminology or jargon which would be unfamiliar and alienating to the client (Cordes & Dougherty, 1993).

c.) Diminished personal accomplishment

The third aspect of the Burnout syndrome, according to Maslach (1982); Maslach and Jackson (1981); and Pines and Maslach (1981) is diminished personal accomplishment. This refers to the tendency to evaluate oneself negatively, particularly with regard to one's work, as well as the experience of helplessness and a low self-efficiency at work (Brotheridge & Grandy 2002; Cordes & Dougherty 1993). This may result in feelings of unhappiness about oneself as well as dissatisfaction with accomplishments on the job. The individual feels inadequate and unproductive which in turn, has a direct effect on the quality of the work they produce (Cordes & Dougherty, 1993; Philip, 2004).

More than 90% of the studies done on Burnout make use of this conceptualization of the construct of Burnout as well as the Maslach Burnout Inventory (MBI), which was developed by Maslach in 1981. This makes this conceptualization of Burnout the most popular questionnaire and theory by far (Kristensen et al., 2005).

In 1996 Maslach (Schaufeli & Buunk, 2003) broadened the concept from the original, where only 'helping professions' were included, to defining Burnout as a crisis in a

person's relationship with work in general. Exhaustion (replacing emotional exhaustion of the original conceptualization) now refers to fatigue, irrespective of its cause; cynicism (replacing depersonalization of the original conceptualization) reflects an indifferent attitude towards work instead of people; and a lack of professional effectiveness includes both social and non-social aspects of occupational accomplishment (Schaufeli & Buunk, 2003). Burnout was also detected in other industries and occupational groups, thus, causing a need to define it outside the original spectrum of helping professions and terms related to those industries only.

According to Maslach and Schaufeli (1993) the objective diagnostic criteria for Burnout starts off with severe fatigue as the subjective indicator. This is accompanied by: (1) loss of self-esteem, resulting from a feeling of professional incompetence; (2) multiple physical symptoms of distress, without an identifiable organic illness; and (3) problems in concentration, irritability and being negative. The principal objective indicator of Burnout is a significant decrease in work performance over a period of several months. This needs to be observed by the recipients of the individual's work, the supervisor responsible for the person's output at work and the colleagues of the person experiencing Burnout. In the construction industry where work teams are used for every contract/project, employees work very closely together which should make the identification of possible Burnout signs easier if the team leader/manager and co-workers are informed of the symptoms of Burnout.

2.2.4 Antecedents of Burnout

Numerous research studies have been devoted to understanding the factors contributing to Burnout (Schaufeli & Greenglass, 2001). Possible factors such as (1) biographical characteristics; (2) personality characteristics; (3) work-related attitudes; and (4) work and organisational characteristics have been considered to be particularly significant (Leiter, 1990). Moreover, evidence suggests that job stress influences the degree of Burnout experienced as several definitions of stress point out that prolonged stress can eventually lead to Burnout (Maslach & Schaufeli, 1993). Research has shown that prolonged emotional stress can have harmful and debilitating effects for an individual. For this reason, research on stress has been

included when investigating the phenomenon of Burnout, in an attempt to gain a deeper understanding of the complexities of its antecedents (Cordes & Dougherty, 1993).

Previous research has shown that Burnout is in particular present in occupations with high levels of interpersonal contact and interactions (Cordes & Dougherty, 1993). In addition, other predictors of Burnout include: workload (Lee & Ashforth 1996; Schaufeli & Buunk, 2003; Zapf 2002); role stress (Lee & Ashforth 1996; Zapf, 2002); role conflict (Lee & Ashforth 1996; Schaufeli & Buunk, 2003; Zapf 2002); job context (Cordes & Dougherty, 1993; Siying et al., 2008); and unmet employee expectations (Schwab, Jackson & Schuler, 1986). In addition, research has confirmed that the frequency or quantity of interactions with clients (it is argued that it is the emotional content of the interaction that is a crucial factor in understanding why Burnout occurs) and the need to conform to organisationally mandated emotional display rules, which will result in role overload, psychological strain and Burnout (Cordes & Dougherty, 1993; Hochschild, 1983; Montgomery, Panagopolou, de Wildt & Meenks, 2006; Rafaeli & Sutton, 1989). Schaufeli and Buunk (2003), furthermore, added lack of social support, lack of self-regulatory activity (which is normally instrumental in achieving one's goals at work), and client related demands as factors which may lead to Burnout. Burnout thrives in the workplace and is most likely to occur when there has been a mismatch between the nature of the job and the nature of the person doing the job (Maslach & Leiter, 1997). However, initial research on Burnout has viewed it as a consequence of workaholicism or of overachievement (Strumpfer, 2003).

A process model of Burnout which assumes that job demands and resources are differentially associated with the three Burnout components, has been suggested by Leiter (1993). Lee and Ashforth (1996), in their meta-analytic study comprising 66 previous studies of Burnout, consequently confirmed this process model. Their results suggested that job demands are more strongly related to exhaustion, while job resources are more strongly related to cynicism and professional efficacy. A recent study by Schaufeli, Bakker and Van Rhenen (2009) evaluated the relationship between increased job demands (i.e., overload, emotional demands, and work-home

interference) and decreases in job resources (i.e., social support, autonomy, opportunities to learn, and feedback) and Burnout (MBI-GS; Schaufeli et al., 1996). They found that when job demands are increased and job resources are decreased, Burnout will increase.

Most of the discussed antecedents to Burnout, like work- or organizational characteristics, are things that can be addressed by organizations in order to decrease the occurrence of Burnout among their workforce.

2.2.5 Consequences of Burnout

In recent years Burnout has become one of the major areas of concern in various professional fields in relation to the rapidly developing research regarding Stress and its harmful consequences both in personal, as well as career life. The consequences of Burnout are potentially serious for employees, clients and the larger institutions in which they interact. It impacts negatively on the person as an individual, his personal and professional life, as well as on the organisation as a whole, which is why organizations must find ways and interventions to deal with this harmful phenomenon.

The three negative response patterns of emotional exhaustion, depersonalization and diminished personal accomplishment, have been linked with emotional and physical consequences, as well as interpersonal and organisational consequences (Burke & Greenglass, 1995; Cerniss 1992; Cordes & Dougherty, 1993; Lee & Ashforth, 1996). Kondylis, Pandelis, Sfakianakis and Prokopiou (2004) identified three types of consequences of Burnout, namely, mental and physical health; personal relationships; and professional behaviour and performance. On a personal level, Maslach et al. (1996) as well as Maslach and Jackson (1986) associated Burnout with increased marital and family conflict. Similarly to the above three categorizations, Schaufeli and Enzmann (1998) categorized the consequences of Burnout in three categories, namely (a) individual level; (b) work orientation and attitudes; and (c) organisational level. These three categories of Schaufeli and Enzmann (1998) will be discussed in more detail below.

a.) Individual level

The consequences on an individual level include emotional, physical and behavioural outcomes and are similar to the mental and physical health consequences as categorized above. Emotional consequences can be symptoms such as depression, irritability, helplessness and anxiety (Cordes & Dougherty 1993; Jackson & Maslach 1982; Schaufeli 2003; Schaufeli & Enzmann, 1998). Physical consequences can manifest itself in stress-related illnesses (like fatigue, insomnia, headaches and gastrointestinal disturbances) (Kahill, 1988); psychosomatic complaints (Schaufeli 2003); and physical exhaustion (Schaufeli, 2003). Lastly, behavioural problems can manifest in the form of consumption behaviours like alcohol and drug usage (Cordes & Dougherty, 1993; Maslach and Jackson, 1986).

b.) Work orientation and attitudes

The work orientation and attitudinal consequences include interpersonal consequences for an employee, such as a change in the nature or frequency of interactions with clients or co-workers (Jackson & Schuler, 1983). An individual with Burnout will show signs of this by showing less tolerance; having a negative work attitude; being moody and impatient; withdrawing from client contact; spending more time talking to other employees; or taking longer breaks and lunch periods (Cordes & Dougherty, 1993; Maslach & Pines, 1977; Schaufeli & Enzmann, 1998). Burnt-out workers also tend to neglect important aspects of their jobs or provide a lower level of client service (Freudenberger, 1975; Maslach & Leiter, 1997). All of this leads to higher employee turnover, increased absenteeism, and low employee morale (Freudenberger, 1975; Maslach, 1976; Pines & Maslach, 1980). Burnout has also been defined as the opposite of Engagement and thus, high Burnout levels of an individual will lead to lower engagement (Rothmann, 2003).

c.) Organisational level

The consequences that influence the organisation and occur at this level include most of the negative outcomes of the previous level (work orientation and attitudes) because these behaviours of employees will in effect harm the organization as a whole. These negative consequences can include things like increased staff turnover and absenteeism; low employee morale; increased intention to quit; as well as lower

quality and quantity of job performance (Cordes & Dougherty 1993; Jackson, Turner & Brief, 1987; Lee & Ashforth, 1996; Gaines & Jermier, 1983; Schaufeli & Enzmann, 1998; Wright & Bonett, 1997; Wright & Cropanzano, 1998). Research has shown that members of work groups may get “infected” by colleagues who experience Burnout and will in fact show similarly high levels of Burnout (Zapf, 2002). The construction industry is especially susceptible to this tendency as employees consistently work together closely in work teams. Hence, Burnout of one employee can be contagious to fellow employees.

In addition to these three levels, Patel (2008), identifies a number of general symptoms such as losing interest in everyday activities; a decrease in energy levels; physical symptoms (like sleeplessness, irritability and unhappiness); helplessness and hopelessness; weight-loss or weight-gain; and feelings of detachment and isolation, as signs of Burnout. Moreover, Crompton et al. (2000) argue that Burnout also leads to negative attitudes that include boredom, discontent, cynicism, inadequacy and failure. This state may even force an individual to become introverted.

The numerous documented negative consequences of Burnout clearly show the detrimental effect it has on the success of an organisation. In the current difficult economic conditions with the fight for survival and increase in competition, organisations cannot afford to ignore the effect of Burnout on its workforce and organisation as a whole. The exact effect of this phenomenon can be determined by measurement, which will also allow for research studies to further explore and explain this concept in more depth.

2.2.6 Measuring Burnout

Many different measurement instruments for Burnout have been proposed since the origin of the concept. Most of these instruments are self-report measures designed to assess the level of Burnout in the human services profession (Schaufeli & Buunk, 2003). However, as seen below, instruments to measure Burnout in other occupations has also been developed.

Originally, a variety of idiosyncratic methods were used to measure the Burnout construct. Prior to all the research and emerging definitions of Burnout, the syndrome of Burnout was described rather unsystematically by what can be called 'clinical observation.' Freudenberger (as cited in Schaufeli & Buunk, 2003), being a psychoanalytical orientated psychiatrist, made use of this method as he observed many mental and physical symptoms among the voluntary clinic staff members with whom he was working. Despite this initial clinical base, a systematic observation method to assess Burnout was never developed. Forney, Wallace-Schutzman and Wiggers (1982) developed the 'structured interview' as a way to assess Burnout. Unfortunately, this approach has not been followed by other researchers and it has not been used within the field of Burnout measurement. Projective drawings (Haack & Jones, 1983) have also been used to assess levels of Burnout among individuals. This was done by requesting 26 nurses to draw how burned-out they felt after which each drawing was independently rated by two psychologists on a 4-point rating scale, ranging from "not burned out" to "very burned out." During the same time, the nurses were also administered another Burnout measure, the Staff Burnout Scale (Jones, 1980) for health professionals (SBS-HP) (this instrument will be discussed in more detail later). Based on their scores on the SBS-HP, the nurses were divided into two groups, a high-Burnout group and a low-Burnout group. As was expected, the high-Burnout group drew pictures of Burnout that were rated as expressing significantly more Burnout than the low-Burnout group. Common themes of the pictures drawn by the high Burnout group were exhaustion, isolation, regression, powerlessness, being broken or injured, as well as feeling overwhelmed. Although empirical testing yielded positive results, this method is not very promising as the criteria for Burnout used here, is unclear. Lastly, a self-assessment method has been utilized by Rafferty, Lemkau, Purdy and Rudisill (1985), as well as Meier (1984) to measure Burnout. In the study by Rafferty et al., (1985) participants were asked to describe themselves over the past few months, keeping in mind the definition of Burnout provided by the researchers. Their responses were captured in the form of a 9-point rating scale ranging from "not at all burned out" to "very burned out." After the self-report they also completed the MBI and the results showed a moderate correlation between the self-reported Burnout and emotional exhaustion ($r = .48$) and depersonalisation ($r = .34$) of the MBI. Meier (1984), in his research on Burnout,

provided the participants with a brief description of Burnout and they were then asked to indicate on a 7-point rating scale the extent to which the construct, as defined and explained by Meier, describe their current state. Again, the self-ratings correlated moderately with the other Burnout measures the participants completed during the study, namely the MBI (Maslach & Jackson, 1981) sum score ($r = .65$); the Meier Burnout Assessment Scale (Meier & Schmeck, 1985) ($r = .63$) and the Emener-Luck Burnout Scale (Emener, Luck and Gohs, 1982) ($r = .66$).

Most of the above-mentioned methods for measuring Burnout are atypical and have only occasionally been used by the individual researchers. Self report measures are the most popular type of assessment method for Burnout. The majority of the self-report inventories consider Burnout exclusively on an individual level and assess the feelings and emotions that are generated in work-related settings. A review of some prominent self-report Burnout measures is provided in table 2.1.

Table 2.1: Summary of different Burnout measures

Measurement instrument	Authors and date	Sub-dimensions and measured components	Number of items	Internal consistency yielded by authors
Perceptual Burnout Inventory	Ford, Murphy and Edwards (1983)	Sub-dimensions / components: <ul style="list-style-type: none"> Emotional exhaustion and cynicism Demoralized, frustrated feelings and reduced efficiency Excessive demands on energy, strength and resources 	15 items	.67 - .86
Emener-Luck Burnout Scale (ELBOS)	Emener et al. (1982)	Sub-dimensions / components: <ul style="list-style-type: none"> Work-related feelings Work environment provisions Dissonance between the individual's perception of self and others perception of self Job alternatives 	30 items	Not available
Burnout index	Shirom and Olivier (1986)	Sub-dimensions / components: <ul style="list-style-type: none"> Physical-, cognitive-, and emotional exhaustion Wearing out of resources 	6 items	.86
Oldenburg Burnout Inventory (OLBI)	Dememrouti and Bakker (2007)	Sub-dimensions / components: <ul style="list-style-type: none"> Exhaustion Disengagement 	16 items	.55 - .57
Meier Burnout Assessment (MBA)	Meier and Schmeck (1985)	Sub-dimensions / components: <ul style="list-style-type: none"> Assess respondents' cognitions and expectations related to Burnout Based on social learning theory 	23 items	.79

Some Burnout instruments also assess the situation on the job, i.e. individual's perception of the organization and its employees. Such instruments assess both individual and organizational aspects of Burnout and have been developed for specific occupational professionals. The Nursing Stress Scale (NSS; Gray-Toft & Anderson, 1981); Teacher Stress Inventory (TSI; Fimian, 1984); Psychologist's Burnout Inventory (PBI; Ackerley, Burnell, Holder & Kurdel, 1988); Staff Burnout Scale for Health Professionals (SBS-HP; Jones, 1980); Teacher Attitude Scale (TAS; Farber, 1984) and the Medical Personnel Stress Survey (MPSS; Hammer, Jones, Lyons, Sixmith & Afficiando, 1985) are examples of such questionnaires. The two most prominent Burnout measures, often used in empirical research studies, will be briefly discussed next, followed by a discussion of the instrument used in this study, the Copenhagen Burnout Inventory (CBI; Kristensen et al., 2005).

a.) Burnout Measure (BM)

The Burnout Measure (BM) is the second most used Burnout questionnaire after the MBI. According to the test authors, Pines and Aronson (1988), burnout is identified as a "state of physical, emotional and mental exhaustion caused by long-term involvement in situations that are emotionally demanding". In terms of this view, Burnout is not restricted to certain professions, as is the case with the original MBI. The BM consists of 21 items that express exhaustion and are scored on a 7-point rating scale, ranging from "never" to "always." The authors denote the BM as a three dimensional construct that comprises physical-, emotional- and mental exhaustion although they view the questionnaire as one dimensional. Therefore, a single composite Burnout score is computed (Schaufeli & Buunk, 2003). This exhaustion is not necessarily work related. Schaufeli and Buunk (2003) state that this instrument's factorial validity is not beyond question, as there appear to be two strongly related factors, exhaustion and demoralisation, instead of a global Burnout factor. The BM seems to be a useful research instrument, as is demonstrated by the psychometric findings obtained by several researchers. The internal consistency coefficient range from .91 to .93 and the test-retest reliabilities from .66 to .89, across a one- and four-month interval respectively (Pines & Aronson, 1988). The BM is also strongly related with the MBI emotional exhaustion and depersonalisation dimensions ($0.50 < r < 0.7$)

and somewhat less strongly associated with the personal accomplishment dimension ($-0.25 < r < -0.30$).

b.) Maslach Burnout Inventory (MBI)

Maslach and Jackson (1981, 1986) developed the Maslach Burnout Inventory (MBI) and this is currently the most widely used research instrument in the area of Burnout measurement. The 22-item inventory comprises three subscales that assess the different components of Burnout: emotional exhaustion (EE; 9 items), depersonalization (DP; 5 items) and personal accomplishment (PA; 8 items). The MBI does not provide a single Burnout score, therefore, a high score on the first two subscales and a low score on the latter subscale are indicative of a high level of Burnout. The instrument has been translated into several languages and has been demonstrated to have good construct validity in many countries (e.g. Kantas & Vassilaki, 1997; Schaufeli, Daamen & van Mierlo, 1994). The internal consistency of the three MBI scales is satisfactory, with Cronbach's Alpha values ranging from .71 to .90 in a normative sample, as well as in other samples with different occupational groups. Test-retest coefficients have been found to range from .60 to .80 across a 1-month period among prison guards (Maslach and Jackson, 1986); .33 - .67 across a 1-year period among teachers; and .34 - .62 across a 1-year period among human service professionals.

In subsequent work three other versions of the instrument, based on the original version of the MBI, were developed. This enabled the measurement of Burnout in other occupations as well. These include the Maslach Burnout Inventory - Human Services Survey (MBI-HSS); the Maslach Burnout Inventory - Educators Survey (MBI-ES); and the Maslach Burnout Inventory - General Survey (MBI-GS.). The psychometric properties of these three versions is encouraging, as the three dimensions in these surveys are internally consistent, with the three factor structure being confirmed in various studies. In addition, the core symptom of Burnout – emotional exhaustion – is the most robust scale of the MBI and is strongly related to other Burnout measures (Schaufeli & Buunk, 2003).

c.) Copenhagen Burnout Inventory (CBI)

This study will make use of the Copenhagen Burnout Inventory (CBI) to measure the construct of Burnout. This is still a relatively new instrument and was developed by several researchers from the National Institute of Occupational Health (NIOH) in Copenhagen, Denmark. When trade unions in Copenhagen noticed a drastic increase of long-term sick leave and early retirement of workers in the human service industry, an independent scientific research study was requested in 1997 by researchers from the NIOH in Copenhagen. The study was named PUMA, which is a Danish acronym for a project on Burnout, Motivation and Job Satisfaction. Due to the MBI and BM being the most popular instruments at the time, these were used in the project. Both these tests were translated into Danish. A pilot study was performed. However, it was found that these instruments were not suitable for the intended project. To this end, several theoretical arguments / reasons were proposed (Kristensen et al., 2005).

The first argument pertained to the fact that the MBI was designed to measure Burnout within the human service profession only. Many of the questions in the 1986 version of the MBI, designed to measure Burnout in employees with frequent contact with clients and / or patients, are phrased in a way so that they can only be answered by individuals who do “people work.” However, Burnout is not only restricted to human service work (as was later acknowledged by the authors of the questionnaire). Thus, this means that the researchers ended up in a circular argument. The basic assumption – the restriction of Burnout to individuals who do people work – cannot be challenged, and the basic hypothesis (that the emotional demands inherent in “people work” increase the risk of Burnout) cannot be tested, since the questionnaire cannot be used in an “unexposed” group where people do not do “people work” (Kristensen et al., 2005).

The second concern for the PUMA researchers was the question of: ‘what does MBI-GS measure?’ They were not able to find a new definition of Burnout in connection with the presentation of the new questionnaire (the MBI-GS) as adapted from the original MBI. In most papers, the original authors simply wrote that the MBI-GS was created because there was a “demand” for it. The PUMA researchers stated that it

was difficult to understand how a questionnaire with 16 questions related to the domain of paid work (which is the MBI-GS) can measure “the same” as a questionnaire with nine questions related to “recipients”, nine to work, and four to individual symptoms (which is the MBI) (Kristensen et al., 2005).

Thirdly, the PUMA researchers also noticed an unclear relationship between the MBI and the concept of Burnout. At first glance the MBI and the Maslach definition of Burnout seem to match each other perfectly. This definition states that Burnout is “...a prolonged response to chronic emotional and interpersonal stressors on the job” (Maslach, Schaufeli & Leiter, 2001, p. 397) and encompasses three distinct states in which employees feel emotionally “spent” (emotional exhaustion), display a detached attitude toward others (depersonalisation), and experience a low sense of efficacy at work (diminished personal accomplishment) (Maslach & Jackson, 1986). This definition includes three dimensions, namely emotional exhaustion, depersonalisation, and reduced personal accomplishment, and so does the MBI. According to the PUMA researchers, however, operationalisation of Burnout through the MBI-GS is, still unclear. According to the definition, Burnout is characterized by the simultaneous occurrence of all three dimensions, but according to the MBI manual the three dimensions should be measured independently. This has also been confirmed by factor analyses where the construct has been shown to have three distinct and different dimensions. Moreover, recent studies (e.g. Schutte, Toppinen, Kalimo, and Schaufeli; as cited in Kristensen et al., 2005) have suggested that the dimension of “personal accomplishment” may not even be a part of the total concept of Burnout.

The fourth reason for the development of the CBI was rooted in the stance that depersonalisation is a coping strategy developed in a specific situation. Hence it should be analysed as such, together with other coping strategies and in the light of the literature on coping and stress. Moreover, the PUMA researchers believed that reduced personal accomplishment should be seen as one of many consequences of long-term stress and that both these constructs (i.e. depersonalisation and reduced personal accomplishment) should not be hidden as parts of a syndrome (Kristensen et al., 2005).

Fifthly, during the PUMA pilot study, the MBI and the BM were tested on approximately 70 human service workers in Denmark. The biggest concern that emerged from the pilot study was that the MBI seem to be to 'American' and may not translate well to other countries and samples. Lastly, the three versions of the MBI are not available in the public domain. They are distributed by a commercial company. This means that the full questionnaires with response options are not available in normal scientific journal articles and one must pay to obtain it (Kristensen et al., 2005).

In reaction to the above arguments against the use of the MBI, the researchers from the PUMA study decided to develop a new Burnout instrument, namely the Copenhagen Burnout Inventory (CBI). According to the CBI, the core of Burnout is fatigue and exhaustion. It consist of three subscales: (a) Personal Burnout ("the degree of physical and psychological fatigue and exhaustion experienced by the person"); (b) Work Burnout ("the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work"); and (c) Client Burnout ("the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients") (Kristensen et al., 2005, p. 197). Thus, due to the above mentioned constraints of the two most popular Burnout measures, the MBI and the BM, it was decided to make use of the CBI for the purposes of this research study. Some of the measurement instruments of Burnout can also be used to measure another construct, namely Employee Engagement. This is because Employee Engagement was originally viewed and defined as the opposite of Burnout (Maslach & Leiter, 1997). However the CBI is not one of these instruments. Hence, Employee Engagement is defined and measured by an independent (from Burnout) instrument in this study.

2.3 EMPLOYEE ENGAGEMENT

2.3.1 Introduction

Employee Engagement has received a great deal of attention in the last five years, especially in the popular press and among consulting firms. It has often been touted as the key to an organisation's success and competitiveness. Indeed, Schaufeli and

Salanova (2007, p. 156) claim that Engagement is “essential” for contemporary organizations given the many challenges they face. In addition, Macey, Schneider, Barbera and Young (2009) have argued that organizations can gain a competitive advantage through increasing Employee Engagement. It has also been reported that Employee Engagement is on the decline and there is a deepening disengagement among employees today (Bates, 2004; Richman, 2006), stressing the importance of the construct in the contemporary management literature. Recent research has expanded the limited view of Engagement, where it was merely viewed as the opposite of Burnout, and found that Engagement is a more complex phenomenon. However, it is still widely accepted that an increase in an employees’ Engagement will decrease their Burnout levels. This should contribute to the health and well-being of individual employees within an organisation, as well as the organization as a whole.

2.3.2 History, development and definitions of Employee Engagement

The term Engagement, understood within the context of the employee work role, began to emerge within the organizational psychology and business literature some 15 years ago. To date, four lines of research, namely (1) Personal Engagement; (2) Burnout / Engagement; (3) Work Engagement; and (4) Employee Engagement characterize this study topic. Engagement at work research has developed in a relatively sequential manner and the above mentioned four constructs are defined and measured differently. However, controversy exists regarding the definition of Employee Engagement. Macey and Schneider (2008) note there are numerous definitions of the construct, but they all agree that Employee Engagement is desirable, has an organizational purpose, and has both psychological and behavioural facets in that it involves energy, enthusiasm, and focused effort. The development and definitions of these psychological conditions of Engagement will now be discussed in more detail.

a.) Personal Engagement

In 1990, Kahn introduced the concepts of Personal Engagement and personal disengagement. This introduction was based on the premise that previously conceptualized concepts, such as job involvement, organisational commitment, and

intrinsic motivation, are to far removed from employees' day-to-day experiences within their work role. Hence, Kahn (1990, p. 694) defined Personal Engagement and personal disengagement as: "the behaviours by which people bring in or leave out their personal selves during work role performances." Personal Engagement is further described as the employing or expressing of oneself physically, cognitively, and emotionally during work role performances. When engaged, an employee is understood to be physically involved, cognitively vigilant, and emotionally connected. Kahn (1990, p. 700) further notes 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." It is when engaged people become physically involved in their tasks, cognitively alert, and ardently connected to others in ways that demonstrate their individuality (e.g., thoughts, feelings, values, etc.). Engagement allows people to simultaneously express their preferred selves and completely satisfy their role requirements (Kahn, 1990). More generally, Engagement means to be psychologically present when occupying and performing an organisational role (Kahn, 1990, 1992). When people are psychologically present they feel, and are, attentive, connected, integrated, and focused in their role performances (Kahn, 1992). People vary in the extent to which they draw on themselves in the performance of their roles or what Kahn (1990) refers to as "self-in-role." Thus, when people are engaged they keep themselves within the role they are performing. In contrast, personal disengagement is the withdrawing or defending of oneself physically, cognitively, or emotionally during their work role performances.

b.) Burnout / Engagement

In 1997, Maslach and Leiter (2007, p. 23) extended the conceptualization of the Burnout construct to include a lack of Engagement in one's work. They rephrased Burnout as "an erosion of engagement with the job". Work that started out as important, meaningful and challenging becomes unpleasant, unfulfilling and meaningless. In the view of these authors, Engagement is characterised by energy, involvement and efficacy, which are considered to be the direct opposites of the three Burnout dimensions, namely exhaustion, cynicism and lack of professional efficacy, respectively. They also define Engagement as "an energetic experience of

involvement with personally fulfilling activities that enhance a staff member's sense of professional efficacy" (Leiter & Maslach, 1998, p. 351) and consider it to be comprising of energy, involvement and efficacy (Maslach et al., 2001). Therefore, they also assess Engagement by the opposite pattern of scores on the three Maslach Burnout Inventory (MBI) dimensions – low scores on exhaustion and cynicism, and high scores on efficacy are indicative for engagement. Stated otherwise, Engagement is understood to be the direct opposite of Burnout and exist on a continuum—with Burnout (exhaustion, cynicism and inefficacy) on one end and Engagement (energy, high involvement and high efficacy) on the other. Furthermore, employees are hypothesized to be somewhere along this continuum at any given point in time and both can be measured simultaneously with the MBI.

Schaufeli and colleagues partly agree with Maslach and Leiter's (1997) description, but they take a different perspective and define and operationalise Engagement in its own right. Although Schaufeli and Bakker (2001) also regard Burnout and Engagement as opposites, they believe that the two concepts should be measured independently. This makes it possible to investigate the relationship between Burnout and Engagement empirically. Schaufeli and Bakker (2002) state that "feeling emotionally drained from one's work 'once a week' does by no means exclude that in the same week one might feel bursting with energy." Acknowledging that Engagement and Burnout are experienced as opposite psychological states, Schaufeli et al. (2002) suggest that an employee who experiences low Burnout may not be experiencing high Engagement. Likewise, an employee who is highly engaged may not also be experiencing low Burnout. It is through the consideration of these constructs as unique and independent of one another that Schaufeli et al. (2002) defines and subsequently operationalizes work Engagement separate from that of Burnout (the operationalisation of Engagement which was used in this study).

c.) Work engagement

According to Schaufeli et al. (2002, p. 74), Work Engagement is defined as: "a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption." Rather than a momentary and specific state, Engagement refers to a more persistent and pervasive affective-cognitive state that

is not focused on any particular object, event, individual, or behaviour. In this definition, Engagement consists of three dimensions, namely Vigour, Dedication and Absorption. Firstly, Vigour is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Secondly, Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Lastly, Absorption is being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. Thus, Schaufeli et al. (2002) view Engagement as the opposite pole of Burnout but also as independent states with dissimilar structures which must be measured with different instruments.

d.) Employee Engagement

The final line of research that has considered Engagement within the employee work role can be found in the work of Harter et al., (2002) and Harter, Schmidt and Keyes (2003). Over the course of 30 years, The Gallup Organization researchers, conducted thousands of investigations of successful employees, managers, and productive work groups which have led to the development of their Employee Engagement model. While there is agreement with Kahn's Personal Engagement definition (1990; 1992), Harter et al. (2002, 2003) refer to Employee Engagement as occurring when individuals are emotionally connected to others and cognitively vigilant. Employee Engagement is seen as an "individual's involvement, satisfaction and enthusiasm for work" (Harter et al., 2002).

e.) Engagement versus Workholism

Work engagement is not the same as workaholism. Workaholics spend a great deal of time in work activities when given the discretion to choose whether to do so and they are excessively hard workers. In addition, workaholics are reluctant to disengage from work and they persistently and frequently think about work when they are not at work. This suggests that workaholics are obsessed with their work and they are compulsive workers (Scott, Moore & Miceli, 1997). On the other hand, engaged employees work hard (Vigour), are involved (Dedicated), and feel happily engrossed (Absorbed) in their work. In this sense, they seem similar to workaholics.

However, in contrast to workaholics, engaged workers lack the typical compulsive drive. For them work is fun, not an addiction, as was concluded from a qualitative study among 15 engaged workers (Schaufeli, Taris, Le Blanc, Peeters, Bakker & De Jonge, as cited in Bakker, 2007; Schaufeli, Leiter & Taris, 2008). Engaged employees work hard because they like it and not because they are driven by a strong inner urge they cannot resist. For workaholics, their need to work is so exaggerated that it endangers their health, reduces their happiness, and deteriorates their interpersonal relations and social functioning (Bakker, Demerouti & Burke, 2009). In short, work Engagement can be differentiated from workaholism (Taris, Schaufeli & Shimazu, 2010).

2.3.3 Antecedents of Employee Engagement

In the model of Employee Engagement delineated by Harter et al. (2003), four antecedents are deemed necessary for Engagement to occur within the workplace. This include: (1) clarity of expectations and basic materials and equipment being provided; (2) feelings of contribution to the organisation; (3) feeling a sense of belonging to something beyond oneself; and (4) feeling as though there are opportunities to discuss progress and grow. Also, based on the work of Ryan and Deci (2000), it could be argued that social-contextual events (e.g., feedback, communications and rewards) will affect Engagement. They found that optimal challenges, feedback and freedom from demeaning evaluations facilitate intrinsic motivation (which seems to be related to Engagement). Positive performance feedback enhances Engagement, whereas negative performance feedback diminishes it, although it seems that these effects are mediated by perceived competence, which points to the Self-efficacy component of PsyCap.

From a fortigenic paradigm (Strümpfer, 1995), psychological strengths can also create tendencies that are favourable to work Engagement. These strengths refer to, amongst others, (1) a sense of coherence (“A global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that (a) the stimuli deriving from one’s internal and external environments in the course of living are structured, predictable and explicable; (b) the resources are available to one to meet the demands posed by these stimuli; and (c) these

demands are challenges, worthy of investment and engagement) (Antonovsky, 1987); (2) generalized Self-efficacy (general, stable cognition (trait) that individuals have and carry with them and that reflects the expectation that they possess the ability to perform tasks successfully in a variety of achievement situations) (Bandura, 1977); (3) an internal locus of control (the believe they have control over their environment and their personal successes) (Rotter, 1966); (4) Optimism (a person's positive outlook towards life events) (Carver & Scheier, 2002); (5) and life satisfaction (a global evaluation by a person of his or her life) (Diener, Lucas & Oishi, 2002).

In addition to psychological strengths, several studies have also focused on state-like personal resources as predictors of Work Engagement. Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis & Jackson, 2003). It has been shown that such positive self-evaluations predict goal-setting, motivation, performance, job- and life satisfaction, and other desirable outcomes. The reason for this is that the larger an individual's personal resources, the more positive their self-regard and the more goal self-concordance is expected to be experienced (Judge, Bono, Erez & Locke, 2005). Individuals with goal self-concordance are intrinsically motivated to pursue their goals, and as a result they trigger higher performance and satisfaction (Luthans & Youssef, 2007). The four constructs of Hope, Optimism, Self-efficacy, and Resilience included in this study form part of psychological strengths and personal resources and thus it is argued that it will also be related to the Engagement experienced by employees.

The Job Demands–Resources Model (JD–R) (Bakker & Demerouti, 2007; Demerouti, Bakker, de Jonge, Janssen & Schaufeli, 2001) as a framework for study has predominated this particular line of Engagement research more recently. According to the JD-R model, the work environment can be divided into job demands and job resources. Job demands refer to physical, psychological, social, or organizational features of a job that require sustained physical and / or psychological effort from an employee that can result in physiological and/or psychological costs. In the construction industry the physical demands seems to play a big role, however, as

mentioned earlier, this industry also contains various psychological demands which employees face on a day-day basis. Common job demands, which initiate a health-impairment process, include work overload, job insecurity, role ambiguity, and role conflict. On the other hand, job resources refer to physical, psychological, social, or organizational features of a job that are functional in that they (1) help achieve work goals; (2) reduce job demands and the associated physiological and psychological costs; and (3) stimulate personal growth, learning, and development. It is this last job resource of employees' personal development, growth and learning that could also be applicable to the development of the state-like constructs of PsyCap (Hope, Optimism, Self-efficacy and Resilience) which may lead to an increase in the Engagement of employees. Job resources, which initiate a motivational process, can come from the organization (pay, career opportunities and job security), interpersonal and social relations (supervisor support, co-worker support and team climate), the organization of work (role clarity and participation in decision making), as well as from the task itself (skill variety, task identity, task significance, autonomy and performance feedback) (Bakker & Demerouti, 2007). Higher PsyCap may then, for example, allow an individual to have a more positive evaluation of available job resources and the utilisation thereof (e.g. better support utilisation, utilisation of career opportunities, of better interpersonal relationships and team climate). The basic premise of the JD-R model is that high job demands exhaust employees' physical and mental resources and lead to a depletion of energy and health problems. Job resources are motivational and can lead to positive attitudes, behaviour and well-being (Bakker & Demerouti, 2007). Job resources (which could be influenced by the personal resources of Hope, Optimism, Self-efficacy and Resilience) can help individuals cope with job demands and have been found to buffer the effect of job demands on job strain (Bakker & Demerouti, 2007).

Research on the JD-R model has found that job demands are related to Burnout and health problems while job resources predict work Engagement, extra-role performance, and organizational commitment (Bakker & Demerouti, 2007). Job resources have also been repeatedly identified as significant predictors of Work Engagement by Hakenen, Bakker and Schaufeli (2006); Llorens, Bakker, Schaufeli and Salanova (2006); Mauno, Kinnunen and Ruokolainen (2007); Schaufeli and

Bakker (2004); Bakker and Demerouti (2008); Schaufeli and Salanova (2007); and Xanthopoulou, Bakker, Demerouti and Schaufeli (2007a). Researchers, Schaufeli et al. (2009), in their study among 201 telecom managers, found that Engagement itself can also predict more Engagement. In their results, they found a positive gain spiral, which indicates that initial work Engagement (measured by the UWES; Schaufeli & Bakker, 2003) predicts an increase in job resources (measured by a shortened version of the Questionnaire on the Experience and Evaluation of Work, QEEW; Van Veldhoven, De Jonge, Broersen, Kompier & Meijman, 2002), which, in its turn, further increases work Engagement. Knowing this, organisations can invest in interventions and programmes in order to improve the job resources of their employees by developing their personal state-like resources of Hope, Optimism, Self-efficacy and Resilience – which may improve the positive utilisation of job resources. This may improve the Engagement of their workforce.

2.3.4 Outcomes of Employee Engagement

Numerous researcher have identified Employee Engagement as a key driver of (1) individual attitudes (Bates, 2004; Harter et al., 2002; Richman, 2006); (2) individual behaviour (Bates, 2004; Harter et al., 2002; Richman, 2006); (3) individual performance (Bates, 2004; Harter et al., 2002; Richman, 2006); (4) organisational productivity and performance (Bates, 2004; Harter et al., 2002; Richman, 2006); (5) employee retention and turnover (Bates, 2004; Harter et al., 2002; Richman, 2006; Schaufeli & Bakker, 2004); (6) organisation financial performance (Bates, 2004; Harter et al., 2002; Richman, 2006); (7) shareholder return (Bates, 2004; Harter et al., 2002; Richman, 2006); (8) organisational commitment (Hakenen et al., 2006); (9) service climate (Salanova, Agut & Peiro 2005) as well as (10) customer loyalty (Salanova et al., 2005).

With regard to organizational financial performance and shareholder return, Macey et al. (2009) have shown that, in a sample of 65 firms in different industries, the top 25% of companies on an engagement index had a greater return on assets (ROA), profitability, and more than double the shareholder value, compared to the bottom 25% of companies.

Moreover, Bakker, Demerouti and Verbeke (2004) showed that the individual job performance of engaged employees are higher than non-engaged employees' performance. They found that engaged employees received higher ratings from their colleagues on in-role and extra-role performance, indicating that engaged employees perform well and are willing to go the extra mile. In their survey among Dutch employees from a wide range of occupations, Schaufeli, Taris and Bakker (2006) also found that Work Engagement is related positively to in-role performance. These findings were expanded in another study among secretaries by Gierveld and Bakker (as cited in Bakker et al., 2008). They found that engaged secretaries scored higher on in-role and extra-role performance. In addition, results suggested that engaged secretaries had more influence on daily business.

In a study by Salanova et al. (2005) among personnel working in Spanish restaurants and hotels, it was established that Work Engagement predicted service climate, which in turn predicted employee performance and then customer loyalty. Harter et al. (2002) also found that employee turnover, customer satisfaction-loyalty and safety obtained the strongest relationships with Employee Engagement ($r = -.30$; $r = .33$; $r = .32$, respectively). Productivity and profitability also demonstrated positive correlations ($r = .25$; $r = .17$, respectively), but of a lower magnitude, with Engagement.

Bakker (2007) mentions four reasons why engaged workers perform better than non-engaged workers. He hypothesizes that engaged employees: (1) often experience positive emotions, including happiness, joy, and enthusiasm; (2) experience better psychological and physical health; (3) create their own job and personal resources (e.g., support from others); and (4) transfer their Engagement to others. Whereas positive emotions broaden people's thought-action repertoire (Fredrickson, 2003), good health facilitates performance because individuals can use all their mental and physical resources (skills, abilities, knowledge, etc.). Furthermore, employees who create their own resources (e.g. support) are better able to deal with their job demands and to achieve their work goals (Bakker & Demerouti, 2007). Finally, in most organisations performance is the result of the combined effort of individual

employees. It is therefore conceivable that the crossover of Engagement among members of the same work team increases performance.

2.3.5 Measuring Employee Engagement

There are several instruments that can be used to assess work Engagement. The instrument that is the most often used instrument to measure Engagement is the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002) which includes three subscales: Vigour, Dedication, and Absorption. There is more than one version of the UWES, but the one used in this study is the 9-item Utrecht Work Engagement Scale (UWES-9), as developed by Schaufeli, Bakker, and Salanova (2006). The UWES has been validated in several countries, including China (Yi-Wen & Yi-Qun, 2005), Finland (Hakanen, 2002), Greece (Xanthopoulou, Bakker, Demerouti & Kantas, in press), Japan (Shimazu, Schaufeli, Kosugi, Suzuki, Nashiwa & Kato, 2008), South Africa (Storm & Rothmann, 2003), Spain (Schaufeli et al., 2002), and the Netherlands (Schaufeli & Bakker, 2003; Schaufeli et al., 2002). All investigations used confirmatory factor analyses and showed that the fit of the hypothesized three-factor structure to the data was superior to that of alternative factor models.

Some of the other instruments used to measure Engagement is summarised in table 2.2.

Table 2.2: Summary of different Engagement measures

Measurement instrument	Authors and date	Sub-dimensions and components measured	Number of items	Internal consistency yielded by authors
The Gallup Workpalce Audit (GWA)	Harter, et.al (2002)	Components measured: <ul style="list-style-type: none"> All items measure employees' perceptions of work characteristics Items are related to productivity, profitability, employee retention and customer service 	12 items	Not available
Maslach Burnout Inventory (MBI)	Maslach et. al. (1996)	Sub-dimensions: <ul style="list-style-type: none"> Energy (indicated by a low score on exhaustion) Involvement (indicated by a low score on cynicism) Professional efficacy (indicated by a high score on efficacy) 	22 items	.71 - .90
Oldenburg Burnout Inventory (OLBI)	Demetouri & Bakker (2008)	Sub-dimensions: <ul style="list-style-type: none"> Vigour (opposite of exhaustion) Dedication (opposite of cynicism/disengagement) 	16 items	.55 - .57

2.3.6 Criticism of Employee Engagement

Both the concept of Employee Engagement and research on it has been subject to criticism. It is important to be aware of these criticisms of Engagement in order to eliminate doubt which may exist regarding the usefulness and validity of the construct. For example, it has been suggested that there may be substantial overlap and redundancy between Engagement and other constructs such as job satisfaction (Newman & Harrison, 2008; Wefald & Downey, 2009). However, there is overlap among many constructs in the organizational sciences. For example, meta-analysis of the association between job satisfaction and affective commitment reveals a correlation of .65 (Meyer, Stanley, Herscovitch & Topolnytsky, 2002). Yet, such levels of association still leave room for differential relationships with other outcome variables of interest and can add to our understanding of organizational phenomena. Nonetheless, as a relatively new construct, more work establishing the validity, differential antecedents and differential outcomes associated with Engagement is warranted.

As suggested by the descriptions above, Employee Engagement has also been criticized for lacking a consistent definition and measurement (Masson, Royal, Agnew & Fine, 2008). Mone and London (2010) define and measure Employee Engagement using an amalgam of six distinct constructs. A recently published paper defined and measured Employee Engagement as satisfaction, commitment and discretionary effort (Fine, Horowitz, Weigler & Basis, 2010). Advances in understanding Employee Engagement will be difficult if not impossible to achieve until a consensus is reached on a definition and measurement of the construct.

Additionally, research on Employee Engagement has been criticized for treating engagement almost exclusively as a static trait (Dalal, Brummel, Wee & Thomas, 2008). This is a valid point given that Kahn (1990) discussed Engagement as a state-like phenomenon in which people adjust their selves-in-role in response to the ebbs and flows of daily work. However, some recent research does treat engagement as a state-like phenomenon (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2009). An important distinction when defining Engagement is whether it is a state or behaviour. Although some consider Engagement to be a state (Schaufeli

et al., 2002), others have described it as consisting of a psychological state that has behavioural manifestations. For example, according to Kahn (1992), the state of Engagement which he refers to as psychological presence comprises four dimensions (attentiveness, connected, integrated, and focused), is manifested in terms of physical, cognitive, and emotional behaviours, termed Personal Engagement. In his model, Personal Engagement leads to performance outcomes. More recently, Macey et al. (2009) distinguished Engagement in terms of Employee Engagement feelings which consist of feelings of urgency, focus, intensity, and enthusiasm and Employee Engagement behaviours which consist of persistence, pro-activity, role expansion, and adaptability. Macey et al. (2009) also proposed a model of the Employee Engagement value chain in which Engagement feelings lead to Engagement behaviours and Engagement behaviours lead to performance outcomes. Thus, both the Kahn (1992) and Macey et al. (2009) models suggest that (1) Employee Engagement has state and behavioural dimensions; (2) the state of Engagement precedes and leads to Engagement behaviours; and (3) Engagement behaviours are directly related to performance outcomes. Thus, although there are still some uncertainties regarding the concept of Engagement, organizations would indeed benefit from investing in interventions designed to increase the Engagement of their employees as it is a valid construct which impacts on the employee, as well as the organization. Both Burnout and Engagement are significantly impacted by Occupational Stress, the construct which will be discussed next.

2.4 OCCUPATIONAL STRESS

2.4.1 Introduction

Most employees experience Stress on a day to day basis as a normal part of their personal lives, job and everyday life within an organisation environment. All employment generates Stress and strain to some degree (Koekse, Kirk & Koekse, 1993) and it is generally assumed that excessive Stress has negative implications (Dubey & Kumar, 1986). However, some employees experience Stress more severely than others, sometimes to a point where they may need time off from work, which lead to detrimental consequences for the organisation as a whole. Stress is, however, neither inherently bad nor destructive. It can be one of the best resources assisting a person to manage legitimate emergencies and attaining peak

performance, if it is utilised correctly. Unfortunately, Stress also has the potential to turn into distress or strain due to several reasons and it is this manifestation of Stress that is destructive for the individual and organization (Quick, Murphy & Hurrell, 1993) and will be dealt with in this research study.

Research by Smith, Brice, Collins, Matthews and McNamara (2000) found Occupational stress to be the highest in teaching, nursing, road transport, security, professionals and management occupations. One in every five people in these occupational groups reported high levels of Occupational stress. One recent analysis noted that 20% of the payroll of a typical company goes toward dealing with Stress-related problems (Riga, 2006). Moreover, research showed that Americans identify work as their most significant source of Stress because of heavy workloads, uncertain job expectations, and long hours (American Psychological Association as cited in Avey, Luthans & Jensen, 2009). In South Africa, Occupational stress is a big concern for companies as the Grant Thornton International Business Report (IBR) 2010 (as cited in Stress taking toll on SA business, 2010) reported that South Africa is ranked the 16th most stressed country among the 36 countries who participated in the study.

When employees experience high levels of ongoing Stress it will have a severe negative impact on the organization. It results in added cost for the organization in terms of staff turnover; increased absenteeism; and poor work performance (Faragher et al, 2004). Early retirement due to ill health; loss of production quantity and value; lack of return on investment of human capital; and even litigation against the organization can be caused by this phenomenon (Cooper et al., 2001). All of these factors could, in the end, impact on the success of the organisation and its profitability, which is why it is important for organisations to pay attention to this growing phenomenon and intervene in appropriate ways.

2.4.2 Definition of Stress

Little consensus exist regarding a single definition of Stress. Numerous models have attempted to capture the dynamics of the Stress construct. For example, Aldwin (1994) categorised Stress into two forms, namely acute Stress and chronic Stress.

Acute Stress is a response to pending danger, whereas chronic Stress is caused by constant emotional pressure the individual cannot control. The latter form of Stress is the type all people experience on a daily basis while trying to deal with the pressures of modern life. The hormones unleashed by this form of Stress are very useful in the short term, but can become subtly toxic if it persists. Chronic Stress is psychologically more harmful since it impacts negatively on an individual's overall well-being (Crampton, Hodge, Mishra & Price, 1995). It is also this form of Stress which could cause Burnout if it occurs over a period of time.

Lazarus (1999) advocates the differentiation between three types of Stress, namely harm / loss; threat; and challenge. In harm/loss it is recognised that the damage or loss has already taken place. Threat then focuses on harm or loss that has not yet occurred but is likely to in the near future. Challenge sees that although difficulties may be encountered when something needs to be gained, these difficulties may be overcome. These three types are coped with differently and have different psycho-physiological and performance outcomes.

According to certain researchers (e.g. Cooper, Sloan and Williams, as cited in Brandt, 2005), Stress is an imbalance between the demands being made upon a person and the resources available to help that person cope with the demands. If the demand a person has to face is overwhelming and is perceived by the person as exceeding his / her capabilities or resources available, they become stressors and trigger mental and physical Stress (Esteve, 2000; Troman & Woods, 2001). Most definitions and models of Occupational stress consist of the above mentioned basic pattern or process where the amount of Stress experienced is dependent on a subjective perception / evaluation of the demand or stressor by the person and thus, not necessarily the same for all people. Thus, this subjective evaluation by the individual will determine how a certain external demand is seen and whether it will lead to Stress for the person or not.

Seyle (1956, p. 33) supports this explanation of Stress as he defines Stress by describing it as a "non-specific response of the body to any demand placed upon it." It is an internal state or reaction to anything a person consciously or unconsciously

perceive as a threat, respectful of whether it is a real or imagined threat. Within the biological usage of the concept of stress, it is generally understood as an active and dynamic process where attention is turned toward the ongoing relationship between the organism and the environment, and interplay and feedback (Lazarus & Folkman, 1984). When the demand an individual perceives exceeds the resources the individual have, or think they have, the body and mind will be aroused and all systems are geared up to either fight the challenge or flee from the situation in order to avoid harm. This physical response to stress of individuals is referred to as “fight or flight” (McCarthy, 2000). Once again, it is the perception of the person about their available resources (which may be influenced by their PsyCap levels of Hope, Optimism, Self-efficacy and Resilience) to cope with circumstances, which help determine how the body and mind react to the demands from the environment and whether these demands is viewed as stressors or not.

A popular explanation by which Stress can be defined includes the explanation of the concept as manifesting in one of the four ways: (a) stimulus approach; (b) response approach; (c) stimulus-response, stressor-strain, or interaction approach; or (d) transactional response (Beerh & Franz, 1987; Cooper & Marshall, 1977; Jex, 1998; Lazarus, 1966; Selye, 1956). These four general approaches to defining Stress will be discussed in more detail below.

a.) Stimulus-based approach

A stimulus based definition of Stress view stress as a stimulus in the environment which is impinging upon the person and creates tension, threat, anxiety and ultimately, a need to readjust (Selye, 1956). From this point of view, Stress results from exposure to catastrophic situations like wars, riots, natural disasters, or traumatic incidents such as death, accidents or violence. However, the normal characteristics of everyday life like crowds, noise or even traffic, can also cause Stress, especially if a person is exposed to these subtle sources of Stress continually over a period of time. These possible catastrophic or everyday disruptive conditions are identified as stressors rather than Stress itself and are disrupting conditions which create the need for readjustment which can potentially produce Stress (Selye, 1956). Identification of potential sources of Stress is the central theme of the

stimulus-based model of Stress. The rationale is that some external forces impinge on the individual in a disruptive way, which results in a demand or reaction, hence creating distortion. When an individual's tolerance level is exceeded, temporary or permanent damage occurs. Thus, these models of Stress treat Stress as an independent variable that elicits some response from the person (Goodell, Wolf & Rogers, 1986).

This model was initially driven by industrialisation, as well as much of the early research into blue-collar stress. The aim was to identify sources of Stress in the work environment in order to provide optimal work conditions (Cooper & Smit, 1985). The physical and task circumstances (such as heat, cold, noise and social density) of the work environment received a lot of attention. Only later was it realised that only focussing on these types of objective measures of environmental conditions is not sufficient in explaining Stress. Individual differences can also account for the reason why two individuals, who are exposed to exactly the same situation, may react in completely different ways. This is thus the major weakness of the stimulus model. Lazarus (1966) reaffirms this by stating that no objective criterion is sufficient to describe a situation as stressful. Only the person experiencing the event can make this attribution.

In summary, although this Stress model has its limitations, it is very useful in identifying common stressor themes or patterns that might affect the majority of a workforce (Lazarus, 1966). This model can also be seen as particularly relevant to the construction industry. Due to the physical stressors on construction sites, organisations can easily make the mistake to think that by making this inherently dangerous work environment safer for the employees, employees will automatically experience decreased Stress levels. However, as Lazarus (1996) pointed out, it is the person making the appraisal of the situation who is the real determinant of the level of Stress experienced and perceived by themselves. Thus, it may not be sufficient for construction organisations to only focus on physical workplace safety in order to decrease the amount of Stress experienced by the workforce. Interpersonal relationship stressors, due to the pervasive use of workteams, may also be a significant source of Stress in this industry. To address the perception of these

stressors, the development of PsyCap as a personal resource, may have a powerful influence in the employee's Stress appraisal, impacting on the strain experienced.

b.) Response-based approach

Within this approach Stress is defined as the individual's physiological or psychological response to environmental forces. Cooper, Dewe and O'Driscoll (2001) describe Stress as the manner in which the body responds when trying to adjust to these stressful stimuli or stressors, as explained above. The body can respond physiologically to Stress (which can include stress-related indicators and symptoms such as headaches, stomach-aches, backaches, ulcers, heart attacks or strokes) or psychologically (e.g. irritability, anxieties, depression, flashbacks or panic attacks). These physiological and psychological symptoms are symptoms of an individual's response to Stress rather than the actual condition of Stress itself (Stinchcomb, 2004). Thus, a response based approach to Stress views it as a dependant variable.

This approach originated in medicine. It is normally viewed from a psychological perspective due to the diagnosing and treating of symptoms but not necessarily causes. Seyle (1936) introduced this stress-related illness approach to Stress and referred to it as *general adaption syndrome (GAS)*. He suggested that Stress is a non-specific response of the body to any demand made upon it (Selye, 1956). He also pointed out that Stress reactions are not automatically bad and cannot be avoided because being alive is synonymous with responding to Stress. He continued by stating that a certain level of Stress is necessary for motivation, growth, development and change. He divided Stress into two types, namely *distress* and *eustress*. Distress is described as the destructive type of Stress and is caused by unwanted, unmanageable stressful situations which are damaging and can be distinguished by anger and aggression. On the other side he explains the term eustress as the constructive type of Stress, distinguished by emotions associated with empathic concerns for others and positive striving that would benefit the community.

However, the response-based definitions of Stress have been criticized for its lack of consideration for environmental factors in the Stress process (Cooper et al., 2001). Also, this approach merely views the person as automatically responding to environmental forces and leaves no room for personal interpretation and individual differences.

c.) Interaction-based approach

The interaction-based approach is also referred to as the *stimulus-response* or the *stressor-strain* approaches. It indicates an interactive approach and defines Stress as both the stimulus and the response. This approach refers to the overall, complex process by which the demands or stressors impacts on the individual and how individuals interact with their environment. What differentiates this perspective of Stress from the previous two views is that it takes the interactive nature of Stress into consideration. It also attempts to explain why some people are more negatively affected by stressors than others.

Chernisse (1980, p. 22) gave an interaction-based definition of Stress by describing it as, “an imbalance between environmental demands and individual resources.” This implies that Stress occurs when the demands placed on a person exceed their capacity to deal with these demands. More specifically, Stinchcomb (1986) pointed out that Stress develops when the individual is not able to avoid, change, or control those demands. This approach to Stress highlights the importance of individual differences (e.g. psychological capital factors) in the perceiving and coping with external demands as it accounts for the person’s capacity to deal with the demands.

d.) Transaction-based approach

The fourth, and last, approach to defining Stress according to Beerh and Franz (1987), Cooper and Marshall (1977), Jex (1998), Selye (1956) and Lazarus (1966), is the *transactional* model which views Stress as an ongoing relationship between the individual and the environment. This model endeavours to explore the nature of the stressor-response relationship and summarises an understanding of the dynamic process itself and not just the statistical relationship between the variables (as with the interaction based definition). Thus, the transactional definition of Stress is more

concerned with the dynamics of the psychological mechanisms of cognitive appraisal that underpin the stressful encounter (Lazarus, 1966). In this model, Stress is not seen as a factor that resides in the individual or environment. Stress resides in the relationship between the two and is embedded in an ongoing process that involves individuals transacting with their environments, making appraisals of encounters, and attempting to deal with it (Lazarus, 1990). The centre of this approach to Stress points to three themes, namely that Stress is: (a) a dynamic cognitive state; (b) a disruption or imbalance in homeostasis or normal functioning; and (c) the restoration of homeostasis or resolution of the disruption of the imbalance (Dewe et al., 1993). Lazarus and Folkman (1984, p. 12) supports this description of Stress as they suggested that Stress should not be regarded as a variable but rather as “a rubric consisting of many variables and processes.” It is believed by some that this is the most useful approach to take when defining the over-arching concept of Stress because it takes into account the relationship between the person and the environment. Lazarus (1999) also supports this view. He argues that stress cannot be solely confined in the environment itself or just as a result of personality characteristics, but it is rather dependant on a kind of person-environment relationship.

Individuals have to deal with a variety of difficult and possible stressful situations from their entire sphere of life. Due to the amount of time people spend at work, the demands from the work environment can play a central role in the overall health and well-being of the individual person.

2.4.3 Defining Occupational Stress

Occupational stress is a negatively perceived quality which, as a result of inadequate coping with sources of Stress at work, has negative mental and physical health consequences. There are two key dimensions of this definition. The first is that the source of Stress must be negatively perceived in order for an individual to experience Stress symptoms. Secondly, the individual must display inadequate coping. The emphasis is thus on the interactive nature of the relationship between perceived demands and the responses of the individual to these demands (Cox, 1978), again referring to the transactional approach to Stress as discussed

previously. Hence, Occupational stress is defined as job-related stress due to a perceived imbalance between demands arising from a job characteristic (a stressor) and the person's perceived capability (physical or psychological) to respond, which results in an experienced strain or response by the person. The resultant strain could be physiological, psychological, and behavioural, or alternatively, the strain could be a combination of these types of variables (Kavanagh, Hurst & Rose, 1981).

Occupational stress is defined by Beehr and Newman (1978, p. 669) as "a situation where-in job-related factors interacts with a worker to change (i.e. disrupt or enhance) his or her psychological and/or physiological condition such that the person (i.e. mind-body) is forced to deviate from normal functioning." The work itself is not the cause of Stress. Rather, it is the demands and pressure which is being placed on the worker which become excessive and is then referred to as Occupational stress (Wainwright & Calnan, 2002). Schabracq (2003) support this view by pointing out that Occupational stress is a response to a loss or lack of control over our work performance and that Stress will develop when a person must do something they are not able to do or willing to do.

According to Spielberger, Vagg and Wasala (2003), Occupational stress is recognised as a complex process that consists of three major mechanisms: (a) sources of stress that are encountered in the work environment; (b) the perception and appraisal of a particular stressor by an employee; (c) and the emotional reactions that are a response to perceiving a stressor as threatening. Spielberger's State-Trait (ST) model of Occupational stress focuses on the perceived severity and frequency of occurrence of two major categories of stressors, i.e. job pressures and lack of support (Spielberger et al., 2003). Stress resulting from work is described as the mind-body arousal resulting from physical and/or psychological job demands. If a stressor is perceived as threatening then the person may react with anger and anxiety and this leads to the activation of autonomic nervous system. If the reaction continues to be severe, the resulting physical and psychological strain may cause adverse behavioural consequences (Spielberger et al., 2003).

Lazarus and Folkman (1984) propose that Occupational stress is a personified experience. It can include physical responses (such as headaches, illness, fatigue and sleeping problems) to unfavourable work conditions. Stress can also be viewed as an emotional reaction to external demands and expectations. Thus, Stress can be embodied or an emotional state and is not something that occurs from outside sources alone, but also from what goes on within the person.

Lastly, according to Carson and Kuipers (1998), the process of Stress can be divided into three levels. In the first level there are stressors that come from external sources, e.g. high job demands, a lack of resources and lack of support from supervisors and colleagues – these are specific occupational stressors. The second level can be seen as variables that act as a buffer against the negative effects of stress on individuals and the third level in the process consists of the outcomes of stress which can be positive or negative.

All of the above definitions propose that experienced Occupational stress is dependent on the perception or appraisal of the individual of circumstances. It is thus a subjective evaluation. This may be why individuals differ in the amount of Occupational stress they perceive and why two people, in the same situation, react differently in terms of perceived Stress. Furthermore, Carson and Kuipers (1998) pointed out that there are certain variables which could act as a buffer against the negative effects stressors have on individuals. In this study it is argued that PsyCap levels may buffer the long term effect of stress on the individual, decreasing the chances of developing Burnout.

2.4.4 Antecedents of Occupational stress

Stress is a multidimensional construct. Work by Cooper et al. (2001) indicate that the amount of Stress a person experiences at work is likely to be a result of the interaction of a number of factors. These include the type of work, the presence of work stressors, the amount of workplace and home support, and coping mechanisms (which could include the ability to be hopeful, optimistic, self-efficacious and resilient).

Today's workplace and ways of doing business makes it arguably even more stress-laden than it was just a decade ago. A study by the American Psychological Association (APA) noted that 50% of Americans report their stress has significantly increased in the past five years, and that work is the biggest stressor for 74% of them. A similar study showed that this was the case for only 59% of respondents in 2006. Factors in the new world of work that could contribute to Occupational stress range from technological change and global competitive pressures to toxic work environments and managerial bullying (Colligan & Higgins, 2006). Heavier workloads; increased business travel; downsizing; rapid changes in competitive pressures; technology; work procedures; heightened levels of job insecurity; and ever-demanding customers all contribute to the higher levels of Occupational stress among employees today (Avey et al., 2009).

Cooper and Marshall (1976) identified seven main categories of stressors which could possibly lead to Occupational stress. These include (1) the intrinsic factors of the job / work (e.g. physical aspects of the working environment such as noise and lightning as well as psychological aspects such as repetitive tasks, job overload, long work hours); (2) an individual's role in the organisation (role conflict, management support); (3) relationships at work; (4) lack of career development; (5) organisational structure and climate (e.g. management style, level of consultation, communication and politics); (6) external sources or home-work interface (family, life crisis & financial issues); as well as (7) individual characteristics (personality, levels of motivation, family support).

In some instances research has shown that organisational conditions and its stressors may have the most severe impact on the Stress levels of employees. For example, Hart, Wearing and Headey (1995) conducted a study among police officers and found that organisational factors such as communication and administration were more strongly associated with Stress among the employees than intrinsic factors to their job. The same was found by Hart (1994) in a study among teachers. These findings challenge the conventional wisdom that the major source of Stress among, for example, police and teachers, are unique operational pressures. The results from the studies reported here clearly indicate that quite different

occupational groups are more similar than different in that generic organisational factors exert the strongest influence on levels of Stress. This is supported by the fact that studies comparing the influence of job-specific and general organisational stressors has consistently shown that general organisational stressors are much more important in determining Occupational stress or wellbeing (Hart, 1994; Hart & Cotton, 2003). Thus, organisational culture and experiences (e.g., leadership behaviours, appraisal and recognition processes, the clarity of roles, decision-making styles, goal alignment etc.) that are common to all workplaces are typically more "stressful" for employees than specific operational experiences (e.g., "stressors"). The organisational conditions that most frequently contribute to Stress are (a) role characteristics (which include (i) role ambiguity; (ii) role conflict; (iii) role overload; (iv) role under-load; and (v) role status congruency); (b) relationships at work (poor relationships may manifest in low trust between employees, lack of cohesion, low support, lack of interest in listening to, and dealing with, problems that confront an individual group member or group); (c) organisational structure (which includes (i) participation in decision-making (centralisation or decentralisation) and (ii) occupational type or level in the organisation); and (d) physical qualities (refers to pathogenic agents like poison and chemicals, noise, space, privacy and visibility) (Beehr & Newman, 1987; Caplan, Cobb, French, van Harrison & Pinneau, 1975). These organisational conditions are similar to the seven main categories of stressors identified by Cooper and Marshall (1976).

This could imply that in the construction industry, an industry characterised by its dangerous and high risk working conditions, the most effective Stress reducing intervention may not necessarily be to ensure a physically safer work environment. The organisation should also focus on other organisational factors that could serve as more prominent stressors to their workforce in order to curb high Occupational Stress.

Plotkin (2009) identified three clusters of workplace conditions that will increase the Stress levels of the employees. Firstly, a high-demand workplace characterized by very challenging work (similar to role characteristics as discussed above); secondly, a low-control environment where employees have little involvement in determining or

influencing the workload (similar to organizational structure and politics as discussed above); and thirdly, a workplace where supervisors and teammates are not supportive of each other (similar to relationships at work as discussed above). Karasek (1979) emphasised the importance of control over the work environment because Stress is particularly associated with jobs with high demands and low levels of job decision latitude (which is seen as the combination of job decision-making authority and the opportunity to use and develop skills on the job). Karasek's model, the Job Demand-Control Model (JD-C), proposes that psychological strain does not result from a single aspect of the work environment, but from joint effects of the demands of a work situation and the range of decision making freedom available to the employee in meeting the demands. Thus, the JD-C model consider two aspects of the work environment, namely (a) the job demand placed on the employee (which is an independent variable that is a source of Stress present in the work environment and refer to things such as workload) and (b) the discretion permitted to the employee in how to meet the demands, thus, the job control of an employee (which refers to an individual's opportunity to influence work activities, the work process and the work environment). The nature of the work environment in the construction industry consists of high demands, like the physical work environment on sites, social interactions due to the use of work teams and sometimes heavy workload, together with low control over decision-making and close supervision on these sites.

According to Marsella (1994), stress is an emotional reaction. Hence, an individual's response to Occupational stress is mediated through their appraisal processes. The cognitive appraisal of the nature and extent to which the situation is considered to be threatening as well as the appraisal of the range of actions available to the individual to deal with the stressful situation are part of the appraisal processes (Lazarus & Folkman, 1984). Thus, it is important to see the process of Stress as one in which individuals take an active part rather than simply acting as passive responders. Once again, this explanation of the process of Stress points to the important role that personal factors play in perceiving stress and thus the importance of the PsyCap in the experience of Occupational stress.

In the end, even if it were possible to identify all the potential sources of Stress in the workplace it will still not allow for an accurate prediction of the effects of these stressors. This is because an understanding of the cognitive processes that govern the responses of individuals are still needed. It is the cognitive processes utilized by the individual, for example their appraisal of events, which determines whether Occupational stress will be experienced and how they will cope with stressors from the work environment. If the employee does not have the necessary personal resources (e.g. high Hope, Optimism, Self-Efficacy or Resilience) and coping mechanisms to deal with the potential harmful events in their work environment, it opens the door for a whole range of negative outcomes.

2.4.5 Consequences of Occupational Stress

Similar to Burnout, Occupation stress holds several harmful consequences for the individual, as well as the organisation as a whole.

a.) Effects on the individual

It is well documented that stress is a precursor to several serious (1) physical and biological symptoms; (2) psychological conditions; (3) behavioural changes; as well as (4) health conditions for the individual (Kavanagh et al., 1981; Wainwright & Calnan, 2002).

The physical conditions reported in literature includes coronary heart disease (Cooper et al., 2001; Wainwright & Calnan, 2002); ulcers (Cooper et al., 2001); increased levels of cortisol (Cooper et al., 2001); blood pressure (Cooper et al., 2001; Kavanagh, et al., 1981); blood clotting (Goleman, 1995); certain types of diabetes (Goleman, 1995); cancer (Wainwright & Calnan, 2002); asthma (Goleman, 1995); stomach trouble and bowel diseases (Goleman, 1995; Wainwright & Calnan, 2002); breathing problems (Wainwright & Calnan, 2002); diarrhoea (Wainwright & Calnan, 2002); chest pain (Wainwright & Calnan, 2002); weight loss (Wainwright & Calnan, 2002); as well as reduced immune responses and increases vulnerability to viral infections (Bourey & Miller, 2001; Goleman, 1995; Plotkin, 2009; Wainwright & Calnan, 2002). According to Goleman (1995) it is the anxiety the person suffers that largely contributes to these illnesses.

Poor psychological and mental health conditions could also be caused by Stress. These conditions refer to anxiety (Cooper et al. 2001; Plotkin, 2009; Wainwright & Calnan, 2002), depression (Cooper et al. 2001; Wainwright & Calnan, 2002) and a negative attitude in general (Kavanagh et al., 1981).

The behavioural symptoms caused by Stress can manifest in adverse lifestyle behaviours such as substance abuse (Cooper et al., 2001), which can vary from excessive alcohol intake to cigarette smoking; poor dietary habits (Cooper et al. 2001; Faragher et al., 2004); or negative behaviour at work like low productivity, early retirement or absenteeism (Kavanagh et al., 1981; Wainwright & Calnan, 2002).

b.) Effects on the organisation

The organisation is also influenced when employees experience high levels of ongoing Stress. High levels of Stress among employees can result in added cost for the organisation in terms of staff turnover; increased absenteeism; poor work performance (Faragher et al, 2004); early retirement due to ill health; loss of production quantity and value; lack of return on investment of human capital; and even litigation against the organisation (Cooper et al. 2001). All of these factors could impact the success of the organisation and its profitability.

It is widely known that the human resources are the most valuable asset to organisations, however organisational practices does not always reflect this notion. It is this asset which lends the necessary competitive advantage to organisations which they need to survive and stay competitive. Thus, if the health and well-being of an organisation's workforce is not well looked after and the employees experience vast amounts of Occupational stress (and Burnout) this will automatically impact on the health and well-being of the organisation as a whole and also its performance and profitability. Thus, it is extremely important that organisations look after their human resources. The development of psychological capital components like Hope, Optimism, Self-efficacy, Resilience and Engagement, could be a powerful way of influencing the health and well-being of employees and in the end, the organisation.

2.4.6 Measuring Occupational stress

There are a variety of instruments which can be used to measure Occupational stress. This study defines the concept of Occupational stress as an imbalance between the demands of the environment and the ability of the person to cope with these demands (Kavanagh et al., 1981). Thus, it is argued that if the perception about the ability and resources to cope with the demands of an individual can be altered, the ensuing perceived Stress may be influenced. Thus, the Perceived Stress Scale (PSS; Cohen et al., 1983) was utilised in this study. The PSS measures the degree to which an individual appraises or perceives a situation to be stressful and measure the extent to which respondents see their lives as unpredictable, uncontrollable and overloading.

Other prominent measurement instruments for Occupational stress are summarised in table 2.3 below.

Table 2.3: Summary of different Occupational stress measures

Measurement instrument	Authors and date	Subdimensions of instrument and description	Number of items	Internal consistency yielded by authors
Sources of Work Stress Inventory (SWSI)	(De Bruin & Taylor, 2005)	Dimensions: a. General Work Stress Scale • Ask about respondents overall level of work-related stress b. Sources of Stress Scale: • Role ambiguity • Relationships • Tools and equipment • Job security • Career advancement • Lack of autonomy • Work/home interface • Workload	General Work Stress Scale: 11 items Sources of Stress Scale: 70 items • Role ambiguity: 9 items • Relationships: 11 items • Tools and equipment: 8 items • Job security: 4 items • Career advancement: 5 items • Autonomy: 17 items • Work/home interface: 7 items • Workload: 9 items	General Work Stress Scale: .92 Sources of Stress Scale: • Role ambiguity: 0.89 • Relationships: 0.93 • Tools and equipment: 0.91 • Job security: 0.93 • Career advancement: 0.90 • Autonomy: 0.95 • Work/home interface: 0.86 • Workload: 0.93
Occupational Stress Inventory	Osipow (1998)	Dimensions: • Occupational Roles Questionnaire (ORQ):	140 items	.70 - .89

Revised Edition (OSIR)		<p>Role Overload, Role Insufficiency, Role Ambiguity, Role Boundary, Responsibility, and Physical Environment</p> <ul style="list-style-type: none"> • Personal Strain Questionnaire (PSQ): Vocational Strain, Psychological Strain, Interpersonal Strain, and Physical Strain • Personal Resources Questionnaire (PRQ): Recreation, Self-care, Social Support, and Rational/Cognitive Coping 		
Depression, Anxiety, Stress Scale (DASS)	Lovibond & Lovibond (1995)	Describes several symptoms of stress and asks participants to rate the frequency with which they experience these sensations	42 items	.86
Subjective Work Evaluation Questionnaire	Dudek, Waszkowska & Hannke (1999)	Asses the level of stress experienced in the workplace and the specific factors that are stressful to an individual	55 items	.84
Organizational Stress Screening Tool (ASSET)	Cartwright & Cooper (2002)	<p>Sections:</p> <p>Perceptions of your job:</p> <ul style="list-style-type: none"> • Work relationships (8) • Your job (8) • Overload (4) • Control (4) • Job security (4) • Resources and communication (4) • Work-life balance (4) • Pay and benefits (1) <p>Attitude towards your organization:</p> <ul style="list-style-type: none"> • Commitment of organization to employee (5) • Commitment of employee towards organization (4) <p>Your health:</p> <ul style="list-style-type: none"> • Physical health (6) • Psychological health (11) 	63 items	.86

2.4.7 The difference between Burnout and Occupational stress

Schaufeli and Enzmann (1998) as well as Brill (1984) defined Burnout and Stress as two separate constructs. They hypothesize that Stress should be viewed as a temporary process which requires short-term adjustment, and is accompanied by mental and physical symptoms. Burnout, on the other hand, can be viewed as a particular kind of prolonged job Stress. Burnout is characterised by a breakdown in adaptation and is accompanied by chronic malfunctioning at work.

Whilst Burnout is viewed as a particular type of job Stress, it should not be confused with Occupational stress *per se*. Burnout differs from Occupational stress in that it could be specific to work that requires intense emotional involvement (Maslach et al., 1996). The defining feature of Occupational stress is an imbalance between occupational demands and available coping resources. Burnout goes one step further and integrates feelings of exhaustion with employees' involvement in their work, especially the people with whom they work (i.e. clients) (Maslach et al., 1996). Hence, Burnout is usually thought of as the outcome of chronic Stress (Cushway, Tyler & Nolan, 1996). In most cases of Occupational stress, individuals will be well aware of the Stress and will be able to see an end to it. This is usually also accompanied by the perception that restoration is possible at the completion of the stressful period. Burnout, however, occurs when the situation can no longer be tolerated. Burnout develops slowly over time and individuals are usually unaware of the fact that they are starting to show symptoms of the syndrome (Patel, 2008).

2.4.8 Antecedents to Occupational stress and Burnout in the Construction industry

Given that this study is conducted within the construction industry in South Africa, a general exploration of the wide variety of factors that can cause stress and Burnout among employees in this industry will be discussed next. Some of these are general factors which are also present in other industries, while others are very specific to the work environment in the construction industry. The most obvious stressors in the construction industry are physical stressors (e.g. working with heavy equipments, noise, and vibration and chemical exposures e.g. asbestos, lead and epoxy resins). However, other types of job and Occupational stressors include a high level of job

demands, work load, insufficient social support, the overall work environment and the composition of the crews. These have been shown to increase construction workers' risk to adverse physical and psychological outcomes (Helander, 1991; Holmstrom, Lindell & Mopitz, 1992; Vander-Molen, de Jonge, Broersen, Kompier & Meijman, 1998). The various antecedents will be discussed in more detail below.

2.4.8.1 Workload

Workload can cause Occupational stress and Burnout due to the fact that most employees in this industry are contract workers and the workload is subject to the contracts the construction company acquires. This typically causes a lot of variation in workload as it may vary from periods of heavy workload when a lot of contracts are running (causing over utilization), to periods of no work at all when no contracts are running (under utilization). Both of these scenarios, times of heavy workload as well as times of no work, can be very stressful for employees. This dependability on acquiring contracts also causes poor job continuity because once a contract ends employees are not sure where the next one will come from and if more contracts will come their way (M. Cronje, personal communication, 27 January 2011; Melia & Becerril, 2007).

Moreover, due to the economic recession in recent years, the number of available construction contracts has declined significantly. This caused companies to cut the prices of their tenders in order to successfully secure contracts. This means the company must take on more contracts at once to sustain their previous level of profitability, which causes heavy work overload for the employees. Further effects of the recession are things like organizational restructuring, which includes retrenchments and lead to even more work, as less employees now have to deal with the same amount of work (M. Cronje, personal communication, 27 January 2011).

Heavy workload was specifically a relevant stressor in the construction industry in South Africa during 2009 and 2010. The hosting of the 2010 FIFA Soccer World Cup required the building of several new stadiums across the whole country. Thus, the construction industry was bombarded with contracts for the building of these

stadiums as well as other structures to ensure proper infrastructure for the Soccer World Cup. During these times the workload of the employees was extremely high (V.P. Mostert, personal communication, 27 January 2011). Research supports the significance of workload as a prominent stressor in the construction industry. For example, Wahab (2010) conducted a study among 105 employees (artisans) of the Federation of Building and Civil Engineering Contractors in south-western Nigeria (Lagos and Ibadan). The results showed that among a few other factors, workload (qualitative and quantitative) was the highest workplace stressor for the participants in their study.

2.4.8.2 High demand and low control environment

According to the Job Demand-Control (JD-C) Model by Karasek (1979), a high demand and low control environment play an essential role in Occupational stress. Due to the nature of construction contracts, employees often work with very rigid deadlines. Failure to meet the deadlines leads to extra costs for the company as well as unsatisfied clients. High expectations regarding quality of work, very specific and demanding claims from clients, and a small margin for error (as mistakes are extremely expensive), all adds to the demanding nature of work in this industry. To illustrate the high demands of the industry one can look at the construction preparations for the FIFA Soccer World Cup in 2010. Deadlines for the completion of all the construction projects, e.g. building of the stadiums, were set in stone and the consequences for missing the deadline or producing substandard work were immense. The work would be scrutinized by the rest of the world and the media were constantly reporting on the slow pace at which progress were made with regards to the stadium building. All of this could have caused loads of Stress for all of the employees within the industry who worked on any construction contract related to the Soccer World Cup (V.P. Mostert, personal communication, 27 January 2011).

Moreover, employees do not have control over the contracts the company secures or which contracts and work team they get assigned to. Employees, furthermore, do not have control over the various external factors which may have a very big impact on service delivery (e.g. progression and quality of projects). These external factors include, for example, unplanned delays in work due to unfavourable weather

circumstances, or increases in operational costs of the project due to extra, unplanned raw materials being used (V.P. Mostert, personal communication, 27 January 2011). All of this form part of the constant low control environment in which employees in this industry function and combined with the high demands discussed above, high levels of Occupational stress and Burnout (over an extended time period) can arise.

2.4.8.3 Role conflict

Companies in the construction industry rely heavily on a team-based organisation structure. For every new contract a new work team will be put together, which will include employees from different functions and levels within the organization to complete the specific project/contract. After completion of a contract, the team splits up and each employee moves to a new contract, and thus, a new team. It often happens that, with the regular movement from one team to another, the duties and responsibilities of an employee will differ from that of his previous team, which can result in Stress. Different managers or team leaders also have different ways of doing things which can confuse a worker from time to time as they have to constantly adapt to their new team and new role within the team (V.P. Mostert, personal communication, 27 January 2011).

Moreover, economic crises force companies to take on projects that they would not normally have taken in order to acquire enough work and stay in the market. This might cause employees to do work and fulfil a role which may be outside their normal scope of practise. The employees doing this work may find themselves to not be adequately trained and skilled for the demands of these contracts, and this could lead to Stress and eventually Burnout (V.P. Mostert, personal communication, 27 January 2011). Role conflict can also be caused by the size of the construction company. In larger companies there are specific job descriptions for each job, as well as a specialist in all areas and occupational fields for the work being conducted. However, smaller companies often do not have the luxury of appointing a specialist in all areas. In these smaller organisations, generally, the approach is one of 'everyone does everything.' This leads to Stress as employees are not necessary

qualified for all the roles they have to fulfil and are unsure what their exact job description is (V.P. Mostert, personal communication, 27 January 2011).

This is corroborated by a study conducted by Melia and Becerril (2007), in a sample of 105 construction workers in Spain. The researchers reported that role conflict was a direct source of Stress and Burnout in the employees in their study ($r = -.425$, $n=105$, $p<0.05$). The significance of role conflict to cause Occupational stress and Burnout was also confirmed in the study by Wahab (2010). The participants of his study rated role conflict, among a few other antecedents, as the highest workplace stressor, above poor working conditions and dangerous working conditions (both of which one would assume to carry a much bigger stress factor).

2.4.8.4 Interpersonal relationships

Given the team based organisational structure required in this industry, good interpersonal interactions among employees in their work teams are a central part of the day-to-day operational processes in successful construction companies. These interactions can cause relational Stress if it's not of a positive, supportive and healthy nature (M. Cronje, personal communication, 27 January 2011).

Moreover, projects/contracts very often require the work team to travel away from home to the specific site of the contract for the duration of the whole project. Employees in the work team do not only work closely, but they often live together on the site or close to the site where accommodation is provided. This can cause additional Stress as employees are now forced to be around one another after work hours as well. This could exacerbate interpersonal problems, leading to irritation and frustration. The lack of a social support structure for the individual employee (i.e. being away from family and friends), adds even more stress (M. Cronje, personal communication, 27 January 2011). During away-from-home contracts site agents (work team leaders) have even more responsibilities than usual. They must make sure their work team have accommodation and food, as well as take care of all the other personal/emotional matters which may occur off-the-job and after work hours. Thus, they also have to fulfil a caregiver role, which is one in which they are not always comfortable in or do not have the necessary skills or training for (M. Cronje,

personal communication, 27 January 2011). This places an immense amount of Stress upon the team leaders and influences their own as well as their team members' Stress levels. The study by Melia and Becerril (2007) confirmed the relevance of the interpersonal relationships in the possible development of Occupational stress or Burnout in construction workers. They reported that bad leadership (e.g., the way managers or supervisors treat the workers or take them into account, provide them with support, and are able to resolve problems) appears to be a direct source of stress and Burnout among construction employees ($r = -.489$, $n=105$, $p<0.05$).

2.4.8.5 Personality / Interpersonal skills

It is widely recognized that employees in the construction industry (e.g. engineers) are stereotyped to lack social- and interpersonal skills (Goleman, 2005; Jackson, 2011). Given the importance of good interpersonal relationships outlined above, a lack of social skill may cause Occupational stress and Burnout over time. Goleman (2005) speculates that this lack of interpersonal skills may be because acquiring technical skills (as required of the occupations in the construction industry, e.g. engineering) requires long hours spent working alone, often beginning in early childhood and adolescence, which is traditionally the time in which key social skills are developed. Self-selection into specific occupations (e.g. engineers) due to specific personality types may also play a part, according to Goleman (2005). This lack of social- and interpersonal skills causes a lot of problems with interaction between team members, as well as between the team leader and the client, and could result in increased Occupational stress and Burnout for the employees (M. Cronje, personal communication, 27 January 2011).

2.4.8.6 Role stress

Difficult economic conditions could also play a role in Occupational stress and Burnout. Scarcity of contracts increases competition between organisations. Companies pitch for contracts by cutting their expenses to a minimum in order to win contracts. This contributes to the stress and Burnout of the employees (i.e. managers, site agents, team leaders) as they need to keep their operational

expenses to an almost impossible minimum in order for the company to still make a profit from the project (V.P. Mostert, personal communication, 27 January 2011).

2.4.8.7 Organisational culture, structure and decision making

It is well known that the construction industry has a general attitude of “sink or swim” towards employees. It almost seems as if the industry as a whole has adopted a “zero tolerance” policy with regards to its treatment of, and interactions with people. It is a very ‘hard,’ ‘demanding’ and ‘unforgiving’ industry. Some companies do make it priority to train their employees in soft skills; however it seems to not be the norm (Gyi, Haslam & Gibb, 1998; M. Cronje & V.P. Mostert, personal communication, 27 January 2011).

Organisational structures, furthermore, are typically bureaucratic with a lot of employment levels, and top-down, centralised decision-making. An autocratic leadership style is mostly used on the construction sites along with close supervision. This, however, is very important in order to minimize the physical risks and possible accidents on site, but the downside is that it can create more conflict and in the end, more Occupational stress and Burnout (M. Cronje & V.P. Mostert, personal communication, 27 January 2011).

2.4.8.8 Physical environment

The construction industry has been characterized by high accident rates (Lundholm, 2004) as employees working on sites are being exposed to physical risks on a daily basis (Melia & Becerril, 2007; Welch, Hunting & Murawski, 2005). These workers work with heavy machinery and other construction material which places their safety in danger if strict safety rules are not adhered to. Sometimes sites are located in unsafe demographic areas, causing these employees to be victims of crime. All of these can lead to a vast amount of Stress and Burnout for the employees (M. Cronje, personal communication, 27 January 2011).

The duration and deadline of the contract is stipulated at the onset of the project. However, the weather, extreme temperatures and other hazards (e.g. fumes, noise or insects) cannot be controlled and can have a very big influence on the delivery of

services. Due to the strict schedule of the contract, they find it hard to always stop working on site in these difficult circumstances. This is where the site agent plays a big role in managing the people and looking after their needs (M. Cronje, personal communication, 27 January 2011).

2.4.8.9 Safety risks

The most obvious stressors in the construction industry are physical stressors (e.g. working with heavy equipments, noise, and vibration) and chemical exposures (e.g. asbestos, lead and epoxy resins). Moreover, construction sites provide a workplace and atmosphere that is more dangerous than almost any other profession. Every year, hundreds of thousands of construction workers suffer work related injuries. Indeed, the direct relationship between these types of stressors and illness and injuries on construction sites has been well documented (e.g. Ringen, England, Seegal, McCann & Lemen, 1999). Moreover, in 2007, the IWO (International Work Organization) published data which showed that 60 000 fatal accidents take place every year in the construction industry. Worldwide there were over 26 000 construction injury incidents in 2009 that forced the employee to take time off work. This means that 382 of every 10,000 construction workers were injured in 2009 to such a significant extent that they had to take time off to recover. As could be expected with construction injuries, many of them were rather serious, and required the employee to miss many days from work. Certain injuries have a higher tendency to happen in construction accidents than others. Interestingly, sprains, tears or strains make up nearly 32% of all construction site injuries. The second most common are cuts, lacerations and punctures, which make up 17% of all construction site injuries. Fractures are the third most common, accounting for 12% in 2009. Being struck by an object accounts for 25% of all injuries, while falling from a higher level to a lower one stands as the second most common way people get injured - making up 10% of all injuries. Another common cause of construction site injury is overextension in lifting, which made up 9% of all injuries in 2009 (Epstein, 2009).

2.4.9 Consequences of Occupational stress and Burnout in the Construction industry

2.4.9.1 Alcohol abuse

Substance abuse, specifically alcohol abuse, is a common phenomenon in the construction industry and is seen in all levels within these organizations. This industry has a “work hard, play hard” attitude and after a big or stressful contract or just a hard day, employees will celebrate or relax by drinking excessively. In addition, when employees are working on contracts away from home they do not have much to do after hours, further causing them to increase their alcohol intake. This is even more prevalent if the contract is based in small towns where there is little leisure time activities to engage in (Jeff, 1994; M. Cronje, personal communication, 27 January 2011).

Alcohol abuse also indirectly impacts on the employee’s work orientation and attitudes. If the employee is tired, or has a hangover from the previous night’s excessive drinking, it will decrease attention, concentration, physical working abilities, and may also cause irritation which will lead to increased conflict within the work group (M. Cronje, personal communication, 27 January 2011; Minchin, Glagola, Guo & Languell, 2006).

2.4.9.2 Health risks

Employees in the construction industry are among the highest occupational risk groups for lower respiratory disease, pneumoconiosis, skin disease, musculoskeletal disorders of the back and for trauma and poisoning. Historically, less effort has been directed towards health matters in the construction industry. Most attention was focused on the more immediate, high profile (and perhaps more easily solvable) problem of safety. Some of the reasons for this include that health is a complex issue and that long term strategies are required for which benefits are not immediate and are consequently difficult to demonstrate. Together with this, exposure to hazards with different health risks can be multiple and vary in nature and level. Hence, health issues have a low profile further exacerbated by the 'macho culture' inherent in the

construction workforce and a lack of health expertise within the industry (Gyi et al., 1998).

2.4.9.3 Safety Risks

When an employee is experiencing Burnout, they are tired, fatigued, and have lower concentration levels. This could lead to more mistakes and physical accidents on site. This is dangerous due to the machinery that is being used on sites. Accidents generally cause a lot of serious injuries and even deaths in this industry (M. Cronje and V.P. Mostert, personal communication, 27 January 2011).

2.4.9.4 Marital / Relationship consequences

Occupational stress and Burnout could negatively impact on relationships outside of work. Marital relationships are strained due to constant work irritations. This might be even more relevant among employees doing physical work during the day, as they will not only be emotionally tired from work, but physically as well, making it even more difficult to pull their weight in their home environment (V.P. Mostert, personal communication, 27 January 2011).

The discussed stressors in the work environment of the construction industry are inevitable and all employees are exposed to these demands on a regular basis. In the long run, the exposure to continuous Occupational stress can develop into Burnout, which (along with Occupational stress) may result in the harmful consequences as mentioned above. However, although stressors are inherently part of work life, the perception of the stressor and coping ability could, to a certain degree, influence the impact these stressors have on the individual, and also in the end, on the organization. The psychological capital, for example, of employees could influence their Stress appraisal process and their coping abilities to deal with stressful demands. It is argued in this dissertation that the levels of Hope, Optimism, Self-efficacy and Resilience of a person may protect the individual to a certain degree against the development of Occupational stress and Burnout, especially when Stress is experienced over the long term. PsyCap is a second order construct which developed out of the positive psychological movement of Martin Seligman (1998) and it is this school of thought which will be discussed next.

2.5 PSYCHOLOGICAL CAPITAL

2.5.1 Positive Psychology

The field of Positive Psychology was publicly launched by Martin Seligman in 1998 in his presidential address to the American Psychological Association (APA) and it has received significant attention since then (Seligman & Csikszentmihalyi, 2000). Peterson (2000) describe the field as a new, growing movement within psychology which does not replace psychology as we know it, but rather compliments and extends it. Positive Psychology places greater emphasis on building strengths and competencies rather than merely treating deficits, disorders and pathologies. It focuses on the scientific study of optimal human functioning and the variables that promote positive human emotions, traits and institutions (Miller, Nickerson, Chafouleas & Osborne, 2008; Seligman & Csikszentmihalyi, 2000). In short, the core philosophy can be described as a “build what’s right” approach that can augment the “fix what’s wrong” approach of the more traditional psychotherapy. The aim of the Positive Psychology movement is to catalyze a change in psychology from preoccupation only with repairing the worst things in life, to building the best qualities in life. Although the importance of positivity has been given attention throughout the years, it was only recently proposed as a new (or at least renewed) approach to focus studies in organizational behaviour (Luthans, 2002a, 2002b; Luthans & Youssef, 2007; Luthans, Youssef & Avolio, 2007; Wright, 2003).

Positive Psychology can be divided into a subjective-, individual- and group level. At the subjective level it is about positive subjective experiences of (1) well-being and satisfaction (past); (2) flow (which can be seen as a state in which an individual has intense and focused concentration in what he is doing in that present moment or an experience where the activity is intrinsically rewarding), joy, sensual pleasures and happiness (present); as well as (3) constructive cognitions about the future, namely Optimism, Hope, and faith. At the individual level it is about positive personal traits like love, courage, interpersonal skill, aesthetic sensibility, perseverance, forgiveness, originality, future-mindedness, and wisdom. Finally, at the group level it is about civic virtues and the institutions that move individuals toward better

citizenship, like responsibility, nurturance, altruism, civility, moderation, tolerance and work ethic (Seligman & Csikszentmihalyi, 2000; Snyder & Lopez, 2005).

Peterson and Seligman (2004) have formalized the tenets of Positive Psychology in a book, named “*Character Strengths and Virtues: A Handbook and Classification (CSV)*” which they created to counterpoint the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV). Just as the DSM-IV classifies a range of psychiatric disorders, the CSV provides details and classifications for various strengths that enable individuals to thrive. This book identifies 24 character strengths which are organized according to 6 overarching virtues, namely (1) wisdom, (2) courage, (3) humanity, (4) justice, (5) temperance, and (6) transcendence (Seligman, Steen, Park & Peterson, 2005).

However, Positive Psychology has not been without criticism and have been accused as being overly simplistic and illusory (Schneider, 2009). Peterson (2006), as well as Ruark (2009), believes Positive Psychology is “old wine in new bottles” because many of the contemporary topics of it have long been studied by psychologists. Cowen and Kilmer (2002) also concur with this, saying that the literature of Positive Psychology is a relative insulation from closely related prior work. Similarly, Mosak and Maniaci (1999) claimed that individual psychology has influenced contemporary psychology, but it has rarely been credited, especially in regard to Positive Psychology. Ruark (2009) argues that Martin Seligman was too radical in his approach to Positive Psychology and was overstepping the bounds of social science by trying to be a philosopher. Ruark (2009) also believes that Positive Psychology has not yet matured into a legitimate scientific discipline and, at the moment, publicity is far exceeding the science and research evidence of it. In addition, he believes there is too much emphasis on the concept of Optimism. Other researchers like Miller et al. (2008) have also questioned the assertions and assumptions underlying Positive Psychology.

Drawn from the recent Positive Psychology movement (Peterson, 2006; Peterson & Seligman, 2004; Seligman & Csikszentmihalyi, 2000) and to differentiate from the

more macro-oriented positive organizational scholarship, Luthans (2002b) has introduced the concept of Positive Organizational Behaviour (POB).

2.5.2 Positive Organizational Behaviour (POB)

Luthans (2002a, 2002b) introduced the term POB to bring Positive Psychology to the workplace. POB is defined as “the study and application of positively oriented human resource strengths and psychological capabilities that can be measured, developed, and effectively managed for performance improvement in today`s workplace” (Luthans, 2002a, p. 59). In addition, to differentiate from other positive approaches reported in both academic and practitioner literature, the following criteria were set for including constructs in this definition of POB: the constructs must (a) be grounded in theory and research; (b) have valid measurement; (c) be relatively unique to the field of organizational behaviour; (d) be state-like and hence open to development and change; and (e) have a positive impact on work-related individual-level performance and satisfaction (Luthans, 2002a, b; Luthans et al., 2007). Using these criteria, the positive psychological constructs that have been determined to meet the inclusion criteria so far include Hope, Resilience, Optimism, and Self- efficacy, and when combined, represent what has been termed Psychological Capital (PsyCap) (Luthans & Youssef, 2004; Luthans et al. 2007).

2.5.3 Psychological Capital (PsyCap)

Luthans et al., (2007, p. 3) define PsyCap as: “an individual`s positive psychological state of development and it is characterized 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 towards 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 (Resiliency) to attain success.”

Another description of PsyCap, as proposed by Luthans, Luthans and Luthans (2004) as well as Luthans and Youssef (2004), is that PsyCap is (1) a core psychological factor of positivity in general (it is based on the Positive Psychology paradigm); (2) POB criteria meeting states in particular (it includes psychological

states based on POB or POB criteria); and (3) it goes beyond human and social capital ('what you know' and 'who you know') to gain a competitive advantage and performance improvement through investment / development (such as economic or financial capital) of 'who you are.' Thus, the four constructs which meet the PsyCap operational definition and inclusion criteria best, is: Hope, Optimism, Self-efficacy and Resilience. The use of these constructs has become increasingly common in organizational behaviour research (Luthans et al., 2008).

PsyCap goes beyond human- ('what you know') and social ('who you know') capital, and is more directly concerned with 'who you are' and more importantly 'who you are becoming.' Thus, it is about developing one's actual self to become the best possible self (Luthans, Avey, Avolio, Norman & Combs, 2006). PsyCap, as a second-order/higher-order core construct, have a basis of conceptual and preliminary theoretical research support, as seen in research by Hobfoll (2002) and Frederickson (2001).

The concept of PsyCap, as well as each construct included in it, may have some stability over time, but they are expected to not be as stable as personality traits and other core evaluations, and are therefore state-like and open to change and development. As previously stated, research by Bandura (1997), Snyder, Sympson, Ybasco, Borders, Babyak and Higgins (1996), Carver and Scheier (2005), Seligman (1998), Masten and Reed (2002), Wagnild and Young (1993), as well as Luthans, et al. (2006) have proven that Hope, Optimism, Self-efficacy, Resilience, and the second order factor thereof (PsyCap), can be developed. The state-like nature has also been proven by Luthans et al. (2008) when they found that the four constructs could be effectively developed in a 2-hour on-line (web-based) training intervention. Their sample included 364 working adults (187 in the treatment group and 177 in the control group) representing a wide cross-section of industries including manufacturing, services, sales, and government. A URL was sent to both groups, which led them to the intervention web page on which they completed the PsyCap survey measures (Time 1). A week after that, a web based training program were sent via a second URL to all of the participants. The participants in the control group received a decision-making exercise while the participants in the treatment group

received the PsyCap intervention. Three days after the completion of the training programs, the PsyCap survey was administered online by both groups again (Time 2). Participants in the treatment group of this study had a significant increase in their PsyCap level after they completed this web-based intervention, as their PsyCap level increased from time 1 to time 2, whereas the control group did not show an increase.

This research is very significant to this study. The preliminary empirical evidence that PsyCap levels can indeed be increased, suggests that organisational interventions in this domain (i.e. increasing personal coping resources) may help alleviate initial experiences of Occupational stress and subsequent Burnout. In addition, if evidence of the buffering effect of PsyCap in the Stress, Burnout relationship is found in this study, it would suggest that such development interventions may be particularly helpful in curbing the long term effects of stress (i.e. Burnout). Moreover, should there be evidence to suggest (from the current study) that higher PsyCap levels are indeed associated with more Engagement, the utility of such organisational interventions are further underscored. Hence, by increasing PsyCap, not only could the incidences of Burnout be decreased, but positive work Engagement experiences may also be increased.

Various studies have demonstrated the impact of PsyCap on job performance during the last few years (Luthans, Avolio et al., 2007; Luthans et al., 2008; Luthans, Avolio, Walumba & Li, 2005; Youssef & Luthans, 2007). It was also found by Luthans, Avey et al. (2006) as well as Luthans, Avolio et al. (2007) that Psycap, in its combination of these four factors, have a synergistic effect. A more detailed discussion of each of the four constructs of PsyCap will follow.

2.5.4 Hope

2.5.4.1 Defining Hope

Hope is commonly used in everyday language, but within the context of positive psychology it has a specific meaning with substantial theoretical support. Snyder and Lopez (2005) define hopeful thoughts as the belief that one can find pathways to desired goals and become motivated to use those pathways. This construct include three primary components which are: (1) goals (the assumption that human

behaviour is goal-directed); (2) pathway thinking (the process where people view themselves as being capable of generating workable routes to the desired goals); and (3) agency thinking (the motivational component that reflects the self-referential thoughts about both starting to move along a pathway and continue to progress along that pathway). In other words, Hope consists of both willpower (individuals' agency, or determination to achieve their goals) and "waypower" thinking (being able to devise alternative pathways and contingency plans to achieve a goal in the face of obstacles) (Avey et al., 2009). Flowing from these components, a definition of Hope is proposed by Snyder, Irving and Anderson (1991; p. 287) which defines hope as: "a positive motivational state that is based on an interactively derived sense of successful (1) agency (goal-directed energy) and (2) pathways (planning to meet goals)."

It has been hypothesized that Hope can also be seen as a dispositional and / or state like cognitive process (as previously mentioned). People have dispositional Hope that applies across situations and times, but they also have state Hope that reflects particular times and more proximal events. However, Hope as it is used in POB, is conceptualized as state-like (Snyder, 2000). Several training interventions have proven successful in supporting and building individuals' Hope (Snyder, 2000). Workplace Hope training efforts are just beginning to emerge (Luthans, Avey et al., 2006; Luthans et al., 2008; Luthans, Youssef et al., 2007). The initial results from these efforts focusing on goal design, pathways generation, and overcoming obstacles are encouraging and could help human resource managers to influence employees' perceptions of challenges versus hindrances in stress management (Luthans, Avey et al., 2006; Luthans et al., 2008).

To date, very few studies have explored the impact of Hope in the workplace (Luthans, Avolio et al., 2007). However, research suggests that managers with higher levels of Hope have correspondingly higher rates of work unit performance as well as increased retention rates and more satisfied employees (Peterson & Luthans, 2003). There also appears to be a connection between Hope and job satisfaction and organizational commitment (Luthans & Jensen, 2002; Youssef & Luthans, 2007).

Theory building and research have demonstrated Hope to be conceptually convergent but also distinct from the other three PsyCap constructs (Snyder, 2002). In addition it has been empirically demonstrated to have discriminant validity in relation to similar positive constructs (like self-efficacy and optimism) (Carifio & Rhodes, 2002; Magaletta & Olivier, 1999). The construct also has considerable face validity and intuitive appeal and research results support the relationship between Hope and positive health outcomes.

Other constructs such as Self-efficacy and Optimism partly overlap with the construct of Hope. While Self-efficacy, a belief in one's capabilities to organize and execute courses of action (Bandura, 1997) (which will be described in more detail later), shares some similarity to the agency (willpower) component of Hope, it differs from Hope in that it does not incorporate the pathways component. Thus, it is the duality of the agency and pathways components of Hope which is what clearly distinguishes Hope from Self-efficacy. In addition, while Self-efficacy focuses on perceptions of whether one can perform the actions necessary in a specific situational context, Hope emphasizes the self belief that one will initiate and continue goal-directed actions. Regarding the difference between Self-efficacy and Hope, Snyder (2002, p. 58) notes that "an important difference here lies with the words 'can' and 'will,' with the former referring to the capacity to act and the latter reflecting the intention to act - with intention being more wilful." Finally, research suggests that Hope is factorially distinct from Self-efficacy and that Hope explains significant incremental variance in well-being beyond that explained by Self-efficacy (Magaletta & Oliver, 1999).

Hope has also been compared to Optimism. Optimism, defined as a general expectation that good outcomes will occur, (Scheier & Carver, 1985) (which will be discussed in more detail later) is also similar to the agency component of Hope in that both share an emphasis on persistence (Magaletta & Oliver, 1999). However, hope differs from Optimism in that the measurement of optimism does not consider the means (or pathways) by which desired outcomes will be achieved (Snyder, 1994). Research supports the distinction between Hope and Optimism. In several

studies, Hope has been found to have predictive validity of well-being and other mental health outcomes, after controlling for Optimism (Magaletta & Oliver, 1999).

It is important for the practical application of this research (e.g. developmental interventions of the constructs), that there is a clear distinction between the four PsyCap constructs and that this distinction is supported by research. This will allow organisations to target a specific PsyCap dimension through training workshops which will lead to the optimum outcome, depending on the specific need of the organisation. For example, later in this study it will be investigated which PsyCap construct have the largest impact on Employee Engagement. Thus, knowing which of the four constructs will have the most prominent impact on the Engagement of the workforce, could assist organisations to invest fewer resources (e.g. only focus on Hope) and still gain an optimal result in terms of increased Engagement.

2.5.4.2 Antecedents of Hope

The antecedents of Hope are mostly negative or burdensome events. This is probably a consequence of the fact that in most literature, Hope is often examined in relation to various diseases and other threatening situations. Marcel (1965), for example, claims that Hope can only be experienced when the temptation to despair, exists? Erikson (1982) stated that Hope is developed through a positive resolution of the first psycho-social crisis between trust and mistrust. More research is needed to identify whether positive events can serve as antecedents to Hope.

The negative events, or antecedents to Hope mentioned in research are (1) stressful stimuli (Yancey, Greger & Coburn, 1994; Jacoby, 1993); (2) crises such as loss (Herth, 1990; Nowotny, 1989); (3) life-threatening situations (Miller, 1989; Nowotny, 1989); and again, as mentioned above, (4) temptation to despair (Herth, 1990; Marcel, 1965).

Another possible antecedent is suggested by implicit theory (Dweck, 1991). Implicit theory states that individuals have basic assumptions about their abilities which influence the underlying reasons for engaging in goal-directed behaviours, known as goal orientations (Dweck, 1986). Peterson, Gerhardt and Rode (2006) believe this to be a valid assumption due to the emphasis placed on the importance of goals in

Hope theory and the role goal orientations play in the development of Hope. Individuals can be oriented to pursue performance goals (wherein the primary concern is demonstrating superior performance to others) and / or learning goals (where the primary concern is mastery of subject and development of personal competence). Conceptually, they believe a learning goal orientation is a likely precursor to Hope, because individuals with a learning goal orientation subscribe to an incremental implicit theory, meaning they tend to view their ability as a malleable attribute that can be developed through effort and experience (Dweck, 1991). In other words, individuals with a learning goal orientation are hopeful in the belief that effort will lead to mastery. With a learning goal orientation, an individual chooses tasks that enable him or her to increase their mastery and learn skills necessary for competence, and effort is viewed as a necessary part of obtaining new skills needed for high performance. Peterson et al. (2006), in their study among a sample of 212 undergraduate students, found a significant positive relationship between learning goal orientations and trait Hope.

Lastly, another important antecedent to Hope seems to be verbal cues. Positive cues toward a task increase state hope since it triggers hopeful cognitions leading to a growing sense of agency and pathways thinking (Lopez, Floyd, Ulven & Snyder, 2000). The opposite also seem to be true, in that negative verbal cues will lower levels of state Hope.

2.5.4.3 Measuring Hope

Some of the most prominent measurement instruments for Hope is summarised in table 2.4. In this study the Psychological Capital Questionnaire (PCQ-24; Luthans, Avolio et al., 2007) was used to measure all four of the PsyCap constructs (Hope included).

Table 2.4: Summary of different Hope measures

Measurement instrument	Authors and date	Sub-dimensions and Description of instrument	Number of items	Internal consistency yielded by authors
Hope Scale (HS)	Curry, Snyder, Cook, Ruby, & Rehm (1997)	Sub-dimensions: <ul style="list-style-type: none"> • Agency • Pathways 	12 items	.74 - .84
Dispositional Hope Scale (DHS)	Snyder et.al. (1991)	Sub-dimensions: <ul style="list-style-type: none"> • Agency with regards to goals • Pathway thinking with regards to goals 	12 items	.80
State Hope Scale	Snyder et al. (1996)	Sub-dimensions: <ul style="list-style-type: none"> • Agency with regards to goals • Pathway thinking with regards to goals 	6 items	.76
Herth Hope Index (HHI)	Herth (1991)	Sub-dimensions: <ul style="list-style-type: none"> • temporality and future • positive readiness and expectancy • interconnectedness 	12 items	.97
Revised Generalized Expectancy for Success Scale (GESS-R)	Fibel & Hale (1978)	Unidimensional	25 items	.92
Hunter Opinions and Personal Expectations Scale (HOPES)	Nunn, Lewin, Walton & Carr (1996)	<ul style="list-style-type: none"> • Hope • Despair 	20 items	.90 - .92

2.5.5 Optimism

2.5.5.1 Defining Optimism

Optimists are typically described in lay man terms as “people who expect good things to happen to them,” while pessimists are “people who expect bad things to happen to them” (Carver & Scheier, 2005; p. 231). However, in Positive Psychology Optimism has a very specific meaning based within empirical theory and research.

Scheier and Carver (1985) view Optimism as a goal-based construct which is present when an outcome has substantial value. They define optimists as people who hold positive expectations and remain confident about the future, even when they are dealing with serious disturbances. Another more descriptive explanation of the Optimism construct is give by Tiger (1971; p. 18) who defines it as “a mood or attitude associated with an interpretation about the social or material- one which the

elevator regards as socially desirable to his or her advantage, or for his or her pleasure.” Seligman (1998) defines Optimists as those who make internal, stable, attributions regarding positive events (e.g. task accomplishment) and those who attribute external, unstable, and specific reasons for negative events (e.g., a missed deadline). This infer that Optimism, as an explanatory style, attributes positive events to personal, permanent, and pervasive causes and interprets negative events in terms of external, temporary, and situation specific factors. Conversely, a pessimistic explanatory style would interpret positive events with external, temporary, and situation-specific attributes and explain negative events in terms of personal, permanent, and pervasive causes (Seligman, 1998). Based on this widely recognised definitional framework, optimists take credit for the positive events in their lives. They view the causes of these desirable events as being within their power and control.

In order to avoid the criticism of false Optimism, POB tends to emphasize realistic Optimism (Luthans, 2002b; Luthans, Youssef et al., 2007; Schneider, 2001). In other words, Optimism is not based on an unchecked process that has no realistic assessment. This realistic Optimism as a state (as opposed to a dispositional trait), includes an objective assessment of what one can accomplish in a specific situation, given the available resources at the time. Peterson (2000) views realistic Optimism as a dynamic, state-like, yet changeable, construct. Thus, as with efficacy, Optimism is amenable to development and has been enhanced by methods such as Schneider’s (2001) three-step process, which includes leniency for the past, appreciation for the present, and opportunity seeing for the future. Therefore, Optimism as a facet of PsyCap is associated with a positive outcome, outlook or attribution of events, which includes positive emotions and motivation and has the caveat of being realistic (Luthans, 2002a). This definition specifically indicates the big effect of an optimistic attribution style on the perception process and interpretations of an individual. The outlook of the person will determine how they see and interpret external events which influence their behaviour. For example, Optimism may influence the decision and behaviour of an employee to engage in their work or not.

According to Gabris, Maclin and Ihrke (1998) Optimism introduces one to the belief, or at least the Hope, that through the responsible use of knowledge and reason, mankind can improve existing conditions. Rather than accept the *status quo* as the best of all possible worlds, the optimistic approach asks how can things be improved or made better. More fundamentally, the optimistic approach allows, if not encourages, one to take control of one's social and material destiny.

2.5.5.2 Antecedents of Optimism

Some antecedents to Optimism have been researched. Specifically, research on twins suggests that Optimism is subject to genetic influence (Plomin, Scheier, Bergemen, Pedersen, Nesselroade & McClearn, 1992). The question remains whether Optimism is *itself* heritable, or whether it displays heritability because of its relation to other aspects of temperament. Optimism relates both to neuroticism and to extraversion, and both are known to be genetically influenced. Although Optimism is distinguishable from these temperaments (Scheier, Carver & Bridges, 1994), it may be that the observed heritability of Optimism reflects these associations.

Another potential influence on people's outlook on life is early childhood experience. For example, in discussing personality development, Erikson (1968) held that infants, who experience the social world as predictable develop a sense of "basic trust," whereas those who experience the world as unpredictable, develop a sense of "basic mistrust". These qualities are not all that different from the general sense of Optimism and pessimism. Similarly, attachment theorists hold that some infants are securely attached in their relationships, while others are not (Ainsworth, Blehar, Waters & Wall, 1978; Bowlby, 1988). This has also been extended to discussions of adult attachments (Hazen & Shaver, 1994). This suggests that Optimism may derive in part from the early childhood experience of secure attachment (Snyder, 1994).

Both the above discussed antecedents, genetics and childhood experiences, cannot be influenced by organisations. This does not mean that organisations cannot play a part in increasing the Optimism levels of their employees as research have proven this state-like trait can indeed be developed. Also, by successfully improving one of the four constructs comprising PsyCap (e.g. Optimism), it may also impact on the

other three remaining constructs and result in an increase in overall increase in PsyCap levels.

2.5.5.3 Measuring Optimism

Various measures used to measure Optimism, especially prior to the development of the PCQ-24, are reported in table 2.5. There are several ways to think about and measure generalized expectancies like Optimism. One way is to measure them directly by asking people to indicate what their general expectancies are (Scheier & Carver, 1985; Dember, Martin, Hummer, Howe & Melton, 1989). Another way is to measure Optimism by tapping into individual's expectancies for the future, which stem from their interpretations of the past (Peterson & Seligman, 1984).

Table 2.5: Summary of different Optimism measures

Measurement instrument	Authors and date	Description and Subdimensions of instrument	Number of items	Internal consistency yielded by authors
Life Orientation Test (LOT)	Scheier & Carver (1985)	<ul style="list-style-type: none"> Measure people's expectancies directly by asking them whether they expect outcomes in their life to be good or bad 	8 items	.76
Life Orientation Test Revised Version (LOT-R)	Scheier, Carver & Bridges (1994)	<ul style="list-style-type: none"> Measure trait optimism 	10 items	.76 - .78
Optimistic Bias Scale (OBS)	Puga & Garcia (2009)	<ul style="list-style-type: none"> Measures beliefs about the likelihood of negative events happening to a participant and compares beliefs about the likelihood of the events happening to others Measures situational and comparative Optimism 	19 items	.68

2.5.6 Self-Efficacy

2.5.6.1 Defining Self-efficacy

According to Luthans, Youssef et al. (2007), Self-efficacy is the construct in PsyCap that best meets all the inclusion criteria. Stajkovic and Luthans (1998; p. 66) define the concept of Self-efficacy in the workplace as "one's conviction (or confidence)

about his or her abilities to mobilize the motivation, cognitive resources or courses of action needed to successfully execute a specific task within a given context.” According to this definition Self-efficacy may play a central role in the development of Occupational stress. Occupational stress will occur when an individual perceives the demands from their environment as exceeding their coping ability and resources, while Self-efficacy refers to the person’s belief about their ability and cognitive resources. Thus, when a person is of the belief that they have the ability and resources to deal with their stressors and demands, they may be less likely to develop Occupational stress. According to theory and research by Bandura (1998), Self-efficacy makes a difference to how people think, feel, and act and also affects how individuals interpret events, which again points to the role it plays in the subjective evaluation of the surrounding events of the person. Those with low efficacy are easily convinced that efforts to address difficult challenges are futile and are more likely to experience negative Stress symptoms, while those with higher levels of efficacy are more likely to perceive challenges as surmountable given sufficient competencies and effort (Bandura, 2008).

Self-efficacious people can be distinguished by five important characteristics, namely they (1) set high goals for themselves and self-select into difficult tasks; (2) welcome and thrive on challenge(s); (3) are highly self-motivated; (4) invest the necessary effort to accomplish their goals; and (5) persevere when faced with obstacles. These five characteristics equip high efficacy individuals with the capacity to develop independently and perform effectively, even with little external input for extended periods of time. People with high PsyCap efficacy do not wait for challenging goals to be set for them, which is often referred to as “discrepancy reduction” (Luthans, Youssef et al., 2007). On the contrary, they create their own discrepancies by continuously challenging themselves with higher self-set goals and by seeking and voluntarily opting for difficult tasks (Luthans, Youssef et al., 2007). Self-doubt, scepticism, negative feedback, social criticism, obstacles and setbacks, and even repeated failure (which can be devastating for people with low efficacy) have little impact on efficacious individuals (Bandura & Locke, 2003).

The concept of Self-efficacy is based on Bandura's (1997) social cognitive theory, which is an approach to understanding human cognition, action motivation, and emotion that assumes we are active shapers, rather than simply passive reactors to our environments (Bandura, 1997). His social cognitive theory also includes five identified cognitive processes that are vital constituents of the efficacy equation, symbolizing, forethought, observation, self-regulation, and self reflection. Bandura (1997, p. 3) defines Self-efficacy as "beliefs in one's capabilities to organise and execute the courses of action required to produce given attainments." Self-efficacy can be viewed as a concept of perceived competence and the probability that people estimate that they can take on a particular task as an estimate of their Self-efficacy. Bosscher and Smit (1998) argue that numerous experiences of failure and success in various domains of an individual's life may also be important to understand how an individual may generate general beliefs about Self-efficacy.

It is possible to distinguish between specific Self-efficacy (SSE) (which is task specific) and general Self-efficacy (GSE) (which is global in nature). However, both have self-confidence as the basis of self-evaluation. Although originally described as applying to a very specific domain of activity, there is increasing recognition that individuals can also have a "generalised" level of Self-efficacy across a common domain of challenges and tasks, such as the workplace (Parker, 1998). GSE is defined by Judge, Erez, Bono and Thoreson (2002, p. 96) as a "judgment of how well one can perform across a variety of situations." GSE is therefore a motivational state because it involves the individual's beliefs regarding their abilities to perform and succeed at tasks across different situations (Kanfer & Heggestad, 1997). "The importance of the GSE construct to organisational research lies in its ability to (a) predict SSE across situations and tasks; (b) predict general and comprehensive performance criteria; and (c) buffer against the debilitating effects of adverse experiences on subsequent SSE" (Chen, Gully & Eden, 2001, p. 67). Based on Chen and colleagues' opinion (2001), it is thus possible to state that general Self-efficacy is able to predict performance on specific situations. Therefore, an individual's general perception of confidence spills over to specific situations and the associated levels of confidence (Chen et al., 2001). However, it is important to note that Self-

efficacy, as applied to the higher order construct of PsyCap, is not an omnibus trait but rather a judgement about specific task capability (Bandura, 1998).

Several approaches have been found successful in developing efficacy, including mastery experiences, modeling, social persuasion, and physiological / psychological arousal (Bandura, 1997). Efficacy has been strongly linked with work-related performance outcomes (Bandura & Locke, 2003; Stajkovic & Luthans, 1998) as well as the socialization and retention of new employees (Bauer, Bodner, Erdogan, Truxillo & Tucker, 2007) and the organizational commitment and turnover intentions of existing staff (Harris & Cameron, 2005).

2.5.6.2 Antecedents of Self-efficacy

According to Bandura (1997), the early development of Self-efficacy is influenced primarily by two interacting factors. Firstly, it is influenced by the development of the capacity for symbolic thought, particularly the capacity for understanding cause-and-effect relationships and the capacity for self-observation and self-reflection. The development of a sense of personal agency begins in infancy and moves from the perception of the causal relationship between events, to an understanding that actions produce results, to the recognition that one can produce actions that cause results.

Secondly, the development of efficacy beliefs is influenced by the responsiveness of environments, especially social environments, to the infant's or child's attempts at manipulation and control. Environments that are responsive to the child's actions facilitate the development of efficacy beliefs, whereas nonresponsive environments stifle this development. Efficacy beliefs and a sense of agency continue to develop throughout the life-span as one integrates information from primary sources, namely (1) performance experiences (successful attempts to control the environment that one attributes to one's own efforts, will strengthen self-efficacy for that behaviour or domain and is the most powerful source of self-efficacy information); (2) vicarious experiences (one's observations of the behaviour of others and the consequences of those behaviours); (3) imaginal experiences (imagining oneself or others behaving effectively or ineffectively in hypothetical situations, these images may be derived

from actual or vicarious experiences with situations similar to the one anticipated, or they may be induced by verbal persuasion); (4) verbal persuasion (what others say to one, regarding what they believe one can or cannot do, which will be influenced by factors like the expertness, trustworthiness, and attractiveness of the source); and (5) physiological and emotional states (one learns to associate poor performance or perceived failure with aversive physiological arousal and success with pleasant feeling states) (Bandura, 1997).

2.5.6.3 Measuring Self-efficacy

Two of the measures commonly used to measure Self-efficacy is summarised in table 2.6 although for the purposes of this study, Self-efficacy was measured with the PCQ-24 (Luthans, Avolio et al., 2007).

Table 2.6: Summary of different Self-efficacy measures

Measurement instrument	Authors and date	Description and Sub-dimensions of instrument	Number of items	Internal consistency yielded by authors
General Self-efficacy Scale (GSES)	Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs & Rogers (1982)	<ul style="list-style-type: none"> Measure a general set of expectations that the individual carries into new situations 	17 items	.76 - .89
The Self-efficacy Scale (SES)	Sherer, Maddux, Mercandante, Prentice-Dunn, Jacobs, & Rogers (1982)	<ul style="list-style-type: none"> Assess perceived Self-efficacy, or one's general expectancies regarding his or her ability to perform behaviours Sub-dimensions: <ul style="list-style-type: none"> General Self-efficacy Social Self-efficacy 	30 items	.71 - .86

2.5.7 Resilience

2.5.7.1 Defining Resilience

According to Masten and Reed (2002), Resilience is characterized by positive coping and adaption in the face of significant risk or adversity. When Resilience is applied in the workplace, it can be described as “the positive psychological capacity to rebound, or ‘bounce back’ from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility” (Luthans, 2002a, p. 702). According to Block and Kremen (1996), Coutu (2002), as well as Masten (2001),

highly resilient individuals tend to be more effective in a variety of life experiences, including adjustment and development, under a variety of life-course threatening conditions.

Little research has been done with regard to Resilience in the workplace. However, there is considerable evidence that Resilience, once believed to be a rare dispositional trait, is state-like and open to development (Bonanno, 2004; Coutu, 2002; Masten & Reed, 2002). Various methods have proven successful in building Resilience, including using positive emotions (Tugade & Fredrickson, 2004); altering the perceived level of risk or personal assets (Masten, 2001); and generally fostering self-enhancement and development (Luthans, Vogelgesang et al., 2006). Resilient people are characterized by a staunch sense of reality (Coutu, 2002), and resiliency development efforts are similarly grounded in the realistic assessments and creation of coping strategies when a setback occurs. For example, a study by Tugade, Frederickson and Barrett (2004), has shown that positive emotions enhance Resilience in the face of negative events. In addition, Richardson (2002) has found that Resilience can increase and even grow when the individual returns to levels above homeostasis after an adverse event. This means that individuals may actually become more resilient to an adverse situation each time they effectively bounce back from a previous setback. This upward spiralling effect of emotions was found in studies by Fredericson and Joiner (2002). Thus, Richardson (2002) proposes that this is where the interaction and synergy of Hope, Optimism and Self-efficacy may take the level of resiliency beyond that of homeostasis. This is also supported by Bandura (1997) who argues that success usually comes through renewed effort after failed attempts, and that it is the resiliency of personal efficacy that counts.

Recent research also demonstrated a positive link between Resilience and employee performance (Luthans, Avolio et al., 2007); job satisfaction (Youssef & Luthans, 2007); organizational commitment (Youssef & Luthans, 2007); work happiness (Youssef & Luthans, 2007); and the ability to deal with massive corporate downsizing (Maddi, as cited in Avey et al., 2009).

There seems to be confusion regarding the conceptualization of the concept of Resilience as a personal trait versus a dynamic process (Luthar, Cicchetti & Becker, 2000). This confusion is derived from the literature on ego-resiliency (Block & Block, 1980), which refers to personal characteristics of the individual as encompassing a set of traits reflecting general resourcefulness and sturdiness of character. Hence, the terms “ego-resiliency” and “resilience” differ on two dimensions (Luthar, 1996). First, “ego-resiliency is a personality characteristic of the individual, whereas resilience is a dynamic developmental process. Second, ego-resiliency does not presuppose exposure to substantial adversity, whereas resilience, by definition, does” (Luthar et al., 2000, p. 546). It is the latter which is the type of Resilience that is part of the PsyCap construct. From this explanation one can already derive one antecedent of Resilience, namely adversity/hardship, however, more antecedents will be explored in the next section.

2.5.7.2 Antecedents of Resilience

The main antecedent to Resilience is adversity. According to Luthar et al. (2000), adversity is the single most notorious variable that distinguishes Resilience from other social management processes or personality traits. Adversity is the feature that separates the concept of Resilience from the personality trait of ego-resiliency. Challenge, change, and disruption are all aspects of adversity that are noted before the process of Resilience can occur. In their Resiliency Model, Richardson, Neiger, Jensen and Kumpfer (1990) propose that individuals, reacting to disruptive life events, choose consciously or unconsciously to reintegrate. It is the disruption that allows an individual to learn or tap into resilient qualities and achieve resilient reintegration (Richardson, 2002).

Many Resilience researchers have compiled lists of protective factors, which is defined as specific attributes or situations that are necessary for the process of Resilience to occur (Dyer & McGuinness, 1996), from their studies. Rutter (1987), however, was quick to caution the meaningfulness of these factors. While he acknowledged that the presence of protective factors is important in that they are “robust predictors” of Resilience, he posed that it is the protective processes that are of greater value in determining approaches to enhancing Resilience and thereby

preventing negative outcomes (Rutter, 1987, 1993). It is important to note that protective factors, although similar, are contextual, situational, and individual and lead to varying outcomes. Protective factors that are present or beneficial for one individual may not be present or beneficial for a similar individual. Additionally, the same protective factors that lead to healthy outcomes for one individual in one situation may not lead to healthy outcomes for the same individual in another situation (Johnson & Wiechelt, 2004).

The protective factors of Resilience mentioned in the body of research on this construct are summarised in table 2.7.

Table 2.7: The protective factors of Resilience

Protective Factors	Anthony (1974)	Bernard (1991)	Garmezy (1991)	Masten (1994)	Rutter (1985, 1987, 1993)	Werner and Smith (1982, 1992)
1. Good natured, easy temperament		X		X	X	X
2. Positive relationship	X	X	X	X	X	X
3. Communicates effectively			X		X	
4. Sense of personal worthiness	X	X	X	X	X	X
5. Sense of control over fate	X	X	X			
6. Effective in work, play, love			X			
7. Positive social orientation	X		X	X	X	X
8. Assertive/asks for help	X		X			
9. Above average social intelligence			X		X	
10. Informal social support network	X		X		X	X
11. Ability to have close relationships	X		X		X	
12. Healthy expectations and needs			X			X
13. Uses talents to personal advantage			X	X	X	X
14. Delays gratification	X		X		X	X
15. Internal locus of control	X		X		X	X
16. Flexible	X		X		X	X
17. Believes in her or his self-efficacy	X	X	X	X	X	X
18. Desires to improve			X			
19. Interpersonal sensitivity					X	X
20. Problem-solving ability	X		X		X	X
21. Decision-making ability	X		X			
22. Future oriented					X	X
23. Trust in others/hope for the future	X	X	X	X		
24. Sense of humour	X	X	X	X	X	X
25. Productive critical thinking skills	X		X	X	X	X
26. Manages range of emotions	X			X		
27. Adaptive distancing		X				
28. High expectations	X	X	X	X	X	X

2.5.7.3 Measuring Resilience

The various measurement instruments which can be used to measure Resilience are summarized in the table 2.8. Resilience was measure with the PCQ-24 (Luthans, Avolio et al., 2007) in this study.

Table 2.8: Summary of different Resilience measures

Measurement instrument	Authors and date	Description and Sub-dimensions of instrument	Number of items	Internal consistency yielded by authors
The Resilience Scale for Adults (RSA)	Friborg, Hjemdal, Rosenvinge & Martinussen (2003)	Sub-dimensions: <ul style="list-style-type: none"> • Personal competence (PC) • Social competence (SC) • Family coherence (FC) • Social support (SS) • Personal structure (PS) 	37 items	.90
Brief Resilience Coping Scale (BRCS)	Sinclair & Wallston (2004)	Not available	4 items	.69
Connor-Davidson Resilience Scale (RISC)	Karaimak (2010)	Sub-dimensions: <ul style="list-style-type: none"> • personal competence, high standards, and tenacity • trust in one's instincts, tolerance of negative affect, and strengthening effects of stress • positive acceptance of change and secure relationships with others • control • spiritual influences 	25 items	.89
35-Item Resiliency Scale	Jew, Green & Kroger (1999)	Sub-dimensions: <ul style="list-style-type: none"> • Future orientation • Active skill acquisition • Independence/Risk taking 	35 items	Not available
25-Item Resiliency Scale	Wagnild & Young (1990)	Sub-dimensions: <ul style="list-style-type: none"> • Perseverance • Self-reliance • Meaningfulness • Existential aloneness • Equanimity 	25 items	Not available

2.6 RELATIONSHIPS BETWEEN THE CONSTRUCTS

2.6.1 Relationship between Burnout and Occupational Stress

Several of the mentioned definitions of Stress and Burnout in itself imply the clear relationship between these two constructs, as it points out that enduring Stress causes Burnout. Maslach and Jackson defined Burnout as a particular type of Occupational stress where the pattern of negative affect responses results from a variety of work demands or stressors (Cordes & Dougherty 1993; Shirom, 1989). Furthermore, Burnout has also been defined as “a prolonged response to chronic, emotional and interpersonal stressors on the job” (Maslach et al., 2001, p. 397) as well as an extreme case of chronic Stress, where chronic Stress is mostly caused by constant emotional pressure which the individual cannot control and over time causes Burnout (Cooper, et al., 2001). Also, Maslach and Schaufeli (1993, p. 9) consider Burnout as “prolonged job stress where demands at the workplace tax or exceed an individual’s resources.”

Stress and Burnout cannot be distinguished on the basis of their symptoms, but only on the basis of the process (Maslach & Schaufeli, 1993). According to Etzion in Schaufeli and Buunk (2003, p. 387), Burnout is a slow developing process that starts without warning and evolves almost unrecognised up to a particular point. An individual will reach a point without prior warning where he/she feels exhausted and cannot relate this state to a particular stressful event. During the process, the harsh reality of everyday life, which is measured against a person's expectations and ideals, causes Stress when there is a discrepancy. These small, almost negligible stressors erode an individual's spirit. This Stress can be consciously observed by the individual or it can go by totally unnoticed for a long time. The person will, over a period of time, feel progressively emotionally strained. This will lead to gradual change of attitude towards a person's work or to people at work and would finally result in Burnout (Schaufeli & Buunk, 2003).

A recent study by Siying et al. (2008) has shown that greater Work-related Stress is associated with Burnout in doctors. The research was conducted in a sample of 543 doctors from three provincial hospitals in China and made use of the MBI-GS

(Maslach et al., 1996) to measure Burnout and the OSI-R (Osipow & Spokane, 1987) to measure the two dimensions of Occupational adjustment, namely Occupational stress and coping resources. Out of the 30 relationships tested between the three dimensions of Burnout (Exhaustion, Cynicism and Professional efficacy) and the 10 elements of Occupational stress (Role overload, Role insufficient, Role ambiguity, Role boundary, Responsibility, Physical environment, Recreation, Self-care, Social support and Rational / Cognitive), 25 significantly strong relationships ($p < 0.01$) were found. The only exceptions were with the Cynicism-Recreation relationship and the Professional efficacy-Recreation relationship, which was only moderately significant ($p < 0.05$); and the Exhaustion-Social support relationship, the Professional efficacy-Role overload relationship, and the Professional efficacy-Responsibility relationship, which did not obtain significant relationships ($p > 0.05$).

Much more evidence exist which suggest that Occupational stress influence Burnout. For example, in a study on local government services in the North West province, South Africa, Rothmann, Jackson and Kruger (2003) found that a significant relationship exists between Occupational stress (measured by the OSI; Cooper, Sloan & Williams, 1988) and emotional exhaustion (measured by the MBI-GS; Maslach et al., 1996) ($r = .50, p < .01, n = 270$). This indicates that a higher level of Occupational stress (as a result of job demands and a lack of organisational support), will lead to a higher level of emotional exhaustion.

Similarly, a study by Wiese, Rothmann and Storm (2003) was conducted in a random sample of 275 police personnel in the South African police service in Kwazulu-Natal. They used the MBI-GS (Maslach et al., 1996) to measure Burnout among the police officers and the Police Stress Inventory, with its two dimensions of job demands and job resources, to measure the Occupational stress of the police officers. The PSI focus on common work situations that often result in psychological strain and each of its 44 items describes a job related stressor event. A significant correlation was reported between emotional exhaustion and Occupational stress, as a result of job demands ($r = .52, p < .05, n = 257$), and as a result of job resources ($r = .47, p < .05, n = 257$). Moreover, they also found significant relationships between

cynicism and Occupational stress, as a result of job demands ($r = .35, p < .05, n = 257$), and as a result of job resources ($r = .28, p < .05, n = 257$) and lastly, between professional efficacy and Occupational stress, as a result of job resources ($r = .21, p < .05, n = 257$). Similar results were reported by Rothmann et al. (2004).

Brandt (2006) conducted a study among 122 nurses in South Africa, which also confirmed the relationship between Occupational stress (as measured by the SWSI; De Bruin & Taylor, 2005) and Burnout (as measured by the MBI; Maslach & Jackson, 1981). In this study, the results of the data analysis pertaining to the emotional exhaustion subscale of the MBI indicated a strong significant relationship with Occupational Stress ($r = .679, n=122, p<.01$). Moreover, the depersonalization subscale also had a significant relationship with Occupational stress ($r = .354, n=122, p<.01$). Similar results between Burnout and Occupational stress were found by Naude and Rothmann (2003) in their sample of emergency workers, by Jenkins and Elliot (2004) on nurses in acute mental health settings, as well as Myendeki (2008) in a sample of police workers.

A study by Milfont, Denny, Ameratunga, Robinson and Merry (2007), among 129 teachers from three secondary schools in New Zealand, tested the relationship between Burnout (measured by the CBI; Kristensen et. al, 2005) and Well-being (as measured by the Well-Being Index). They found significant relationships between well-being and Personal Burnout ($r = -.66, n = 129, p < .001$), Work-related Burnout ($r = -.64, n = 129, p < .001$) as well as Student-related Burnout ($r = -.49, n = 129, p < .001$). Another study where the CBI was used to measure Burnout was done by Lue, Chen, Wang, Chen and Chen (2010). Their sample included a total of 555 postgraduate students in Taiwan and they found that job stress (in combination with work hours) explained 24.7% variance in Burnout. A study by Tsai and Chan (2010) in 211 judicial officers, comprising 87 judges and 98 procurators in Taiwan, confirmed the results of the previous study. They also found significant relationships between Occupational stress (measured by the Job content questionnaire, JCQ; Karasek, 1985; and the Effort-Reward Imbalance Questionnaire, ERI Questionnaire; Siegrist & Peter, 1996) and two dimensions of Burnout, namely Personal Burnout and Work Related (as measured by the CBI; Kristensen et. al., 2005). Similarly to the

results of the previous study by Tsai and Chan (2010), Tsai, Huang and Chan (2010) also found a significant relationship between Occupational stress (as measured by the JCQ; Karasek, 1985 and the ERI Questionnaire; Siegrist & Peter, 1996) and Personal- and Work Burnout among 180 lawyers from 26 law firms in the Taipei Bar, Taiwan.

2.6.2 Relationship between Burnout and PsyCap

According to Zapf (2002) numerous antecedents of Burnout have been identified in different studies and contexts, but little research has been done to discover the different emotional aspects that could predict Burnout. In a recent meta-analysis of literature on the predictors of Burnout (Lee & Ashforth, 1996), it was found that workload, role stress, and role conflict, were among the best predictors of the construct. He proposed that Burnout may be one of many possible responses to excessive workplace stressors.

However, it is argued that employees, who are exposed to the same environment and circumstances as their colleagues, may respond differently to it. Some employees develop Burnout while others don't. This would imply that Burnout may not only be a result of excessive, direct occupational related pressures, but it could also be affected by non-work pressures, like individual differences (such as personality, emotional intelligence or personal attributes). Also, according to Schaufeli and Bakker (2001), research on Burnout has found that some employees, regardless of high job demands and long working hours, did not develop Burnout. A Positive Psychological perspective would contribute this phenomenon to the effects of certain psychological strengths and characteristics which could prevent Burnout (Schaufeli & Bakker, 2001). For example, Salanova (2004) developed a model whereby positive sources of Self-efficacy beliefs, like past success and positive emotions, increase Self-efficacy beliefs, which in turn increase well-being and performance. They also found evidence that weak Self-efficacy beliefs result in increased levels of Burnout and poor performance. This research underscores the importance of Self-efficacy, as well as other positive psychology constructs and the need for employers to develop it, in order to prevent the occurrence of Burnout. Furthermore, in a study among 2249 Norwegian teachers in elementary school and

middle school (Skaalvik & Skaalvik, 2010), Self-efficacy was negatively related to Burnout. In this study, Burnout (as measured by the MBI-ES; Maslach et. al., 1996) showed negative correlations (emotional exhaustion, $r = - .29$; and depersonalization, $r = - .41$) with Self-efficacy (as measured by the Norwegian Teacher Self-Efficacy Scale, NTSES; Skaalvik & Skaalvik, 2007).

However, some argue that psychological strengths are insufficient to resist the detrimental effects and stressors of a harsh environment. Cherniss (1995, p. 166) warns against overemphasising personal virtues: "Recognizing that certain individual characteristics help professionals to avoid Burnout shouldn't distract us from the powerful factors in the work environment that lead to burnout." In a similar vein, studies have shown that psychological factors explain not more than 30% of the variance in work-related outcomes, like Burnout (Kruger, Veldman, Rothmann & Jackson, 2002; Rothmann, 2001).

As proved by numerous other health and well-being studies, which will be discussed in the next section, personal virtues and constructs of Positive Psychology (like PsyCap) could indeed play a significant role in the development of Occupational stress, and consequently Burnout, due to the fact that prolonged Stress leads to Burnout.

2.6.3 Relationship between Occupational Stress and PsyCap

Oginska-Bulik (2005) indicated that Occupational stress can be reduced through decreasing the work demands (stressors) and increasing the personal resources (e.g. emotional intelligence, positive psychological experiences and personal traits) of employees. These personal resources can also refer to PsyCap and its constructs. Furthermore, Avey, Luthans, Smith, and Palmer (2010) propose that PsyCap is related to, and may help facilitate, the occupational health objective of attaining higher levels of employee psychological well-being. Other researchers in occupational health and health psychology have demonstrated that well-being is indeed impacted by PsyCap (Avey et al., 2009), as well as its individual constructs of Hope (Snyder, Lehman, Kluck & Monsson, 2006), Resiliency (Brit, Adler & Bartone,

2001), Self-efficacy (Bandura, 1997), and Optimism (Carver, Smith, Antoni, Petronis, Weiss & Derhagopian, 2005).

In the widely recognized work of Lazarus and Folkman (1984), it is argued that people suffer from stress when they believe they lack the resources to deal with difficult events. These authors further argue that PsyCap may be one of the critical resources needed for employees to cope with stressful events or conditions at work and thus minimizing their symptoms of Stress. More specifically, Lazarus (2003) identified Self-efficacy, Optimism, Hope, and Resilience as relevant avenues of exploration for enhanced understanding of how humans adapt to Stress. These four constructs of PsyCap play a central role in the subjective evaluations individuals make about their environment. Thus, they influence the perception individuals make of their work demands which will determine the impact these demands have on the individual, either positive or negative. For example, an individual with high levels of Self-efficacy will not easily perceive a difficult job task as a stressor because they believe they have the ability to cope with the given tasks and thus have the coping resources to deal with the demand. This will decrease the Stress this demand could have imposed on the individual.

A study by Avey et al. (2009) found that a significant negative relationship ($r = -.35$, $n = 416$, $p < 0.001$) exists between the PsyCap of employees and their perceived symptoms of Occupational stress. They conducted this study in a sample of 416 working adults from a variety of jobs and industries and used the PCQ-24 to measure PsyCap (Luthans, Youssef et al., 2007) and the DASS (Lovibond & Lovibond, 1995) to measure Stress symptoms. This finding contributes to the understanding that today's employees need to draw from unrecognized and largely untapped positive resources, such as PsyCap, to help them combat the dysfunctional effects of Stress in the modern workplace.

To date, however, the relationship between Hope and workplace Stress has received little, if any, research attention. Yet there is compelling evidence from Hope research in other contexts (e.g., clinical psychology and athletics) suggesting that Hope may provide individuals with a positive resource for stressful work situations. For

example, Snyder and colleagues (1991) have shown that Hope has a significant negative correlation with anxiety. Other studies demonstrate that an individual's Hope level could protect against perceptions of vulnerability, uncontrollability, and unpredictability (Snyder, 2000).

Adaptation to, and effective coping with Stress might be reflected in the capacity to maintain positive outcomes in the face of unpleasant life events (Ryff & Singer, 1998), which is consistent with the definition given for Optimism by Scheier and Carver (1985). Lyubomirsky, King and Diener (2005) reported that happy, positive people have better physical and mental health. In their analysis of "portfolio workers" (self-employed individuals who work for multiple clients), Totterdell, Wood and Wall (2006) found Optimism to be a key moderating factor in the relationship between job characteristics and job strain. Those portfolio workers with higher levels of Optimism were considered by to "be endowed with added protection" and less likely to experience symptoms of stress in the workplace.

Consistent with Lazarus (2003), Bandura (2008) argues that most human Stress is governed by beliefs about coping efficacy. For example, research by Matsui and Onglatco (1992) found perceptions of work overload to be affected by perceived Self-efficacy, with female employees who had a lower sense of efficacy to be more stressed by heavy work demands and responsibilities than those with higher Self-efficacy. Links between efficacy and workplace stress have also been demonstrated in recent studies of workers in Hong Kong and Beijing (Siu, Spector & Cooper, 2005) and nurses providing cancer care (Fillion, Tremblay, Manon, Cote, Struthers & Dupuis, 2007).

A study by Ong, Bergeman, Bisconti and Wallace (2006) found that differences in Resilience (measured with the Ego-Resilience scale of Block & Kremen, 1996) accounted for meaningful variation in individual's daily emotional responses to Stress. In a series of coordinated experimental and individual differences studies, Federickson et al. (2003) found a significant relationship between Resilience and Stress in that highly resilient individuals exhibited faster psychological and emotional recovery from Stress. Research also indicates that resilient individuals are better

equipped to deal with the stressors in a constantly changing workplace environment, as they are open to new experiences, are flexible to changing demands, and show more emotional stability when faced with adversity (Tugade & Fredrickson, 2004). Thus it could be argued that individuals with a higher level of PsyCap (e.g. more Resilience) would be more likely to experience less Occupational stress. It could, furthermore, be argued that when they do experience Stress their ability to cope better with these demands may protect them to a certain extent from the development of Burnout.

Jex (1998) believes the three key elements to coping with Occupational stress is (1) to plan a course of positive action to limit and contain the stress (i.e. Hope); (2) to maintain an optimistic attitude (i.e. Optimism) and (3) believe you have control or at least influence over the stress-inducing events (Self-efficacy). These solutions are a further indication that the PsyCap constructs (Hope, Optimism, Self-efficacy and Resilience) will influence the experience of Occupational stress, as these four constructs may influence an individuals' ability to act out these three key elements.

Steed (2002) conducted a study among 347 undergraduate psychology students to test the psychometric properties of four scales which measures Hope and Optimism, namely the Revised Generalized Expectancy for Success Scale (Fibell & Hale, 1978), the Life Orientation Test (LOT) (Scheier and Carver's (1985), the Hope Scale (HS) (Snyder, Harris, Anderson, Holleran, Irving & Sigmon, 1991) and the Hunter Opinions and Personal Expectations Scale (HOPES) (Nunn et al., 1996). Their data analysis yielded significant correlations between three of these four scales and Occupational stress (measured by the PSS; Cohen et al., 1983). A significant relationship was found between the LOT and the PSS ($r = -.58$, $n = 347$, $p < 0.001$), between the HS and the PSS ($r = -.49$, $n = 347$, $p < 0.001$) and lastly, between the HOPES and the PSS ($r = -.53$, $n = 347$, $p < 0.001$). These results once again prove the strong relationship between the PsyCap sub-dimensions and Stress.

2.6.4 Relationships between Hope, Optimism, Self-Efficacy and Resilience

Cozzarelli (1993) reported that psychological resources seem to act in concert and it is evident that many psychological resources are related, suggesting that if an

individual is high in one resource, they are often high on the others as well. In various studies conducted by Bandura (1997), Luthans and Jensen (2002), Luthans, Youssef et al. (2007), and Snyder (2000, 2002), the notion of the conceptual independence of the four PsyCap constructs, as well as their empirically based discriminant validity, has been proven.

Furthermore, Luthans, Youssef et al. (2007) propose that the higher-order factor of PsyCap may present the common source variance (i.e. common mechanistic processes) connecting the four constructs of Hope, Optimism, Self-efficacy and Resilience. It is this common underlying link that runs between the four constructs that ties them together into a higher-order core factor. As indicated in the definition of PsyCap, this commonality or underlying link is a mechanism shared across each of the facets that contribute to a motivational propensity to accomplish tasks and goals.

In addition, theoretical support for PsyCap as a second-order core construct can be found in psychological resources theory (Hobfoll, 2002) and Fredrickson's (2001) broaden-and build theory of positive emotions. Frederickson and Joiner (2002) provide both theoretical and empirical evidence that positive emotions trigger "upward spirals" of broader thinking, functioning, and well-being. She also confirms that these processes act in a synergistic way with each other and refer to it as the "broaden-and build theory" of positive emotions because positive emotions appear to broaden peoples' momentary thought-action repertoires and build their enduring personal resources. Thus, PsyCap is proposed to also act in such an integrated, interactive, and broadening way with its factors of Hope, Optimism, Self-efficacy and Resiliency in the motivated and motivating pursuit of success and desirable organizational outcomes (Luthans, Avolio et al., 2007; Luthans & Youssef, 2007; Luthans, Youssef et al., 2007).

Law, Wong and Mobley (1998) have recommended that multidimensional constructs such as psychological resources, like PsyCap, may be better understood in terms of an underlying core factor. This is especially evident when constructs are highly related, yet integrated with each other, like PsyCap is. For example, faced with a setback, if highly resilient employees with the ability to bounce back are also self-

efficacious and highly hopeful, they will most probably be motivated to persist and put forth the required effort to overcome the problem. In addition, they would also pursue alternate pathways in order to return to their original level of functioning or beyond where they were before the adverse event. Moreover, those high in Optimism may have a positive perspective in general, but combined with Self-efficacy and Hope, may also have the persistence to pursue many alternative pathways when necessary to achieve their optimistic expectations and goals.

Various studies have shown the interrelatedness and relationships between the four PsyCap constructs. For example, Snyder (2000) found that individuals high in Hope tend to be more confident on specific tasks (Self-efficacy) and will be able to quickly bounce back (Resilience) after temporary hopelessness. In accordance with Snyder (2000), Bandura (1997) has also shown that those high in Self-efficacy will be more resilient to adversity. Moreover, according to Luthans et al., (2006) Self-efficacy training can also help develop and build Optimism. In addition, Hope training can have a positive impact on Optimism development.

Furthermore, in a study by Magaletta and Olivier (1999) significant positive relationships between Hope (measured by the Hope Scale; Snyder, Harris et.al., 1991) and Optimism (measured by the LOT; Scheier & Carver, 1985) ($r = .550$, $n = 204$, $p < 0.001$), between Hope and Self-efficacy (measured by the SES; Sherer et.al., 1982) ($r = .592$, $n = 204$, $p < 0.001$) and between Self-efficacy and Optimism ($r = .507$, $n = 204$, $p < 0.001$) emerged. Similar results between Hope and Optimism were also reported by Holleran and Snyder (1990) as well as Scheier and Carver (1985). It was argued that these associations are due to the fact that that all three concepts (Hope, Optimism and Resilience) are conceptually tied to positive expectancies for the future. They concluded that their findings provided evidence that Hope, Optimism and Self-efficacy are related but not identical constructs. This was further corroborated by the multiple regression analysis results which indicated that all three constructs made a unique contribution in the prediction of well-being (measured by the General Well-Being Questionnaire; Wheeler, 1991).

Other research that confirms the strong relationship between the four constructs comprising PsyCap was done by Luthans, Avolio et al. (2007). They conducted two studies to analyze the PCQ (Luthans, Youssef et al., 2007) and test their various hypotheses related to it. Strong correlations emerged from the data analysis of Study 1 between Hope and Optimism ($r = .61$, $n = 115$, $p < 0.01$), Hope and Self-efficacy ($r = .51$, $n = 115$, $p < 0.01$), Hope and Resilience ($r = .47$, $n = 115$, $p < 0.01$), Optimism and Self-efficacy ($r = .44$, $n = 115$, $p < 0.01$), Optimism and Resilience ($r = .49$, $n = 115$, $p < 0.01$), as well as between Self-Efficacy and Resilience ($r = .40$, $n = 115$, $p < 0.01$). Similar results were found in study 2, as significant relationships between all of these constructs emerged again. Although international studies confirming the discriminant and convergent validity of the PsyCap sub-dimensions are plentiful, South African data in this regard is not available. To our knowledge, at the onset of this project, no other South African studies had been conducted with the PCQ-24. Hence, this study set out to investigate the nature of the validity of the PsyCap construct (as a second order construct, as well as the convergent and discriminant validity of the sub-dimensions) in the South African context. This was an important research goal as the unique South African cultural context may introduce cultural bias into data, when transported measures (like the PCQ-24) are used (i.e. when instruments are imported from other countries).

2.6.5 Relationship between Burnout and Employee Engagement

Schaufeli et al. (2002), in their study among undergraduate students (sample 1) and employees from private and public companies (sample 2) in Spain, predicted that Burnout and Engagement would be negatively related since Engagement have been defined as the opposite of Burnout. They compared the three Burnout subscales from the MBI-GS (exhaustion, EX; cynicism, CY; and reduced efficacy, EF) with the three Engagement subscales, from a self-constructed, 24-item Engagement scale (Vigour, VI; Dedication, DE; and Absorption, AB). They viewed VI as the opposite of EX; DE as the opposite of CY; and AB as the opposite of reduced EF. Their predictions were confirmed as all the Burnout subscales was negatively related to the Engagement subscales, with a mean correlation in sample 1 being $r = -.38$, and $r = -.42$ in sample 2. Although the correlations differed in the two samples, they concluded that the pattern of correlations is remarkably similar across the two

samples. They also found that, of the three Burnout subscales, EF is the most strongly related to the Engagement subscales ($r = -.60$ for VI; $r = -.55$ for DE; $r = -.44$ for AB). A comparable study by Schaufeli et al. (2008) also reported that Burnout (as measured by the MBI-GS; Schaufeli et al., 1996) and Employee Engagement (as measured with the UWES; Schaufeli et al., 2002) are significantly negatively related ($r = -.65$). However, these authors reported that EX have the strongest significant negative relationship with VI ($r = -.38$) and CY to DE ($r = -.47$).

Another study that confirms the strong relationship between Employee Engagement (measure by the Utrecht Work Engagement Scale, UWES; Schaufeli et al., 2002) and Burnout (measure by the MBI-GS; Maslach et al., 1996) was done by Rothmann et al. (2004). In this South African study significant correlations between Work Engagement and the two dimensions of Burnout, namely exhaustion ($r = -.38$, $n = 215$, $p < .01$) and cynicism ($r = -.50$, $n = 215$, $p < .01$), emerged. Similar to the study above and using the same measurement instruments for the two constructs, Jackson, Rothmann and van de Vijver (2006) also reported significant correlations between Burnout (specifically exhaustion) and Engagement (Vigour and Dedication).

Schaufeli et al. (2009) conducted a longitudinal survey among 201 telecom managers. In this study they determined the relationship between Burnout (measured by the MBI-GS; Maslach et al., 1996) and Engagement (measured by the UWES; Schaufeli et al., 2002). The participants were evaluated on these constructs at two intervals, Time 1 and Time 2 (being a year after Time 1). The data analysis yielded strong significant relationships between these two constructs at Time 1 and Time 2. At Time 1, they found a significant relationship between exhaustion (a dimension of Burnout) and Vigour (a dimension of Engagement) ($r = -.47$, $n = 201$, $p < .001$) as well as between exhaustion and dedication (another dimension of Engagement) ($r = -.44$, $n = 2101$, $p < .001$). Even stronger relationships were reported for cynicism (another dimension of Burnout) and Vigour (a dimension of Engagement) ($r = -.46$, $n = 201$, $p < .001$), as well as between cynicism and Dedication (another dimension of Engagement) ($r = -.63$, $n = 201$, $p < .001$). Similar strong significant relationships were reported at the measurement at Time 2 and also in a similar study by Bakker, Demerouti and Schaufeli (2005). It was expected that

the results from the abovementioned studies would be corroborated in this research, in that a negative relationship between Burnout and Engagement would be evident in the current data.

2.6.6 Relationship between Occupational Stress and Employee Engagement

In a study by Schaufeli et al. (2008) among a sample of Telecom managers in The Netherlands, evidence of a negative relationship between Employee Engagement (as measured with the UWES; Schaufeli et al., 2002) and perceived health (as measured by the Four Dimensional Symptom Questionnaire (4DSQ); Terluin, Van Rhenen, Schaufeli & de Haan, 2004) was reported. The 4DSQ consists of 4 symptom clusters: (1) distress (16 items); (2) depression (6 items); (3) anxiety (12 items) and (4) psychosomatic complaints (16 items). The results yielded in this study revealed that a significant negative relationship does exist between Employee Engagement and distress, as a significant negative correlation was found between VI and distress ($r = -.41$) and, although to a lesser extent, between DE and distress ($r = -.18$). In a similar study, Gan, Yang, Zhou and Zhang (2007) also reported significant relationships between Stress and Vigour ($r = -.252$, $n = 171$, $p < .05$), Stress and Dedication ($r = -.291$, $n = 171$, $p < .05$), as well as Stress and Absorption ($r = -.267$, $n = 171$, $p < .05$).

A study by Van der Colff and Rothmann (2009) in a South African sample of 818 registered nurses in private and public hospitals confirmed the strong relationship between Occupational stress (measured by the Nursing Stress Inventory, NSI; Van der Colff & Rothmann, 2009) and Engagement (measured by the UWES; Schaufeli et al., 2002). The analysis of their data yielded significant relationships between Engagement and three stressors, namely Lack of Organizational support ($r = -.13$, $n = 818$, $p < .05$), Job Demands ($r = -.14$, $n = 818$, $p < .05$) and Nursing-specific demands ($r = -.10$, $n = 818$, $p < .05$). It was expected that the negative association between Stress and Engagement would also be confirmed in the current study.

2.6.7 Relationship between PsyCap and Employee Engagement

Previous studies have consistently shown that job resources lead to Employee Engagement. However, since engaged workers also seem to be engaged outside

work life, engagement does not only stem from job resources, but from personal characteristics or resources as well. Personal resources are state-like, positive self-evaluations that are linked to resiliency and refer to individuals' sense of their ability to control and impact upon their environment successfully (Hobfoll et al., 2003). It has been argued and shown that such positive self-evaluations predict a variety of desirable outcomes. Several authors have investigated the relationships between personal resources and work engagement. In their study among highly skilled Dutch technicians, Xanthopoulou et al. (2007a) examined the role of three personal resources (Self-efficacy, organizational-based self-esteem, and Optimism) in predicting work Engagement. Results showed that engaged employees are highly self-efficacious and they believe they are able to meet the demands they face in a broad array of contexts. In addition, engaged workers have the tendency to believe that they will generally experience good outcomes in life (Optimism) (Mauno et al., 2007). These findings were replicated and expanded in a 2-year follow-up study (Xanthopoulou, Bakker, Demerouti & Schaufeli, 2007b). The follow-up study indicated that Self-efficacy, organizational-based self-esteem, and Optimism make a unique contribution to explaining variance in work engagement over time, over and above the impact of job resources and previous levels of engagement.

In a study by Bakker, Gierveld and Van Rijswijk (as cited in Bakker, 2007), on a sample of female school principals, it was found that those with most personal resources scored highest on work engagement. More specifically, Resilience, Self-efficacy and Optimism contributed to work engagement, and were able to explain unique variance in engagement scores (in addition to social support from team members and colleague principals, opportunities for development, and social support from an intimate partner). Thus, Resilience is another personal resource that facilitates work engagement, indicating that engaged workers are effective in adaptation to changing environments.

Avey et al. (2008) conducted a study in which they surveyed employees from a broad cross-section of organizations and jobs in the U.S.A. They predicted that participants' PsyCap will be related/lead to positive emotions which will again be related to/lead to attitudes (engagement and cynicism) and behaviours

(organizational citizenship and deviance) relevant to organizational change. More specifically, they proposed that higher levels of PsyCap will result in positive emotions which will lead to higher levels of Engagement attitudes among employees. They found that PsyCap (as measured with the PCQ-24; Luthans, Avolio et al., 2007) is indeed significantly correlated with Engagement (as measured with the scale by May, Gilson & Harter, 2004) ($r = .50$). This relationship is also mediated by positive emotions (as measured by the Positive and Negative Affect Schedule, PANAS; Watson, Clark & Tellegen, 1988), as a significant correlation was found between PsyCap and Positive emotions ($r = .70$) and between Positive emotions and Engagement ($r = .59$). Thus, employees with higher levels of PsyCap are likely to have more positive emotions and would be subsequently more engaged in their work. The current research also set out to replicate these findings.

2.7 CHAPTER SUMMARY

In this chapter the nature and definitions of Burnout, Employee Engagement, Occupational stress and PsyCap were discussed in detail, with the aim to provide some historical perspective and theoretical foundation to the constructs. The setting in the construction industry, in relation to Occupational stress and Burnout, was discussed as background to the research environment. Reference was made to different definitions, models and measurements of these constructs and emphases were also placed on previous research regarding these constructs. The next chapter will focus on the methodology that was used to conduct the research and state the various research hypotheses. Furthermore, information regarding the reliability and validity of the measurement instruments will also be provided.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

Following the discussion of all the relevant theory that pertains to this study, this chapter will discuss the rationale and objectives of this research, as well as the research methodology used. Firstly, the rationale of this study along with the research aims and objectives are discussed. This discussion culminates in the development of various research hypotheses to test the anticipated relationships between the constructs. The second part of this chapter will focus on the research design which includes various aspects of the methodology utilised, for example, the sampling method, how the data was collected as well as the measurement instruments that were utilised to measure the identified constructs.

3.2 RATIONALE AND AIM OF THIS RESEARCH

3.2.1 Research Rationale

It is a well known and frequently acknowledged fact that the human resources are the most costly and unpredictable component of a business. This is probably due to the fact that human beings cannot be controlled or programmed like other material aspects of a business. However, if developed and managed correctly, the human resources of an organisation can provide a significant competitive advantage to the organisation. For example, research has shown that the effectiveness and productivity of employees directly impacts on the profitability of the business (Mohanty, 1992; Rantanen, 1995; Slaski & Catwright, 2002).

High Stress and Burnout levels of employees in several industries have been cited worldwide in a variety of studies. Studies done in South Africa include those of Levert et al. (2000) in a sample of 94 nurses in a government psychiatric hospital as well as Montgomery, Mostert and Jackson (2005), who used a sample consisting of 646 primary school educators in the North West Province. Previous research has specifically focused on human service professions, like doctors, nurses, psychologists and teachers (Siying et al., 2008). However, Cordes and Dougherty

(1993) and Koekse et al. (1993) argued that Stress and Burnout is not exclusively related to these professions but is also prevalent in other types of occupations and industries. Research in the Netherlands confirmed this, as it showed that between 4% and 10% of the working population (all industries) reported serious Burnout complaints (Bakker, Schaufeli & Van Dierendonck, as cited in Rothmann, 2003). Moreover, according to the Grant Thornton International Business Report (IBR) 2010) (as cited in Stress taking toll on SA business, 2010), South Africa is ranked as the 16th most stressed country in the world (out of the 36 countries who participated). Thus, employees can develop Stress and Burnout regardless of the industry they work in or the type of work they do.

The construction industry in South Africa has a very wide variety of factors that can cause Stress and Burnout among its employees. Some of these are general factors which are also present in other industries, while others are very specific to the industry. This was described in detail in chapter 2. Some of the main stressors which were highlighted included lack of job continuity, rigid deadlines and demanding clients, and working away from home for long periods of time.

All of these factors may cause Stress and subsequent Burnout within the construction industry and lead to several negative consequences for the employees, as well as organisations. The cost of high Stress and Burnout levels to employers include higher staff turnover, lower morale, excessive sick leave, and reduced productivity and efficiency (Barnett, Brennan & Gareis, 1999; Cordes & Dougherty 1993; Jackson et al., 1987; Lee & Ashforth, 1996; Gaines & Jermier, 1983; Schaufeli & Enzmann, 1998; Wright & Bonett, 1997; Wright & Cropanzano, 1998). Especially in the construction industry it has been observed that employees tend to react to these stressors by abusing alcohol (Gyi et al., 1998; Malone, 1988) and adopting very negative attitude towards their work, the organization and their colleagues. Overall, this leads to lower performance, as well as more accidents on the job. All of these consequences cost the company money, which lowers its profits (Minchin et al., 2006).

Stress and Burnout are inevitable in today's workplace. Research that assist in gaining a better understanding of the predictors of Occupational stress and Burnout, as well as possible ways to prevent or minimize the occurrence and effect of these constructs, could be of great value in the workplace. Some researchers have argued that Engagement is the opposite of Burnout (Harter et al., 2002; Kahn 1990; Macey & Schneider, 2008; Maslach & Leiter, 1997; Schaufeli et al., 2002). It has been proven that employees' Engagement can be increased and will lead to organisational success, as well as a competitive advantage (Macey et al., 2009) by having a positive impact on individual performance (Bates, 2004; Harter et al., 2002; Richman, 2006), retention and turnover (Bates, 2004; Harter et al., 2002; Richman, 2006; Schaufeli & Bakker, 2004), organizational commitment (Hakenen et al., 2006; Richardsen, Burke & Martinussen, 2006), service climate (Salanova et al., 2005) as well as customer loyalty (Salanova et al., 2005). Hence, it is argued that increased Engagement will be beneficial to any company, apart from only negating the negative effects of Burnout.

Studies from the emerging field of Positive Psychology hypothesize that personal resources, like the constructs of PsyCap, of an employee may contribute to decreased Stress (Avey et al., 2009; Brit et al., 2001; Carver et al., 2005; Snyder, Lehman, Kluck & Monsson, 2006), Burnout (Salanova, 2004; Schaufeli & Bakker, 2001; Skaalvik & Skaalvik, 2010) as well as increased work Engagement (Avey et al., 2008; Xanthopoulou et al., 2007a, b). Moreover, it has been proven that the PsyCap constructs are state-like and can be developed (Bandura, 1997; Carver & Scheier, 2005; Luthans et al., 2008; Luthans, et al., 2006; Masten & Reed, 2002; Seligman, 1998; Snyder et al., 1996; Wagnild & Young, 1993). However, most of the Positive Psychology studies have been done in the U.S.A and Europe and research with regards to this concept is scarce in South Africa.

The current study aims to investigate the multiple relationships between Burnout, Employee Engagement, Occupational stress and PsyCap. A further aim is to determine whether PsyCap could possibly play a moderating role in the Occupational stress – Burnout relationship within the construction industry in South Africa.

3.2.2 Research Aims

As a first aim this study will investigate whether a significant positive relationship exists between Occupational stress and Burnout. Secondly, the relationships between PsyCap and its four components namely Hope, Optimism, Self-efficacy and Resilience, and Occupational Stress and Burnout will be explored. Thirdly, the study will aim to replicate previous research regarding the nature of the relationships between the four components of the PsyCap construct in the South African context. Next, the relationship between Burnout and Employee Engagement will be studied, followed by the relationship between Occupational stress and Employee Engagement. Then the relationships between PsyCap and its four components namely Hope, Optimism, Self-efficacy and Resilience, and Employee Engagement will be determined. Finally, this study will aim to investigate the moderating effect of PsyCap as a second order construct, on the Occupational stress, Burnout relationship.

3.3 RESEARCH HYPOTHESES AND THEORETICAL MODELS

3.3.1 Research Hypothesis

In the light of the previous research findings and the logical arguments put forward in the preceding sections, the following research hypotheses can be formulated based on the theoretical model of the proposed relationships between Burnout, Engagement, Occupational Stress and PsyCap (see figure 3.1):

Hypothesis 1: A significant positive¹ relationship exists between Occupational stress and Personal Burnout.

Hypothesis 2: A significant positive relationship exists between Occupational Stress and Work Burnout.

¹ Lower scores on the CBI indicate higher Burnout levels. Conversely, higher scores indicate lower Burnout. Higher scores on the PSS indicate higher levels of perceived stress. Therefore, although a positive relationship was hypothesised between Occupational stress and Burnout in this research, a negative correlation in the current data would provide support for this relationship.

Hypothesis 3: A significant positive relationship exists between Occupational stress and Client Burnout.

Hypothesis 4: A significant negative² relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Personal Burnout.

Hypothesis 5: A significant negative relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Work Burnout.

Hypothesis 6: A significant negative relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Client Burnout.

Hypothesis 7: A significant negative relationship exists between PsyCap (total score, as well as the four separate PsyCap sub dimensions: Hope, Optimism, Self-efficacy and Resilience) and Occupational stress.

Hypothesis 8: Significant positive relationships will exist between the four PsyCap sub dimensions (Hope, Optimism, Self-efficacy and Resilience).

Hypothesis 9: Significant negative³ relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Personal Burnout.

² Higher scores on the PsyCap indicate that individuals possess more of the psychological resources. However, lower scores on the CBI indicate higher Burnout. Therefore, although a negative relationship was hypothesised between PsyCap and Burnout in this research, positive correlations in the current data would provide support for this hypothesised relationship.

³ Higher scores on the UWES-9 indicate more employee Engagement. However, lower scores on the CBI indicate higher Burnout. Therefore, although a negative relationship was hypothesised between Engagement and Burnout in this research, positive correlations in the current data would provide support for this hypothesised relationship.

Hypothesis 10: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Work Burnout.

Hypothesis 11: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Client Burnout.

Hypothesis 12: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Occupational stress.

Hypothesis 13: The different dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) can be used to predict Vigour (as a dimension of Employee Engagement).

Hypothesis 14: The different dimensions of PsyCap (Hope, Optimism, Self -efficacy and Resilience) can be used to predict Dedication (as a dimension of Employee Engagement).

Hypothesis 15: The different dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) can be used to predict Absorption (as a dimension of Employee Engagement).

The following research hypotheses were formulated based on the theoretical model of the proposed moderating effect of PsyCap in the Occupational Stress / Burnout relationship (see figure 3.2):

Hypothesis 16: PsyCap (total score) will moderate the relationship between Occupational stress and Personal Burnout.

Hypothesis 17: PsyCap (total score) will moderate the relationship between Occupational stress and Work Burnout.

Hypothesis 18: PsyCap (total score) will moderate the relationship between Occupational stress and Client Burnout.

3.3.2 Theoretical research models

The proposed research models and anticipated relationships between the variables are graphically represented in figures 3.1 and 3.2. The various relationships to be tested in the models suggest that individuals who experience Occupational stress will be more prone to experiencing Burnout and less likely to experience Engagement. It is also suggested that individuals who have higher levels of PsyCap (or higher levels of one or more of the individual constructs comprising PsyCap) will be less likely to develop Occupational stress and Burnout and more likely to be engaged in their work. In addition, it will also be investigated which of the PsyCap sub-dimensions significantly predict Employee Engagement.

The literature survey can be summarized in terms of the following theoretical model (figure 3.1). This model is a schematic representation of hypotheses 1 – 15.

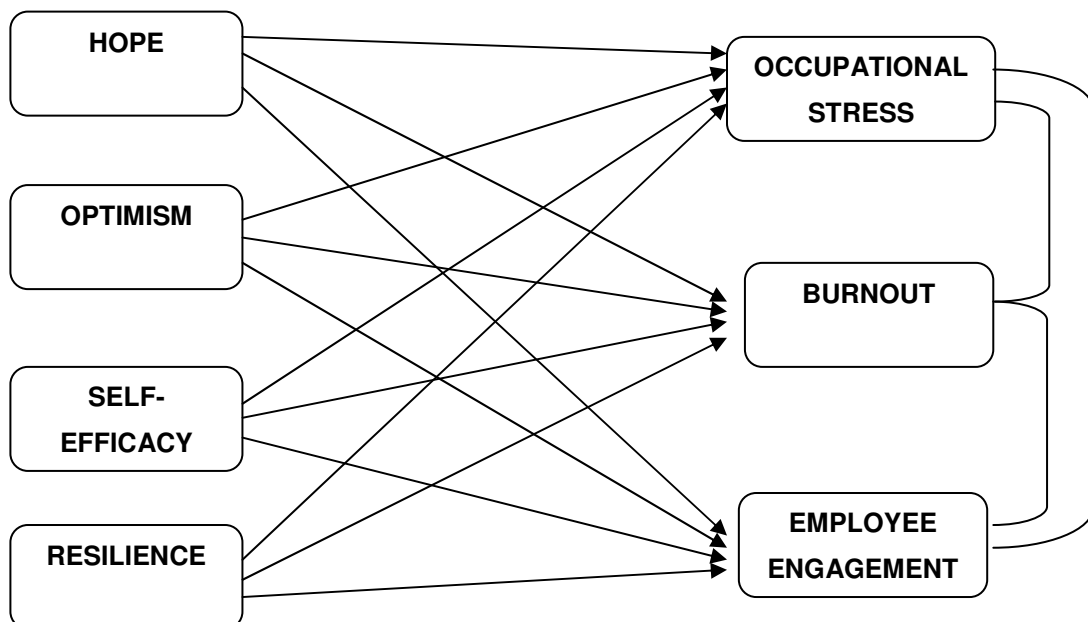


Figure 3.1: *Theoretical Model of the proposed relationship between Burnout, Employee Engagement, Occupational stress and PsyCap*

Moreover, it is argued that PsyCap, as a second order construct might act as a moderating variable when individuals experience Occupational stress. That is, the presence or absence of different levels of PsyCap in the individual might influence the experiences of Burnout, when they are exposed to high levels of Occupational Stress.

The second proposed theoretical research model and anticipated relationships between the variables, as stated in hypotheses 16 to 18, is graphically represented in figure 3.2. This model will test the moderating effect of PsyCap in the Occupational stress – Burnout relationship. That is, it is argued that individuals with higher levels of PsyCap, who experience Occupational Stress, will be less likely to develop similar levels of Burnout, than their lower PsyCap counterparts.

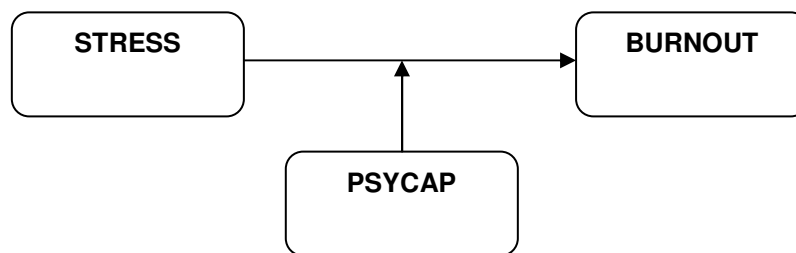


Figure 3.2: Theoretical Model of the proposed moderating effect of PsyCap on the Occupational Stress/Burnout relationship

3.4 RESEARCH DESIGN AND PROCEDURES

3.4.1 Research Design

Black (1999) stated that a research process can be divided into two stages, the planning stage and the execution stage. Any specific enquiry is more likely to yield the required empirical results if the planning of such an enquiry has been done with great circumspection. Theron (2009) also emphasizes the importance of a meticulous research methodology by pointing out that the methods used to arrive at the conclusions will determine the validity and credibility of the specific inferences. This is because methodology serves the epistemic ideal of science. Therefore, the planning / research process for this study will subsequently be discussed.

A non-experimental research design was used to explore the relationships between PsyCap (and its four constructs, Hope, Optimism, Self-efficacy and Resilience), Occupational stress, Burnout and Employee Engagement. Non-experimental research is used when the researcher wants to observe relationships between variables without controlling or manipulating the variables in any way. Thus, the researcher does not have direct control over the variables. The reason for this can be that the manifestation has already occurred or due to the constructs' inability to be manipulated. Thus, the hypothesis of the relationships between the variables is based on a theoretical framework and previous research and literature (Kerlinger & Lee, 2000).

The present research required a relational approach whereby the researcher aimed to determine how two or more variables are related to each other (Elmes, Kantowitz & Roediger, 2003). Typically, relational research does not involve the manipulation of variables, as do experiments. The data, therefore, are often called *ex post facto* data. This means 'after the fact' (Elmes et al., 2003). Certain weaknesses are inherent to non-experimental research. The first weakness is the inability to manipulate independent variables. Secondly, the lack of power to randomize is also considered as a weakness, as well as, thirdly, the risk of improper interpretation. Despite these three main weaknesses, non experimental research designs are mostly used in psychology, sociology and education, due to the fact that many of the research problems within these fields do not lend themselves to a controlled enquiry of a non-experimental kind (Kerlinger & Lee, 2000).

In this study both correlational and multivariate techniques were used to determine the strength and direction of the relationship between variables. These techniques allow the researcher to simultaneously determine the degree and direction of the relationships between the dependent and independent variables. Correlational research aims to establish the indirect relationships in data and allows the researcher to objectively establish which variables are closely associated and influences each other (Kerlinger & Lee, 2000). The advantages of correlational research includes the fact that it (1) can be used to explore questions that cannot be examined with experimental procedures; and (2) allows the researcher to determine

the degree of the relationship between the variables being studied. However, the disadvantage is that it cannot be used to demonstrate cause-and-effect relationships between variables (Tabachnick & Fidell, 1996).

Multivariate research is used and is a general term which comprises multiple regression, multivariate analysis of variance, canonical correlation, discriminant analysis, factor analysis, and analysis of covariance structures (Kerlinger & Lee, 2000).

3.4.2 Sample and participants

In this study the participants ($n=209$) consisted of permanent monthly paid employees within a medium sized construction company that operates within the property development and construction industry in South Africa. The company operates across South Africa, with its head office being in Cape Town (Kuilsrivier). The other offices of this organisation are located in Gauteng (Centurion), Cape Town (Blackheath), Southern Cape (Knysna) and Eastern Cape (Port Elizabeth). The employees of this organisation are divided into different departments within the organization, namely: (1) Organisational Development Department (the Human Resource Department); (2) Information Technology Department; (3) Finance Department; (4) Plant Department (responsible for all of the machinery and relevant construction tools of the organization); (5) Sheq (Safety, Health, Environment and Quality) Department (responsible for the safety rules and regulations on the various sites); (6) Developments Department (responsible for all of the charity work and projects the organisation are involved in); (7) Technical Department (responsible for planning, preparing and delivering pitches to acquire contracts); (8) Construction Department (consist of all of the employees working on the project sites and include storeman, surveyors, quantity surveyors, foremen, site clerks, technicians, supervisors, site engineers, site agents and contract managers); (9) Head office administration Department (include receptionists, secretaries, tea ladies and cleaners). Employees from all of these departments were included in the sample. The personnel within the construction department work on the sites and constitute of the following job titles: contract managers, site agents, site engineers, technicians, site clerks, foreman, supervisors, quantity surveyors, surveyors and store men. This

is also the biggest department of the organisation and most of the respondents came from this department.

The sampling technique employed for this survey research was non-probability sampling, more specifically availability / convenience sampling (Babbie & Mouten, 2001). The participants in this study were employed in different non-managerial, managerial and senior managerial levels, from various departments within the company.

3.4.3 Data Collection procedure

The organizational development director of the company was approached to obtain approval to carry out the proposed research. She discussed this with the EXCO (i.e. the board of directors) of the company, after which permission was granted to conduct the research. A signed letter of permission was obtained to confirm permission to conduct the research study within the organisation.

The company then provided a list of names and e-mail addresses of all of the permanent, monthly paid employees that could be approached to participate in the study. Permission was also obtained to contact employees (via e-mail) and invite them to participate, which was the first step in the data collection process. Data were collected by way of a composite research questionnaire (measuring each of the identified four constructs) accompanied by a biographical information form. The questionnaire was e-mailed to every employee that voluntarily consented to participate in the research. The e-mail consisted of a cover letter and informed consent form, a letter from the company motivating employees to participate in the study, as well as the research questionnaire (see appendix 1).

Some of the research participants who work on sites (construction department) did not have access to e-mail. Hence, the researcher visited five construction sites around the Western Cape area to distribute the research questionnaire to those participants. These employees completed the questionnaire during their lunch break and returned it to the researcher immediately thereafter.

In the first part of the attached research questionnaire (see appendix 1), general information and ethical considerations regarding the research were communicated to employees. Participants were asked to complete an informed consent form which included information regarding the confidentiality of the research and rights of participants with regards to anonymity. To ensure confidentiality and anonymity of the respondents they were not asked to divulge their names, surnames or any other information that would compromise their anonymity. Where the questionnaire was sent to the participant via e-mail, they were reminded that returning it via e-mail will compromise anonymity. However, the researcher undertook to immediately print out the received questionnaire and destroy all evidence which could link the completed questionnaire to a specific participant. Participants were also given the option to return their questionnaires via post or fax, if they did not want to risk compromising their anonymity.

A response time of two weeks were allowed. Two follow-up e-mails were sent to remind participants of the deadline for submission of the questionnaire. After the response period was over, a total of 209 questionnaires had been returned from the 315 questionnaires which were sent out (via e-mail and visits to the various sites). Thus, in the end, a response rate of 66.35% was obtained.

3.5 MEASUREMENT INSTRUMENTS

Four prominent well-validated existing questionnaires were utilised to measure the constructs as contained in the proposed theoretical model for the purpose of this study: The Copenhagen Burnout Inventory (CBI) (Kristensen et al., 2005), the Utrecht Work Engagement Scale 9-item version (UWES-9) (Schaufeli & Bakker, 2003); the Perceived Stress Scale (PSS) (Cohen et al., 1983) and the Psychological Capital Questionnaire-Self-rater version (PCQ-24) (Avey et al., 2010). Each one of these measuring instruments will be discussed in detail below.

3.5.1 Burnout

The Copenhagen Burnout Inventory (CBI) was used to assess the construct of Burnout in this study. The CBI is freely available for research purposes.

The core of Burnout, according to the CBI, is fatigue and exhaustion. The inventory consists of three subscales, namely (1) Personal Burnout, (2) Work-related Burnout, and (3) Client-related Burnout. These three separate parts of the questionnaire were designed to be applied in different domains and can also be used independently, depending on the population that is being studied, and the theoretical questions being investigated (Kristensen et al., 2005).

The Personal Burnout dimension was defined by the researchers as follows: "Personal burnout is the degree of physical and psychological fatigue and exhaustion experienced by the person." The questions in the Personal Burnout subscale are formulated in such a way that any individuals can answer them (i.e. it is a truly generic scale; Kristensen et al., 2005, p. 197). The second construct of 'Work-related Burnout' was defined as follows: "the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work." The work-related questions are formulated with the assumption the person has paid work of some kind (Kristensen et al., 2005, p. 197). The third construct in the CBI, 'Client-related Burnout', is defined as follows: "The degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work with clients." The client-related questions make use of the term 'client' and other similar terms like patient, student, inmate when it is appropriate (Kristensen et al., 2005, p. 197). Therefore, in contrast to the widely used Maslach Burnout Inventory which includes different three components of Burnout (emotional exhaustion, depersonalisation and reduced personal accomplishment), the CBI has its focus on exhaustion and its attribution by the person (Kristensen et al., 2005).

The CBI Personal Burnout subscale is made up of six items on general exhaustion without a specific attribution. The Work-related Burnout scale has seven items on exhaustion attributed to work in general. Lastly, the subscale on Client-related Burnout includes six items on exhaustion attributed to work with clients.

Respondents are required to indicate their feelings represented by each item on a 5-point Likert scale. The response categories for the six questions on Personal Burnout are as follows: "1=always; 2=often; 3=sometimes; 4=seldom; 5=

never/almost never.” The response categories for the first three questions of Work Burnout are: “1=to a very high degree; 2=to a high degree; 3= somewhat; 4=to a low degree; 5=to a very low degree” and for the last four questions are: “1=always; 2=often; 3=sometimes; 4=seldom; 5= never / almost never.” Finally, the response categories for the first four questions of Client Burnout are: “1=to a very high degree; 2=to a high degree; 3= somewhat; 4=to a low degree; 5=to a very low degree” and for the last two questions are: “1=always; 2=often; 3=sometimes; 4=seldom; 5=never/almost never” (Kristensen et al., 2005). In this study the items of the three scales were presented in a mixed manner in the composite questionnaire so that participants will not be able to recognize the various sub-scales. According to Kristensen et al., (2005) non-response rates on the individual items tend to be very low, the questionnaire is easy to understand and answer and the various subscales have high face validity.

In the CBI Technical Manual, Cronbach’s Alphas are reported for each factor as follows: Personal Burnout: $\alpha = .87$; Work Burnout: $\alpha = .87$; and Client Burnout: $\alpha = .85$. Moreover, inter-item correlations from Personal Burnout ranged from $r = .40 - .63$; Work Burnout from $r = .36 - .65$; and Client Burnout from $r = .37 - .67$. Lastly, the item-scale correlations ranged from $r = .56 - .76$ for the Personal Burnout subscale; $r = .54 - .76$ for the Work Burnout subscale; and $r = .52 - .69$ for Client Burnout (Kristensen et al., 2005).

3.5.1.1 Descriptive Statistics and Item analysis

Item analyses were conducted with the SPSS Scale Reliability Procedure (SPSS Version 18, 2010) on the CBI. Item analysis is performed to identify and eliminate possible items not contributing to an internally consistent description of the latent dimensions comprising the construct in question. The results of the descriptive statistics of the CBI, as obtained in this study, are presented in table 3.1 below.

Table 3.1: Descriptive Statistics for the CBI

	Cronbach's				Std.
	Alpha	Minimum	Maximum	Mean	Deviation
CBIpers	.81	10.00	29.00	20.22	3.72
CBIwork	.82	11.00	34.00	25.26	4.71

CBIclient	.88	9.00	30.00	24.04	4.36
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n = 202; CBIpers = Personal Burnout; CBIwork = Work Burnout; CBIclient = Client Burnout

The results of the item analysis of the three sub-dimensions of the CBI, as obtained in this study, are discussed and presented in tables below.

a.) CBI Personal Burnout Subscale

The Cronbach Alpha ($\alpha = .81$) for this subscale is well above the acceptable .70 value as recommended by Nunally (1987). According to the Item Statistics, none of the items have an extreme mean or a standard deviation, indicating the absence of a poor item. The results of the Item-Total statistics revealed that the Scale Mean if Item Deleted is more or less constant for all the items comprising the subscale as well as the Scale Variance if Item Deleted. This further underscored the conclusion that all the items contribute to the internal consistency of the scale. All the items obtained a reasonably high Corrected Item-Total Correlation which indicated that they measure the same underlying factor, i.e. Personal Burnout. The Chronbach`s Alpha if Item deleted showed that no substantial increase in reliability would be gained by deleting any of the items in this subscale. Thus, after this subscale was fully investigated for possible poor performing items, it seems that no such items could be identified and all of the items were retained.

Tables 3.2.1 - 3.2.3 provide more detailed results as gained by the item analysis for the Personal Burnout subscale of the CBI.

Table 3.2.1: Item Statistics for the CBI (Personal Burnout)

	Mean	Std. Deviation	N
cbi1	2.82	.82	202
cbi4	3.24	.87	202
cbi7	3.32	.89	202
cbi9	3.90	.94	202
cbi11	3.18	.82	202
cbi12	3.77	.88	202

Table 3.2.2: Item-Total Statistics for the CBI (Personal Burnout)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
cbi1	17.41	10.14	.60	.77
cbi4	16.99	9.82	.61	.77
cbi7	16.92	10.10	.54	.79
cbi9	16.33	9.92	.53	.79
cbi11	17.05	9.94	.64	.76
cbi12	16.47	10.30	.51	.79

Table 3.2.3: Scale Statistics for the CBI (Personal Burnout)

Mean	Variance	Std. Deviation	N of Items
20.23	13.92	3.73	6

b.) CBI Work Burnout Subscale

The Cronbach Alpha ($\alpha = .82$) for this subscale far exceeded the .70 acceptable value as recommended by Nunally (1987). Moreover, the Item Statistics showed that none of the items obtained an extreme mean or a standard deviation, pointing to the absence of any poor items. The Item-Total statistics showed relative similar values for all the items in this subscale in the category of the Scale Mean if Item Deleted. A similar pattern was evident in the results of the Scale Variance if Item Deleted. These results accentuate the conclusion that no poor items could be flagged through this analysis. All the items obtained a reasonably high Corrected Item-Total Correlation which indicated that they all correlate and measured the same underlying factor, namely Work Burnout. In accordance with the rest of the evidence, the Chronbach`s Alpha if Item deleted showed that no substantial increase in reliability would be gained by deleting any of the items in this subscale. Thus, after this subscale was fully investigated for possible poor performing items, it seems that no such items could be identified and all the items were retained in subsequent analyses with the scale.

Tables 3.3.1 - 3.3.3 provide more detailed results of the item analysis for the Work Burnout subscale.

Table 3.3.1: Item Statistics for the CBI (Work Burnout)

	Mean	Std. Deviation	N
cbi2	2.76	.85	202
cbi5	3.86	1.06	202
cbi8	4.01	.85	202
cbi10	3.64	1.05	202
cbi13	3.24	1.00	202
cbi15	3.68	1.04	202

Table 3.3.2: Item-Total Statistics for the CBI (Work Burnout)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
cbi2	22.50	17.40	.58	.80
cbi5	21.40	15.93	.61	.79
cbi8	21.25	16.94	.65	.79
cbi10	21.62	17.23	.44	.82
cbi13	22.02	17.09	.50	.81
cbi15	21.58	15.48	.69	.77

Table 3.3.3: Scale Statistics for the CBI (Work Burnout)

Mean	Variance	Std. Deviation	N of Items
25.26	25.26	22.19	4.71

c.) CBI Client Burnout Subscale

The Cronbach Alpha ($\alpha = .88$) for this subscale is, as with the previous two subscales, far beyond the acceptable .70 value (Nunally, 1987). Once again inspection of the Item Statistics revealed that none of the items had an extreme mean or a standard deviation, indicating that no item should be flagged as being problematic. Furthermore, the results of the Item-Total statistics reveal that the Scale Mean if Item Deleted was more or less constant for all the items comprising the subscale, as well as the Scale Variance if Item Deleted. This served to verify that all the items functioned well in the subscale. Consistent with the other results, all the items obtained high Corrected Item-Total Correlations, which indicated that they measure the same underlying factor, i.e. Client Burnout. As was indicated by the Chronbach's Alpha if item deleted, the reliability of this subscale would not improve

by deleting any of the items in this subscale. Thus, no evidence existed to suggest that there are any poor performing items in the scale and all the items were retained for subsequent analyses.

Tables 3.4.1 - 3.4.3 provide more detailed results of the item analysis for the Client Burnout subscale.

Table 3.4.1: Item Statistics for the CBI (Client Burnout)

	Mean	Std. Deviation	N
cbi3	4.05	.88	202
cbi6	4.17	.93	202
cbi14	4.16	.84	202
cbi16	4.15	.82	202
cbi18	4.11	.92	202
cbi19	3.40	1.11	202

Table 3.4.2: Item-Total Statistics for the CBI (Client Burnout)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
cbi3	20.00	13.76	.69	.86
cbi6	19.88	13.74	.64	.87
cbi14	19.89	13.70	.74	.85
cbi16	19.89	13.61	.79	.84
cbi18	19.93	13.21	.75	.85
cbi19	20.64	13.23	.57	.89

Table 3.4.3: Scale Statistics for the CBI (Client Burnout)

Mean	Variance	Std. Deviation	N of Items
24.04	25.26	22.19	4.71

3.5.1.2 Confirmatory Factor Analysis

Structural Equation Modelling (SEM) was used to perform Confirmatory Factor Analysis (CFA) on the sets of indicator variables for each of the three Burnout subscales.

Before CFA can be conducted the variable type must be specified and the normality of the data should be investigated. The responses of the items on the CBI (and all

the other questionnaires utilised in this study) were captured on an ordinal scale. Jöreskog (2005) has argued that the ordinal nature of the data requires that polychoric correlations and the asymptotic covariance matrix should be analysed. However, a Monte Carlo study by Muthén and Kaplan (1985) investigated results derived from different estimation techniques (i.e. ML, Generalized Least-Squares, Asymptotically Distribution Free, Categorical variable methodology) when applied within a CFA SEM framework on non-normal categorical variables, treated as interval scale (continuous) non-normal variables. The results of their study suggested that the practice of using Maximum Likelihood (ML) estimation, where the scales are specified to be continuous and where these variables are moderately skewed and kurtotic, is allowable as no severe distortion of the standard error and chi-square estimates were observed. The authors concluded that, "...these normal theory estimators (ML, Generalized Least-Squares) perform quite well even with ordered categorical and moderately skewed/kurtotic variables" (Muthén & Kaplan, 1985, p. 187). Hence, in this study the observed variables (items) were specified to be continuous.

Robust Maximum Likelihood (RML) was specified as the estimation technique (Tabachnick & Fidell, 2001) in all the analyses. This dataset had missing values which was addressed by making use of Imputation by Matching with LISREL 8.8. Imputation by matching assumes that the data values are missing at random. The substitute values that are being used to replace the missing values are derived from one or more cases that have a similar response pattern over a set of matching variables.

To further ensure that SEM statistical assumptions are not violated, the univariate and multivariate normality of the indicator variables for the various subscales were routinely inspected with PRELIS (Jöreskog & Sörbom, 1996). The Skewness and Kurtosis for Personal Burnout were $\chi^2 = 33.77$ and $p = 0.00$ respectively; for Work Burnout, $\chi^2 = 44.02$ and $p = 0.00$ respectively; and for Client Burnout, $\chi^2 = 161.37$ and $p = 0.00$ respectively.

3.5.1.3 Results: evaluation of the measurement model

LISREL 8.80 (Jöreskog & Sörbom, 1996) was used to determine the fit of the data to the three individual subscale measurement models.

The goodness of fit for each model was assessed by reviewing the Satorra-Bentler chi-square statistic ($S-B\chi^2$), the Root Mean Square Error of Approximation (RMSEA), the Comparative Fit Index, (CFI), the Non-Normed Fit Index (NNFI), as well as the Standardised Root-Mean-Square Residual (SRMR). Cut-off values were determined due to model complexity, number of observed variables (m) and sample size (N) specification as set by Hair, William, Black, Babin, Rolph and Ronald (2006). Hence, cut-off values for this instrument ($N < 250$; $12 < m < 30$) was set as follows: CFI and NNFI: 0.95; SRMR: 0.08 or less; and RMSEA: smaller than .08.

The results of the single group CFA analyses conducted with LISREL 8.80 (Jöreskog & Sörbom, 2002) for the three different measurement models are reported in table 3.5. Overall, the results provided fair evidence for the unidimensionality and construct validity of the subscales (more so for the personal burnout, than the work / client burnout subscales). For all the subscales, the incremental fit indices (CFI and NNFI) obtained values above the 0.95 cut-off, with the exclusion of the NNFI of the Work Burnout subscale (0.94), which fell just below the 0.95 cut-off. The exact fit of the measurement models were tested by evaluating the $S-B\chi^2$ values. In the Personal Burnout model, a Satorra Bentler Scaled chi-square value of 7.79 with 9 degrees of freedom and $p=0.56$ was obtained. Thus, the null hypothesis of exact fit is not rejected ($p > 0.05$) and the result points towards exceptional model fit. The RMSEA value of 0.00, p value for close fit ($p > 0.05$) and SRMR of 0.03 underscores the result of exceptional model fit.

With regards to the Work Burnout model, a Satorra Bentler Scaled Chi-square value of 42.69, with 14 degrees of freedom and a p -value of 0.047 emerged. Thus exact fit of this model was statistically rejected ($p < 0.05$). The reported SRMR (0.05) is below the 0.08 cut-off value, indicating that this model fits the data well. However, the RMSEA was above the 0.08 cut-off. In addition, the p -value for close fit ($p = 0.01$) indicated that close fit was not achieved ($p < 0.05$). This underscored the RMSEA

result of mediocre model fit. Lastly, the Client Burnout model obtained a Satorra Bentler Scaled Chi-square value of 26.71, with 9 degrees of freedom and a p-value of 0.09. Thus, exact model fit was rejected. However, close model fit was evident ($p > 0.05$). In addition, the SRMR was below the 0.08 cut-off and the RMSEA is just above the cut-off value of 0.08. Therefore, it is argued that for the client burnout subscale, acceptable model fit was achieved. Completely standardized significant factor loadings of the Personal Burnout subscale ranged from 0.57 - 0.75; Work Burnout from 0.48 – 0.74; and Client Burnout from 0.60 - 0.87.

Table 3.5: Goodness-of-fit statistics results of the CBI CFA

Subscale	χ^2	S-B χ^2	Df	S-B χ^2 / df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
Personal Burnout	10.53	7.79	9	0.87	1.00	1.00	0.02	0.03	0.00	0.83
Work Burnout	52.56	42.69	14	3.05	0.94	0.96	0.05	0.05	0.10	0.01
Client Burnout	26.71	21.85	9	2.43	0.98	0.99	0.03	0.04	0.08	0.09

Note: χ^2 , Chi-square; S-B χ^2 , Sattora-Bentler Scaled Chi-square; NNFI, non-normed fit index; CFI, comparative fit index; RMR, root mean squared residuals; SRMR, standardised root mean residual; RMSEA, root mean square error of approximation

* $P < 0.05$

3.5.2 Employee Engagement

Employee Engagement was measured with the 9-item Utrecht Work Engagement Scale (UWES-9) (Schaufeli & Bakker, 2003). This self-report questionnaire consists of 3 subscales, namely (1) Vigour; (2) Dedication; and (3) Absorption. Each subscale comprises of three items and is based on the definition of Employee / Work Engagement as given by Salanova et al., (2000). Vigour is assessed by items that refer to high levels of energy, zest and stamina when working. Dedication is assessed by items that refer to deriving a sense of significance from work, feeling enthusiastic and proud about one's job, as well as feeling inspired and challenged by it. Absorption is measured by items that refer to being totally and happily immersed in work, and having difficulties detaching from it so that time passes quickly. When Absorption is experienced, employees usually report forgetting about everything else surrounding their work. Participants must respond to items by making use of a 7-point Likert scale with the categories: 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); 4=often (once a week); 5= very often (a few times a week); 6=always (every day).

Previous psychometric analysis by Shaufeli and Bakker (2003) demonstrated adequate factorial validity. For example, good inter-correlations (correlation between scales usually exceeded .65) and internal consistency (in all cases the Cronbach's alpha exceeded the critical value of .70) have been reported. Furthermore, they provided sufficient evidence to suggest that the fit of the hypothesised three-factor model is superior to a one-factor solution in various samples.

3.5.2.1 Descriptive statistics and item analysis

Item analyses were conducted with the SPSS Scale Reliability Procedure (SPSS Version 18, 2010) on the UWES-9. The results of the descriptive statistics of the UWES-9, as obtained in this study, are presented in table 3.6 below.

Table 3.6: Descriptive Statistics for the UWES-9

	Cronbach's Alpha	Minimum	Maximum	Mean	Std. Deviation
EVig	.86	.00	18.00	12.15	3.09
EDedic	.85	.00	18.00	14.02	2.92
EAbsorp	.68	.00	18.00	12.76	2.79

n = 198; EVig = Vigour; EDedic = Dedication; EAbsorp = Absorption

The results of the item analysis of the three dimensions of the UWES-9, as obtained in this study, will now be discussed and presented in the tables below.

a.) Employee Engagement: Vigour

The Cronbach Alpha ($\alpha = .86$) for this subscale was well above .70 (Nunnally, 1987). The Item Statistics, Scale Mean if Item Deleted, Scale Variance if Item Deleted and Corrected Item-Total Correlation, showed that none of the items had an extreme mean or a standard deviation, all the values of the items were relatively constant, and all of the items correlated highly with the underlying factor (Vigour), respectively. The Chronbach's Alpha if Item deleted showed that a very small increase in reliability would be gained by deleting item e5 ('When I get up in the morning, I feel like going to work'). However, since the reliability of the subscale

within its original item pool was very high, the limited amount of items in the scale, and the fact that deletion of this item will only lead to a marginal increase in reliability, it was decided not to delete item e5.

Tables 3.7.1 - 3.7.3 provide more detailed results of the item analysis for the Vigour subscale.

Table 3.7.1: Item Statistics for the UWES-9 (Vigour)

	Mean	Std. Deviation	N
e1	3.86	1.16	198
e2	4.04	1.05	198
e5	4.24	1.28	198

Table 3.7.2: Item-Total Statistics for the UWES-9 (Vigour)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e1	8.28	4.54	.74	.79
e2	8.10	4.74	.81	.74
e5	7.90	4.36	.66	.88

Table 3.7.3: Scale Statistics for the UWES-9 (Vigour)

Mean	Variance	Std. Deviation	N of Items
12.15	9.55	3.09	3

b.) Employee Engagement: Dedication

The Cronbach Alpha ($\alpha = .85$) for this subscale was well above the acceptable .70 value (Nunally, 1987). According to the Item Statistics, none of the items obtained an extreme mean or a standard deviation. The results of the Item-Total statistics revealed that the Scale Mean if Item Deleted is more or less constant for all the items comprising the subscale as well as the Scale Variance if Item Deleted. All the items had a reasonable Corrected Item-Total Correlation which indicated that all the items seemed to correlate and measure the same underlying factor, Dedication. The Chronbach`s Alpha if Item deleted showed that a very small increase in reliability would be gained by deleting item e7 ('I am proud of the work that I do.'). However, since the reliability of the subscale with its original item pool was very high it was decided not to delete item e7. This decision was further based on the fact that the

scale only comprises of three items and that deletion of this item will only lead to a marginal increase in the scale alpha value.

Tables 3.8.1 - 3.8.3 provide more detailed results of the item analysis for the Dedication subscale.

Table 3.8.1: Item Statistics for the UWES-9 (Dedication)

	Mean	Std. Deviation	N
e3	4.60	1.11	198
e4	4.35	1.18	198
e7	5.06	1.02	198

Table 3.8.2: Item-Total Statistics for the UWES-9 (Dedication)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e3	9.41	3.86	.78	.74
e4	9.66	3.68	.76	.77
e7	8.95	4.64	.65	.87

Table 3.8.3: Scale Statistics for the UWES-9 (Dedication)

Mean	Variance	Std. Deviation	N of Items
14.02	8.51	2.92	3

c.) Employee Engagement: Absorption

A Cronbach Alpha ($\alpha = .68$) just below the acceptable .70 value (Nunally, 1987) emerged for this subscale. However, according to the Item Statistics, none of the items displayed an extreme mean or a standard deviation, indicating the absence of a poor item. The results of the Item-Total statistics revealed that the Scale Mean if Item Deleted is more or less constant for all the items comprising the subscale as well as the Scale Variance if Item Deleted. This again served as proof of no poor items in the subscale. All the items had reasonably high Corrected Item-Total Correlations which indicated that they all seemed to correlate and measure the same underlying factor, which is Absorption. Finally, the Chronbach`s Alpha if Item deleted showed that no substantial increase in reliability would be gained by deleting any of the items in this subscale. Thus, no poor items could be identified and all of the items were retained in subsequent analysis.

Tables 3.9.1 - 3.9.3 provide more detailed results of the item analysis for the Absorption subscale.

Table 3.9.1: Item Statistics for the UWES-9 (Absorption)

	Mean	Std. Deviation	N
e6	4.63	1.13	198
e8	4.26	1.08	198
e9	3.86	1.35	198

Table 3.9.2: Item-Total Statistics for the UWES-9 (Absorption)

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
e6	8.13	4.29	.47	.61
e8	8.49	4.19	.55	.53
e9	8.90	3.54	.48	.63

Table 3.9.3: Scale Statistics for the UWES-9 (Absorption)

Mean	Variance	Std. Deviation	N of Items
12.76	7.78	2.79	3

3.5.2.2 Confirmatory Factor Analysis

CFA was not performed on the full instrument (i.e. all the items load onto one latent trait, engagement) as literature shows that the three-factor model is superior to the one factor model (Yi-Wen & Yi-Qun, 2005; Shimazu et al., 2008; Storm & Rothmann, 2003; Schaufeli et al., 2002; Schaufeli & Bakker, 2003). However, CFA was not performed on the three individual subscales due to the fact that each subscale comprises of only three items. Muliak and Millsap (2000) suggest that a minimum of four items per construct is required for SEM research as less than this would increase the likelihood of problems with interpretational confounding, as well as increasing the higher likelihood of estimation problems.

3.5.3 Occupational Stress

The Perceived Stress Scale (PSS) was used to measure Occupational stress. This measure is designed to measure the degree to which situations in one's life are appraised to be stressful. The PSS has 14 items which are designed to tap into the

degree to which respondents find their lives (1) unpredictable, (2) uncontrollable and (3) overloading (Cohen et al., 1983) as these three dimensions have been repeatedly found to be central components of the experience of Stress (Averill, 1973; Cohen, 1978; Lazarus, 1966; Seligman, 1975). The advantage of utilizing this scale is that it is very economical, quick to complete, easy to understand and score, as well as relatively free of any content referring to a specific sub-population group. Also, the PSS is a better predictor of health outcomes than a global measure of objective stressors due to its nature as a more direct measure of the level of Stress experienced by the respondent (Cohen et al., 1983). The PSS is also more global and is thus sensitive to chronic stress derived from ongoing life circumstances and Stress concerning future events, Stress from events not listed on a specific life-events scale and the reactions to the specific events included in other scales.

Participants respond by making use of a 5-point Likert scale with the categories: 0=never; 1=almost never; 2=sometimes; 3=fairly often; 4=very often. The PSS has been shown to have adequate internal reliability, as the reported coefficient alphas in each of the 3 samples in the PSS Technical Manual (Cohen et al., 1983) was $\alpha = .84$, $\alpha = .85$, and $\alpha = .86$, respectively. Cohen et al., (1983) have also shown that the PSS has adequate internal and test-retest reliability, is correlated in the expected manner with a range of self-report and behavioural criteria and possesses substantial reliability and validity.

3.5.3.1 Descriptive statistics and Item analysis

Item analyses were conducted with the SPSS Scale Reliability Procedure (SPSS Version 18, 2010) on the PSS. The results of the descriptive statistics of the PSS, as obtained in this study, are presented in table 3.10 below.

Table 3.10: Descriptive Statistics for the PSS

	Cronbach's				Std.
	Alpha	Minimum	Maximum	Mean	Deviation
STot	.83	6.00	48.00	23.42	7.20

n = 201; STot = Occupational Stress Total

The results revealed that the Cronbach Alpha ($\alpha = .832$) for the PSS was comfortably above the acceptable .70 value (Nunally, 1987). According to the Item

Statistics, none of the items had an extreme mean or a standard deviation, except for item s12 ('In the last month, how often have you found yourself thinking about things that you have to accomplish?'). The results of the Item-Total statistics revealed that the Scale Mean if Item Deleted as well as the Scale Variance if Item Deleted of item s12 was somewhat different from the trend that evident with the rest of the items. For example, all the items obtained reasonably high Corrected Item-Total Correlations, except for item s12 ($r = -0.16$). In accordance with the previous evidence, the Chronbach`s Alpha if Item deleted showed that an increase in reliability (from $\alpha = .83$ to $\alpha = .85$) would be gained by deleting item s12. The current evidence suggested that item s12 did not contribute to the internal consistency of the scale to the same degree as the other items. However, it was decided to retain the item. This was done as the current scale alpha value was well above the .70 cut-off, which was recommended. Deleting item s12 would also not have a big effect on the scale reliability ($\Delta\alpha = 0.02$).

Tables 3.11.1 - 3.11.3 provide more detailed results of the item analysis for the PSS.

Table 3.11.1: Item Statistics for the PSS

	Mean	Std. Deviation	N
s1	1.91	1.01	201
s2	1.82	1.03	201
s3	2.02	.98	201
s4	1.12	.83	201
s5	1.25	.83	201
s6	1.00	.86	201
s7	1.65	.90	201
s8	1.63	.95	201
s9	1.45	.84	201
s10	1.41	.82	201
s11	2.15	.94	201
s12	2.87	.91	201
s13	1.69	.94	201
s14	1.45	.96	201

Table 3.11.2: Item-Total Statistics for the PSS

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Total Correlation	Cronbach's Alpha if Item Deleted
s1	21.52	45.21	.40	.83
s2	21.61	42.15	.63	.81
s3	21.40	44.22	.50	.82
s4	22.30	47.72	.29	.83
s5	22.17	45.84	.46	.82
s6	22.42	44.63	.55	.82
s7	21.77	43.65	.61	.81
s8	21.80	43.89	.55	.82
s9	21.98	45.87	.45	.82
s10	22.01	45.22	.53	.82
s11	21.27	45.29	.44	.82
s12	20.56	51.09	-.02	.85
s13	21.73	44.51	.50	.82
s14	21.97	42.92	.62	.81

Table 3.11.3: Scale Statistics for the PSS

Mean	Variance	Std. Deviation	N of Items
23.42	51.70	7.19	14

3.5.3.2 Confirmatory Factor Analysis

Similar to the analysis conducted on the CBI, SEM was used to investigate the measurement model fit of the PSS via CFA. The data was once again specified to be continuous, and the Skewness and Kurtosis for the PSS ($\chi^2 = 118.59$ and $p = 0.00$) indicated that RML should be used as estimation technique.

3.5.3.3 Results: evaluation of the measurement model

The results of the single group CFA analysis conducted with LISREL 8.80 (Jöreskog & Sörbom, 2002) for the measurement model are reported in table 3.12.1. The goodness of fit for the model was assessed by reviewing the similar set of indices as mentioned in section 3.5.1.3. Cut-off values were again based on simulation research results as described in Hair et al. (2006). Thus, for this instrument ($N < 250$; $12 < m < 30$) cut-off values was set as follows: CFI and NNFI: 0.95; SRMR: 0.08 or less; and RMSEA: smaller than .08.

The exact fit of the measurement model was evaluated with the S-B χ^2 . In this model the Satorra Bentler Scaled chi-square value comes to 559.15 with 77 degrees of freedom and $p=0.00$. Thus, the null hypothesis of exact fit is rejected ($p<0.05$). The RMSEA is 0.13, indicating a poor fit for the model as it is well above the 0.08 cut-off. The null hypothesis of close fit has also been tested explicitly by LISREL. The p -value for the test of close fit (RMSEA < 0.05) was 0.00. Thus, the close fit null hypothesis is also rejected ($p<0.05$) and the measurement model does not show close fit either. The incremental fit indices (CFI and NNFI) obtained values far below the various cut-off values. Moreover, the SRMR value of 0.12 underscored these conclusions of poor model fit as it is well outside the 0.08 cut-off mark. Also, the completely standardized significant factor loadings ranged from -0.02 to 0.68. Thus, these results indicate poor model fit for the PSS one factor model.

Table 3.12.1: Goodness-of-fit statistics results of the PSS CFA

Model	χ^2	S-B χ^2	Df	S-B χ^2 / df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
PSS	559.15*	323.86*	77	4.21	0.83	0.86	0.10	0.12	0.13	0.00*

Note: χ^2 , Chi-square; S-B χ^2 , Sattora-Bentler Scaled Chi-square; NNFI, non-normed fit index; CFI, comparative fit index; RMSR, root mean squared residuals; SRMR, standardised root mean residual; RMSEA, root mean square error of approximation

* $p < 0.05$

It was hypothesised that the reason for this poor model fit could be ascribed to the presence of method factors underlying the structure of the instrument. Such method factors are known to emerge as, e.g., an effect of bilingualism in respondents (see e.g. Ekermans, 2009). That is, where respondents complete an instrument in their second language (the respondents in this study completed the research questionnaire in English, however only 32,1% of them indicated English to be their first language), such method effects may distort the factor structure of the instrument.

EFA (Principle Axis Factoring with Direct Oblimin rotation) was performed on the full instrument to test this hypothesis. The extraction of factors was based on the Scree test and Eigen value bigger than one rule. Due to the item analysis results, item s12 was not included in the EFA. The results of the EFA analysis revealed that two

factors could be extracted that accounted for 52.65% of the variance. Upon evaluation of the item content of the items included in the two factors, it was evident that these factors reflect 'method factors' related to the scale. That is, the factors reflect the wording of the items contained in the scale (i.e. positively and negatively worded items). An example of positively worded items of the PSS are for example: 'In the last month, how often have you dealt successfully with day to day problems and annoyances?' and 'In the last month, how often have you felt that you were effectively coping with important changes that were occurring in your life?' An example of negatively worded items are 'In the last month, how often have you been upset because of something that happened unexpectedly?' or 'In the last month, how often have you felt that you were unable to control the important things in your life?'

To test this hypothesis that the scale contains two method factors together with a Stress latent trait, a further CFA was conducted (the 'PSS method' results recorded in table 3.12.2). For this analysis a measurement model was specified with all the items loading on the general Stress latent trait. In addition, positively worded items were specified to load on the 'positive' method factor and negatively worded items were specified to load on the 'negative' method factor.

The exact fit of the measurement model was evaluated with the S-B χ^2 . In this model the Satorra Bentler Scaled chi-square value came to 92.38 with 51 degrees of freedom and $p=0.00$. Thus, the null hypothesis of exact fit was rejected ($p<0.05$). The RMSEA (0.06) indicated a close model fit, as it was inside the 0.08 cut-off. In addition the results revealed that the close fit null hypothesis is not rejected ($p>0.05$) and the measurement model does show close fit. The incremental fit indices (CFI and NNFI) obtained values above the 0.95 cut-off, underscoring this result. Moreover, the SRMR value of 0.05 further underscored these conclusions of close model fit as it is far below the 0.08 cut-off mark. These results revealed that the one factor structure of the PSS was probably distorted by the method factors (providing the weak CFA results in table 3.12.1), and that adequate validity of the instrument can be assumed for this study based on the results in table 3.12.2.

Table 3.12.2: Goodness-of-fit statistics results of the PSS CFA (PSS method)

Model	χ^2	S-B χ^2	Df	S-B χ^2 / df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
PSS method	118.59*	92.38*	51	1.81	0.96	0.98	0.04	0.05	0.06	0.13

Note: χ^2 , Chi-square; S-B χ^2 , Sattora-Bentler Scaled Chi-square; NNFI, non-normed fit index; CFI, comparative fit index; RMSR, root mean squared residuals; SRMR, standardised root mean residual; RMSEA, root mean square error of approximation

* $p < 0.05$

3.5.4 PsyCap

PsyCap was measured with the PCQ-24 (Psychological Capital Questionnaire – Self Rater Version; Avey et al., 2010). The PCQ-24 comprises of four subscales with equal weight, namely (1) Hope, (2) Optimism, (3) Self-efficacy and (4) Resilience. Each of these subscales consists of six items respectively. This instrument makes use of a 6-point Likert scale with response options: 1=strongly disagree; 2=disagree; 3=somewhat disagree; 4=somewhat agree; 5=agree; 6=strongly agree and the resulting score represents an individual's level of positive PsyCap. Each of the four subscales was drawn from established scales previously published, tested and used in recent workplace studies (Avey et al., 2010). More specifically, the Hope items were adapted from Snyder and colleagues' (1996) State Hope Scale; the Optimism items from Scheier and Carver's (1985) Measure of Optimism; the Self-efficacy items from Parker's (1998) measure of Self-efficacy in the workplace; and Resilience from Wagnild and Young's (1993) Resilience Scale.

The reliability for these subscales was reported in Avey et al. (2010). The Cronbach Alpha's yielded in their study was as follows: Hope: $\alpha = .87$; Optimism: $\alpha = .78$; Self-efficacy: $\alpha = .87$; and Resilience: $\alpha = .72$. The PCQ-24 also demonstrated adequate confirmatory factor analytic structure across multiple samples as well as strong internal reliability ($\alpha = .92$) (Luthans, Youssef et al., 2007). As indicated earlier, there is considerable conceptual and empirical support for examining PsyCap at the core construct level rather than according to each component (Luthans, Youssef et al., 2007; Luthans, Avolio et al., 2007; Luthans et al., 2008). Specifically, confirmatory factor analytic comparisons have demonstrated that the optimal fitting measurement model across multiple samples includes analysis with the core construct of PsyCap.

This suggests that although the components have distinct properties, they have more in common than not (Luthans, Avolio, et al., 2007).

3.5.4.1 Descriptive statistics and Item analysis

Item analyses were conducted with the SPSS Scale Reliability Procedure (SPSS Version 18, 2010) on the PCQ-24. The results of the descriptive statistics of the PCQ-24, as obtained in this study, are presented in table 3.13 below.

Table 3.13: Descriptive Statistics for the PCQ-24

	Cronbach's Alpha	Minimum	Maximum	Mean	Std. Deviation
PCQTot		60	139	112.38	13.22
PCQHope	.81	13.00	36.00	28.11	4.25
PCQOptimism	.67	14.00	36.00	26.32	3.80
PCQSelf-efficacy	.83	13.00	36.00	29.23	4.29
PCQResilience	.69	15.00	139.00	28.71	3.62

n = 191; PCQTot = PsyCap Total; PCQHope = Hope; PCQOptimism = Optimism; PCQSelf-efficacy = Self-efficacy; PCQResilience = Resilience

The results of the item analysis of the four dimensions of the PCQ-24, as obtained in this study, will now be discussed and presented in the tables below.

a.) PCQ-24: Hope

The Cronbach's Alpha of the Hope subscale was .81 and was thus comfortably above the acceptable .70 value recommended by Nunally (1987). According to the Item Statistics, Scale Mean if Item Deleted and the Scale Variance if Item Deleted all the items in the subscale seemed to be good items. More proof of the absence of any poor items in this subscale was the reasonably high Corrected Item-Total Correlations, which indicated that all the items seemed to correlate and measure the same underlying factor, namely Hope. Finally, the Chronbach`s Alpha if Item deleted showed that no sizeable increase in reliability would be gained by deleting any of the items in this subscale. Thus, all the items were retained as no poor item were detected through the item analysis.

Tables 3.14.1 - 3.14.3 provide more detailed results of the item analysis for the Hope subscale.

Table 3.14.1: Item Statistics for Hope

	Mean	Std. Deviation	N
pcq7	4.65	.93	191
pcq8	4.62	1.03	191
pcq9	5.05	.86	191
pcq10	4.62	1.07	191
pcq11	4.65	.92	191
pcq12	4.51	1.08	191

Table 3.14.2: Item-Total Statistics for Hope

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
pcq7	23.46	14.02	.46	.81
pcq8	23.49	12.88	.56	.79
pcq9	23.06	14.18	.49	.80
pcq10	23.49	12.29	.62	.78
pcq11	23.46	12.73	.69	.76
pcq12	23.60	12.11	.65	.77

Table 3.14.3: Scale Statistics for Hope

Mean	Variance	Std. Deviation	N of Items
28.11	18.10	4.25	6

b.) PCQ-24: Optimism

Previous studies have consistently shown that Optimism and Resilience have less internal consistency than the other two subscales in the PCQ-24 (Avey et al., 2010; Luthans, Avolio, et. al., 2007). A similar trend was evident in the results of this study. Optimism obtained the lowest alpha value. However, the Cronbach Alpha ($\alpha = .67$) for this subscale was still only marginally below the acceptable .70 value (Nunally, 1987). An inspection of the results revealed that none of the items comprising this subscale had an extreme mean or a standard deviation. The results of the Item-Total statistics reflected the absence of any poor items, with the exception of the results of the Corrected Item-Total Correlations. Here, it was found that item pcq20 ('if something can go wrong for me work-wise, it will') obtained a significantly lower correlation with the underlying factor, Optimism, than the rest of the items within the subscale. However, the Chronbach`s Alpha if Item deleted showed that only a marginal increase in reliability ($\Delta\alpha = 0.01$) would be gained by deleting item pcq20.

After considering all the results it was decided to retain item pcq20 in the instrument for subsequent analyses. This decision was also based on the PCQ-24 CFA analysis (reported in section 3.5.4.2). The results of the CFA analysis showed very good model fit. It is, therefore, believed that the decision to retain item pcq20 in the Optimism scale did not compromise the scale integrity.

Tables 3.15.1 - 3.15.3 provide more detailed results of the item analysis for the Optimism subscale.

Table 3.15.1: Item Statistics for Optimism

	Mean	Std. Deviation	N
pcq19	4.36	1.02	191
pcq20	3.98	1.30	191
pcq21	4.74	.89	191
pcq22	4.62	1.10	191
pcq23	4.12	1.31	191
pcq24	4.48	1.03	191

Table 3.15.2: Item-Total Statistics for Optimism

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
pcq19	21.94	13.35	.34	.65
pcq20	22.32	12.73	.27	.68
pcq21	21.56	12.51	.57	.58
pcq22	21.68	11.58	.55	.57
pcq23	22.18	11.41	.43	.62
pcq24	21.82	13.62	.30	.66

Table 3.15.3: Scale Statistics for Optimism

Mean	Variance	Std. Deviation	N of Items
26.32	16.93	3.8	6

c.) PCQ-24: Self-Efficacy

The Cronbach Alpha ($\alpha = .83$) for this subscale was well above .70 (Nunally, 1987). According to the Item Statistics and Item-Total Statistics, there seemed to be no poor item in this subscale, as none of the items showed an extreme mean or a standard deviation. In addition, the values of all items in the Scale mean if Item Deleted, as well as Scale Variance if item is Deleted outputs, stayed relatively constant. All the

items had reasonably high Corrected Item-Total Correlations which indicated that all the items seemed to correlate and measure the same underlying factor, namely Self-efficacy. Finally, the deletion of any of the items would not cause the Chronbach Alpha of this subscale to improve. Thus, after this subscale was fully investigated for possible poor performing items, it seemed evident that no such items could be identified and all of the items were retained in subsequent analysis with the scale.

Tables 3.16.1 - 3.16.3 provide more detailed results of the item analysis for the Self-efficacy subscale

Table 3.16.1: Item Statistics for Self-efficacy

	Mean	Std. Deviation	N
pcq1	4.76	.96	191
pcq2	4.83	.92	191
pcq3	4.57	1.08	191
pcq4	5.01	.91	191
pcq5	5.14	.95	191
pcq6	4.93	.99	191

Table 3.16.2: Item-Total Statistics for Self-efficacy

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
pcq1	24.47	13.98	.49	.83
pcq2	24.40	12.77	.73	.78
pcq3	24.66	12.22	.67	.79
pcq4	24.22	13.09	.69	.79
pcq5	24.09	13.72	.54	.82
pcq6	24.30	13.60	.53	.82

Table 3.16.3: Scale Statistics for Self-efficacy

Mean	Variance	Std. Deviation	N of Items
29.23	18.43	4.29	6

d.) PCQ-24: Resilience

Consistent with previous research (Avey et al., 2010; Luthans, Avolio et. al., 2007), the Resilience subscale obtained the second lowest internal reliability result (for the PCQ-24) in this study. However, the Cronbach Alpha ($\alpha = .69$) for this subscale is

very close to .70 (Nunally, 1987). According to the Item Statistics, none of the items had an extreme mean or a standard deviation. However, item pcq13 did have a significant higher standard deviation than the rest of the items in the subscale. The results of the Item-Total statistics revealed that the Scale Mean if Item Deleted was more or less constant for all the items comprising the subscale, as well as the Scale Variance if Item Deleted. All the items obtained reasonably high Corrected Item-Total Correlations, except for item pcq13 ('When I have a setback at work, I have trouble recovering from it, and moving on') and item pcq15 ('I can be "on my own," so to speak, at work if I have to'). Both these items obtained a significantly lower correlation with the underlying factor, namely Resilience, than the other items in the scale. Finally, the Chronbach`s Alpha if Item deleted showed that an increase in reliability would be gained by deleting item pcq13 ($\Delta\alpha = 0.06$) A similar trend would be evident when deleting item pcq15 from the item pool (i.e. increase in scale alpha). However, after careful consideration of the current evidence it was decided to retain the two items in the scale. Similar to the Optimism scale, this decision was also based on the PCQ-24 CFA analysis (reported in section 3.5.4.2). The results of the CFA analysis showed very good model fit. It was, therefore, believed that the decision to retain items pcq13 and pcq15 in the Resilience scale did not compromise the scale integrity.

Tables 3.17.1 - 3.17.3 provide more detailed results of the item analysis for the Resilience subscale.

Table 3.17.1: Item Statistics for Resilience

	Mean	Std. Deviation	N
pcq13	4.22	1.27	191
pcq14	4.78	.85	191
pcq15	4.99	.90	191
pcq16	4.90	.86	191
pcq17	4.92	.94	191
pcq18	4.91	.90	191

Table 3.17.2: Item-Total Statistics for Resilience

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
pcq13	24.49	9.88	.20	.75
pcq14	23.93	9.62	.52	.62
pcq15	23.72	10.84	.24	.70
pcq16	23.81	9.74	.49	.63
pcq17	23.80	8.91	.59	.59
pcq18	23.81	8.94	.63	.58

Table 3.17.3: Scale Statistics for Resilience

Mean	Variance	Std. Deviation	N of Items
28.71	13.09	3.62	6

3.5.4.2 Confirmatory Factor Analysis

Similar to the analyses conducted on the CBI and PSS, SEM was used to perform CFA on the PCQ-24. The indicator variables were specified as continuous and the Skewness and Kurtosis ($\chi^2 = 1381.570$, $p = 0.000$) indicated that RML should be used as estimation technique.

3.5.4.3 Results: evaluation of the measurement model

The results of the single group CFA analysis conducted with LISREL 8.80 (Jöreskog & Sörbom, 2002) for the measurement model are reported in the table below. As with the CBI and PSS, cut-off values were determined due to model complexity and sample size specification as set by Hair et.al. (2006). Hence, cut-off values for this instrument ($N < 250$; $12 < m < 30$) was set as follows: CFI and NNFI: 0.95; SRMR: 0.08 or less; and RMSEA: smaller than 0.08.

The results of this analysis revealed that a Satorra Bentler Scaled chi-square value of 347.88 with 246 degrees of freedom and $p=0.00$ was obtained. Since this is a test of the exact model fit, the null hypothesis of exact fit is rejected ($p < 0.05$). The RMSEA value (0.047), however, indicates very good model fit. The null hypothesis of close fit was also tested explicitly by LISREL the P-Value for Test of Close Fit ($RMSEA < 0.05$) = 0.68. It is concluded that the close fit null hypothesis is not rejected ($p > 0.05$) and that the measurement model does show close fit. The SRMR value (0.068) as well as the rest of the incremental fit indices supported the above

findings of very good model fit (SRMR < 0.08, CFI and NNFI > 0.95). Completely standardized significant factor loadings of the Hope subscale ranged from 0.52 - 0.75; Optimism ranged from 0.14 - 0.80; Self-efficacy from 0.53 - 0.83; and Resilience ranged from 0.26 - 0.78. It is, therefore, concluded that the PCQ-24 has good validity in the current sample.

Table 18: Goodness-of-fit statistics results of the PCQ-24 CFA

Model	χ^2	S-B χ^2	Df	S-B χ^2 / df	NNFI	CFI	RMR	SRMR	RMSEA (CI)	P (close)
PCQ-24	437.73*	347.88*	246	1.41	0.98	0.98	0.082	0.068	0.047	0.68

Note: χ^2 , Chi-square; S-B χ^2 , Sattora-Bentler Scaled Chi-square; NNFI, non-normed fit index; CFI, comparative fit index; RMSR, root mean squared residuals; SRMR, standardised root mean residual; RMSEA, root mean square error of approximation

* p < 0.05

3.6 STATISTICAL ANALYSIS

The Statistical Package for the Social Sciences (SPSS) was used to perform a range of statistical analyses on the questionnaire data and to test the proposed models (reported in the next chapter). More specifically, Pearson's Product Moment Correlations were calculated, and Multiple Regression analyses were conducted to test the relationships between the variables, as well as the moderating effect of PsyCap on the Occupational stress, Burnout relationship.

3.7 CHAPTER SUMMARY

This chapter dealt with the rationale, aims, objectives and resultant research hypotheses to be investigated in this research. The research methodology was discussed, detailing how the participants were sampled, how data was collected and the types of measurement instruments used to assess the identified constructs. The next chapter will set out in detail the results obtained in this research and will conclude with a discussion of the reported results with reference to relevant literature.

CHAPTER 4

RESULTS

4.1 INTRODUCTION

This chapter focuses on the results of the research and whether they support the various research hypotheses stated in chapter 3. A variety of statistical techniques were utilised to determine the relationships amongst the constructs, as well as the moderating effect of PsyCap on the Occupational Stress - Burnout relationship.

Based on the literature review presented in chapter 2, it was hypothesised that a significant positive relationship will exist between Occupational stress and Burnout, as this relationship has been confirmed in numerous previous studies (Brandt, 2006; Burke, Greenglass & Schwarzer, 1996; Kilfedder, Power & Wells, 2001; Rothmann et al., 2003; Siying et.al., 2008; Wiese et.al, 2003). Furthermore, it was expected that significant negative relationships would emerge between, firstly, Burnout and PsyCap and secondly, Occupational stress and PsyCap. Thus, it was argued that if this would be the case that higher levels of PsyCap in employees should equip them with the ability to cope better with the stressors from various sources in the workplace, which leads to lower levels of Occupational stress and Burnout. Hence, it was also anticipated that PsyCap could play a moderating role in the relationship between Occupational stress and Burnout.

Moreover, it was predicted that significant positive relationships exist between the four constructs comprising PsyCap, namely Hope, Optimism, Self-efficacy and Resilience. This expectation was based on results from numerous previous studies by Bandura (1997), Luthans and Jensen (2002), Luthans, Youssef et al. (2007), and Snyder (2000, 2002). This research indicated that the four constructs of PsyCap act in accordance with each other and thus, individuals who show a high level of competence in one of the constructs are likely to also show a high level of competence in the other constructs. For example highly resilient employees, when faced by a setback, are often also self-efficacious and highly hopeful and will most probably be motivated to persist and put forth the required effort to overcome the setback/ problem. In addition, they would also pursue alternate pathways in order to

return to their original level of functioning or beyond where they were before the adverse event. However, conceptual independence of the four PsyCap constructs, as well as their empirically based discriminant validity, has been proven by the studies listed above (e.g. Bandura, 1997; Luthans & Jensen, 2002). It was predicted, therefore, that a similar trend would be evident in the current data.

Some researchers have defined Employee Engagement as the opposite of Burnout (e.g. Schaufeli et al., 2002; Schaufeli et al., 2008). In this study, however, Engagement was defined and measured, independent of Burnout. Negative relationships between Burnout / Occupational Stress and Engagement were predicted and, consistent with previous research, a positive relationship between PsyCap and Engagement was anticipated (e.g. Avey et al., 2008; Mauno et al., 2007; Xanthopoulou et al., 2007a).

4.2 SAMPLE

A total sample of 209⁴ permanent, monthly paid employees from a medium-sized company in the construction industry of South Africa, participated in this research. Analysis of the demographic information revealed that 145 (69.4%) of the participants were male and 61 (29.2%) were female. The majority of respondents (96, 45.9%) were White, the second largest ethnic group represented in the sample were Coloureds (80, 38.3%), followed by Black/African group membership which represented only 26 (12.4%) participants in this study. With regards to highest qualification, the data revealed that a sizable proportion of the respondents have completed a National diploma / National higher diploma (68 participants; 32.5%). A total of 118 participants (56.5%) indicated Afrikaans to be their first language, with 67 (32.1%) having English and Xhosa (14 participants, 6.7%) as their first languages. Most of the respondents worked in the construction department (73 participants; 34.9%) of the company. This was followed by Finance (32 participants; 15.3%) and Building (21 respondents; 10%). The sample was fairly representative of all management levels in the company. For example, 30.1% of the respondents were in

⁴ The final sample (n=202) with which the analyses were conducted, differed slightly in size from the original sample. This was due to the imputation by matching procedure that was utilized to treat missing values. When appropriate imputations of missing cases are not possible, the sample size is reduced (i.e. cases are omitted).

non-management positions, 24.4% currently hold junior management positions, 25.4% are at middle management level, whilst 15.3% currently operate at senior management levels and above. The demographic information indicates that the majority of respondents within the sample of this study were White, Afrikaans speaking males. Descriptive statistics for the sample group are presented in tables 4.1.1 to 4.1.6.

Table 4.1.1: Gender Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	145	69.4	70.4	70.4
	Female	61	29.2	29.6	100.0
	Total	206	98.6	100.0	
Missing	System	3	1.4		
Total		209	100.0		

Table 4.1.2: Ethnic Group Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Black	26	12.4	12.5	12.5
	Coloured	80	38.3	38.5	51.0
	White	96	45.9	46.2	97.1
	Indian	2	1.0	1.0	98.1
	Asian	1	.5	.5	98.6
	Other	3	1.4	1.4	100.0
	Total	208	99.5	100.0	
Missing	System	1	.5		
Total		209	100.0		

Table 4.1.3: First Language Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Afrikaans	118	56.5	56.5	56.5
	English	67	32.1	32.1	88.5
	Xhosa	14	6.7	6.7	95.2
	Zulu	1	.5	.5	95.7
	Ndebele	2	1.0	1.0	96.7
	North Sotho	3	1.4	1.4	98.1
	Tsonga	1	.5	.5	98.6
	Tswana	1	.5	.5	99.0
	Other	2	1.0	1.0	100.0
	Total	209	100.0	100.0	

Table 4.1.4: Highest Qualification Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Secondary School	18	8.6	8.7	8.7
	Grade 12 or equivalent	52	24.9	25.2	34.0
	Post-school certificate/diploma	29	13.9	14.1	48.1
	National diploma/National higher diploma	68	32.5	33.0	81.1
	Bachelor's degree or equivalent	26	12.4	12.6	93.7
	Honours degree or equivalent	7	3.3	3.4	97.1
	Masters degree or equivalent	4	1.9	1.9	99.0
	Doctoral degree or equivalent	2	1.0	1.0	100.0
	Total	206	98.6	100.0	
	Missing	System	3	1.4	
Total		209	100.0		

Table 4.1.5: Department Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Organizational Development	11	5.3	5.5	5.5
	Finance	32	15.3	15.9	21.4
	Plant	17	8.1	8.5	29.9
	Sheq	10	4.8	5.0	34.8
	Technical	17	8.1	8.5	43.3
	Head office administration	6	2.9	3.0	46.3
	Developments	4	1.9	2.0	48.3
	North	3	1.4	1.5	49.8
	Building	21	10.0	10.4	60.2
	South	3	1.4	1.5	61.7
	West Management	4	1.9	2.0	63.7
	Construction	73	34.9	36.3	100.0
	Total	201	96.2	100.0	
Missing	System	8	3.8		
Total		209	100.0		

Table 4.1.6: Level of Management Distribution

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Non-management	63	30.1	31.7	31.7
	Junior management	51	24.4	25.6	57.3
	Middle management	53	25.4	26.6	83.9
	Senior management	22	10.5	11.1	95.0
	Executive management	10	4.8	5.0	100.0
	Total	199	95.2	100.0	
Missing	System	10	4.8		
Total		209	100.0		

4.3 CORRELATION RESULTS

The first objective of this study was to determine whether relationships exist between the four constructs, Burnout (as measured by the CBI; Kristensen, *et al.*, 2005), Employee Engagement (as measured with the UWES-9; Schaufeli & Bakker, 2003), Occupational stress (as measured by the PSS; Cohen *et al.*, 1983) and PsyCap (as measured by the PCQ-24; Luthans, Avolio *et al.*, 2007). The convention proposed by Guilford (as cited in Tredoux & Durrheim, 2002, p. 184) and depicted in table 4.2 was used to interpret all of the sample correlation coefficients.

Table 4.2: Guilford's interpretation of the magnitude of significant r

Absolute Value of r	Interpretation
<0.19	Slight; almost no relationship
0.20 – 0.39	Low correlation; definite but small/weak relationship
0.40 – 0.69	Moderate correlation; substantial relationship
0.70 – 0.89	High correlation; strong relationship
0.90 – 1.00	Very high correlation; very dependable relationship

4.3.1 The relationship between Burnout and Occupational Stress

In order to explore the relationship between Burnout⁵ and Occupational Stress, the following hypotheses were formulated:

Hypothesis 1: A significant positive relationship exists between Occupational stress and Personal Burnout.

⁵ Lower scores on the CBI indicate higher Burnout levels. Conversely, higher scores indicate lower Burnout. Higher scores on the PSS indicate higher levels of perceived stress. Therefore, although a positive relationship was hypothesised between Occupational stress and Burnout in this research a negative correlation would provide support for this relationship.

Hypothesis 2: A significant positive relationship exists between Occupational Stress and Work Burnout.

Hypothesis 3: A significant positive relationship exists between Occupational stress and Client Burnout.

The relationships between Occupational Stress and Personal-, Work- and Client Burnout were investigated through the calculation of various Pearson Product-Moment Correlation coefficients. The results are presented in table 4.3.1.

Table 4.3.1: The relationships between Occupational Stress and the sub-dimensions of Burnout

Construct		CBIPers	CBIWork	CBIClient
Occupational Stress	STot	-.532**	-.597**	-.353**

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); STot = Occupational stress Total; CBIPers = Personal Burnout; CBIWork = Work Burnout; CBIClient = Client Burnout

The results in table 4.3.1 indicate that significant moderate, substantial negative⁶ relationships exist between Occupational stress and all three dimensions of Burnout. These results suggest that an increase in the amount of Occupational stress experienced by an individual will, in the long run, also cause them to experience their job as emotionally exhausting, frustrating and tiring. Further effects of sustained exposure to Stress include physical exhaustion, tiredness and a feeling of being 'worn out'. Interactions with clients will also increasingly be experienced as draining, frustrating and difficult. Thus, hypotheses 1, 2 and 3 are supported.

Recent research by Tsai and Chan (2010) in a sample of 211 judicial officers as well as Tsai et al. (2009) in a sample of 180 lawyers yielded similar findings to the results reported here. In these studies consistent significant relationships between Personal- and Work Burnout and Occupational stress were reported. These associations are further confirmed by research of Milfont et.al. (2007) on Burnout (as measured by the CBI; Kristensen et.al, 2005) and Stress (as measured by the Well-Being Index) who found significant relationships between Personal Burnout and wellbeing ($r = -.66$, $n =$

⁶ Due to the scale direction of the CBI (i.e. lower scores indicate more burnout) the negative relationships between the PSS and CBI subscale scores theoretically confirm that more stress is associated with more Burnout.

129, $p < .001$), Work-related Burnout and wellbeing ($r = -.64$, $n = 129$, $p < .001$) as well as Client-related Burnout ($r = -.49$, $n = 129$, $p < .001$) in a sample of 129 secondary school teachers. Rothmann et al. (2004) also reported significant relationships, ranging from $r = .39$ to $r = 0.41$ between Burnout (measured by the MBI-GS; Maslach et al., 1996) and Occupational stress (measure by the Job Stress Inventory, JSI; Steyn, 2004).

4.3.2 The relationship between PsyCap and Burnout

In order to explore the relationship between PsyCap and Burnout, the following hypotheses were formulated:

Hypothesis 4: A significant negative⁷ relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Personal Burnout.

Hypothesis 5: A significant negative relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Work Burnout.

Hypothesis 6: A significant negative relationship exists between PsyCap (the total score as well as the separate constructs: Hope, Optimism, Self-efficacy and Resilience) and Client Burnout.

Table 4.3.2.1: The relationships between the PsyCap (total score) and the sub-dimensions of Burnout

Constructs		CBIPers	CBIWork	CBIClient
PsyCap	PsyCapTot	.315**	.387**	.258**

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); PsyCapTot = PsyCap Total score; CBIPers = Personal Burnout; CBIWork = Work Burnout; CBIClient = Client Burnout

The results presented in table 4.3.2.1 show that statistically significant weak relationships emerged between the PsyCap total score and the all three dimensions of Burnout. Work Burnout yielded the strongest relationship with Occupational stress

⁷ Higher scores on the PsyCap indicate that in individual possess more of the psychological resources. However, lower scores on the CBI indicate higher Burnout. Therefore, although a negative relationship was hypothesised between PsyCap and Burnout in this research, positive correlations in the current data would provide support for this hypothesised relationship.

($r = .387$, $n=202$, $p<0.01$), followed by Personal Burnout ($r = .315$, $n=202$, $p<0.01$) and Client Burnout ($r = .258$, $n=202$, $p<0.01$). These results imply that as a respondents' PsyCap (total score) increases, their experiences of Personal-, Work- and Client Burnout should significantly decrease.

The results in table 4.3.2.2 illustrate a similar trend to the correlations presented in table 4.3.2.1. In accordance to what was hypothesized, all of the correlations in table 4.3.2.2 are significant, with the exception of the correlation between Hope and Client Burnout ($r = .128$, $n=202$, $p<0.01$). Thus, hypotheses 4 and 5 are supported by these results, whilst only partial support for hypothesis 6 emerged.

Table 4.3.2.2: The relationships between the sub-dimensions of PsyCap and the sub-dimensions of Burnout

Constructs		CBIPers	CBIWork	CBIClient
PsyCap	Hope	.240**	.274**	.128
	Optimism	.342**	.438**	.289**
	Self-efficacy	.236**	.294**	.191**
	Resilience	.229**	.285**	.264**

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); CBIPers = Personal Burnout; CBIWork = Work Burnout; CBIClient = Client Burnout

The significant correlations between Hope and Personal Burnout and Work Burnout suggest that individuals who believe they can find pathways to their goals, and are motivated to utilize those pathways, reported experiencing less physical- and emotional exhaustion and tiredness personally, as well as in relation to their job. Individuals with a self-belief that they will initiate and continue goal-directed actions will be less likely to experience Burnout on their job as they will have the ability to make plans and get themselves motivated to follow these plans in order to meet their job requirements, responsibilities and expected job performance levels.

Similar to the results of Hope with the dimensions of Burnout, significant relationships also emerged between Optimism and Personal-, Work- and Client Burnout, respectively. Moreover, the strongest relationships in table 4.3.2.2 emerged between Optimism and the subdimensions of Burnout, with the strongest relationship being between Optimism and Work Burnout ($r = .438$, $n=202$, $p<0.01$). From this it

would seem that Optimism may be the PsyCap sub dimension which may hold the best promise of impacting on Burnout. These results propose, for example, that respondents who hold positive expectations and remain confident about the future (i.e. high on Optimism) have a propensity to not report feelings like 'I can't take it anymore'. They, furthermore, report to not experience their work as tiring, or find themselves wondering about how long they will still be able to work with their clients. Optimists generally believe that people and events are inherently good, so that most situations work out in the end for the best. There are various well-known personal and social outcomes of an optimistic approach. These include more achievement in any task and goal, higher levels of life satisfaction, better health, more friends, and feelings of control over life, as well as being more at ease with making decisions.

However, of specific significance to this study and in support of the findings reported here, is that it has been found that Optimism plays an important role in the adjustment to stressful life events (Scheier et al., 2001). In addition, greater Optimism has also been found to be associated with less mood disturbance in response to a variety of stressors (Carver, Pozo, Harris, Noriega, Scheier & Robinson, 1993). Hence, optimists generally cope more effectively with their stressors than do pessimists. In support of this there is substantial evidence that Optimists use different coping strategies to cope than do pessimists and that these coping differences contribute to the positive association between Optimism and better adjustment and well being (Carver, Scheier & Weintraub, 1989). Optimists, furthermore, generally possess more extensive and supportive social networks. In this way Optimism influences well-being (e.g. less Burnout) as social networks influence psychological well-being by operating as a Stress buffer (Cohen & Wills, 1985).

From the results it is evident that Self-efficacy had definite, but small, significant relationships with Personal- and Work Burnout, as well as a slight, significant relationship with Client Burnout . These results suggest that respondents with higher levels of Self-efficacy reported lower levels of Burnout. For example, individuals that have confidence in their abilities to mobilize the cognitive resources and plan a course of action to successfully execute a specific task, who set high goals, who

welcome challenges and are highly self-motivated, invest the necessary effort to accomplish their goals, and persevere in the face of difficulty, will be less likely to experience physical and psychological fatigue and exhaustion pertaining to their job, clients they work with, or in general life. This finding replicates previous research on Self-efficacy and Burnout by Salanova (2004) and Skaalvik and Skaalvik (2010).

As was hypothesized, and in accordance with previous research (Shaufeli & Bakker, 2001), significant relationships were found between Resilience and Personal-, Work- and Client Burnout. The correlations, according to Guilford (as cited in Tredoux & Durrheim, 2002) suggest weak, yet significant associations between these variables. Hence, it may be argued that individuals with the psychological capacity to overcome or 'bounce back' from adversity, failure or uncertainty, reported lower levels of Burnout. Burnout is known to develop over time (Maslach & Goldberg, 1998). Higher Resilience, therefore, seems to lessen the effects of negative stressful events on the individual, and over time decreases the propensity to develop Burnout. Resilient individuals, furthermore, show more emotional stability when faced with adversity (Bonanno, Papa & O'Neill, 2001), are more flexible to changing demands and are open to new experiences (Tudgade & Frederickson, 2004), all of which may cause more Stress and Burnout among individuals with lower levels of Resilience. Moreover, longitudinal studies conducted over four decades, such as the Kauai study (Werner, 1989, 1993, 2001) and the Lundby study (Cederblad, 1996), point to several key features characterizing resilient people who overcome difficult life conditions. Generally, such individuals are more flexible than less resilient people and cope by using several protective resources, either within themselves or in their environment. Several authors (Werner, 1989; Rutter, 1990; Werner, 1993) now classify these protective resources into (a) psychological / dispositional attributes; (b) family support and cohesion; and (c) external support systems. From this, it is clear that individuals with higher Resilience would be less likely to develop Burnout than their lower resilient counterparts.

4.3.3 The relationship between PsyCap and Occupational stress

In order to explore the relationship between PsyCap and Occupational stress, the following hypothesis was formulated:

Hypothesis 7: A significant negative relationship exists between PsyCap (total score, as well as the four separate PsyCap sub dimensions: Hope, Optimism, Self-efficacy and Resilience) and Occupational stress.

Table 4.3.3: The relationships between Occupational stress and PsyCap (total score) as well as the sub-dimensions of PsyCap

Constructs		STot
PsyCap	PsyCapTot	-.509**
	Hope	-.388**
	Optimism	-.534**
	Self-efficacy	-.354**
	Resilience	-.423**

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); PsyCapTot = PsyCap Total score; STot = Occupational stress Total

The results, presented in table 4.3.3, show that a moderate / substantial significant relationship emerged between Occupational stress and PsyCap (total score) ($r = -.509$, $n=202$, $p<0.01$). This suggests that individuals who reported higher levels of Hope, Optimism, Self-efficacy and Resilience also reported lower levels of Occupational stress. This finding is in accordance with previous research by Avey et al. (2009) and Avey et al. (2010), who reported that Occupational stress can be reduced by increasing an individual's PsyCap.

A weak, but bordering on moderate, significant relationship ($r = -.388$, $n=202$, $p<0.01$) emerged between Hope and Occupational stress. This implies that determined, goal-orientated individuals that are able to devise alternative pathways to achieve their goals in the face of difficulty, also reported a lower level of imbalance between the demands arising from their job stressors and their perceived capability to respond to these demands. Thus, when confronted by stressors, individuals with high levels of Hope are capable of generating workable routes, as well as to start and continue along these routes, which cause them to experience less stress in possible stress-provoking situations. These findings concur with results obtained by

O'Connor and Cassidy (2007) as they reported a significant relationship of $r = -.315$ in 121 college students between their Stress (as measured by the Perceived Stress Scale, PSS; Cohen et.al, 1983) and Hope (as measured by the Hopelessness Scale, BHS; Beck, Weissman, Lester, Trexler, 1974). Similar to the Burnout results, the strongest association of all the PsyCap sub-dimensions with the PSS emerged between Occupational stress and Optimism ($r = -.534$, $n=202$, $p<0.01$). This moderate/substantial relationship confirms previous findings by Carver et al. (2005) who reported a significant relationship ($r = -.34$, $n=163$, $p<0.001$) between Optimism (as measured with the LOT; Scheier & Carver, 1985) and Distress (as measured with the Affects Balance Scale; Derogatis, 1975; and the Profile of Mood States; McNair, Lorr & Droppelman; 1971) among breast cancer patients. Also consistent with previous research by Adeyemo and Ogunyemi (2005), a moderate association between Self-efficacy and Occupational stress was found in this study. In their study, Adeyemo and Ogunyemi (2005) randomly selected 300 academic staff from eight faculties of a Nigerian University and found that Self-efficacy (as measured by the General Perceived Self-efficacy Scale, G.P.S.S.; Schwarzer & Jerusalem; 1995) correlated significantly ($r = -.672$, $n=163$, $p<0.001$) with Occupational stress (as measured by the Occupational Stress Scale, OSS; Hassan and Hassan, 1998). Lastly, in line with previous research by Bonanno, Galea, Bucciarelli and Vlahov (2007), Resilience and Occupational stress also yielded a moderate relationship ($r = -.423$, $n=202$, $p<0.01$). Hence, based on the results presented here, hypothesis 7 is supported.

4.3.4. The Relationships between the four constructs of PsyCap (Hope, Optimism, Self-efficacy and Resilience)

In order to explore the relationships between the four PsyCap sub-dimensions, the following hypothesis was formulated:

Hypothesis 8: Significant positive relationships will exist between the four PsyCap sub-dimensions (Hope, Optimism, Self-efficacy and Resilience).

Table 4.3.4: The relationships between the sub-dimensions of PsyCap

Constructs		PsyCap	Hope	Optimism	Self-Efficacy	Resilience
PsyCap	Hope		1			
	Optimism		.609**	1		
	Self-Efficacy		.624**	.544**	1	
	Resilience		.590**	.518**	.585**	1

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed)

The results in table 4.3.4 provide support for hypothesis 8 as significant positive relationships emerged between all the sub-dimensions of PsyCap. According to Kline (1998), correlations in the order of 0.60⁸ (and less) may be interpreted as providing support for the discriminant validity (the various constructs do not overlap to such an extent that they measure the same thing) of the PsyCap variables. This is an encouraging finding. It would seem that the unique South African cultural context did not have a significant impact on the construct validity of the different PsyCap variables. No evidence of construct bias⁹ was evident in this study as the different PsyCap variables showed sufficient, moderate correlations with each other. Too high correlations may have pointed towards less differentiation between these constructs in the South African environment. Conversely, if too low correlations were found the inclusion of that PsyCap sub-dimension (e.g. Hope construct) in the overarching PsyCap construct should have been questioned. The current results provide evidence that, although the constructs are moderately correlated, they are still independent of each other and have discriminant validity. This underscores findings on other international samples of the nature of the PsyCap construct (Luthans et al., 2005).

The positive manifold of moderate correlations between the PsyCap sub-dimensions reported here makes theoretical sense and confirms previous research (e.g. Cozzareli, 1993; Frederickson & Joiner, 2002; and Law, Wong & Mobley, 1998). For example, Hope, correlates moderately with Optimism ($r = .609$, $n=202$, $p<0.01$). This

⁸ In this study, two of the intercorrelations slightly exceeded the 0.60 mark (i.e. Optimism and Hope; Hope and Self-Efficacy). However, this was not interpreted as sufficient evidence to reject the notion that these PsyCap sub-dimensions are too highly correlated to warrant their independent definitions.

⁹Construct bias is present when the effects of a biasing factor relate to the operationalisation of a construct, hence the construct contains a degree of disparate meaningfulness when measured over the different cultural groups (Berry, Poortinga, Segali & Dasan, 2002; Byrne & Watkins, 2003).

is in accordance with previous research studies by Scheier and Carver (1985) as well as Magaletta and Olivier (1999). In these studies Hope and Optimism were compared and it was found that Optimism is similar to the agency (willpower) component of Hope as both shares an emphasis on persistence. They believe that another reason for this correlation can be explained by the fact that both concepts, Hope and Optimism, are conceptually tied to positive expectancies for the future.

The strongest relationship in table 4.3.4 was found between Hope and Self-efficacy ($r = .624$; $n = 202$; $p < 0.01$). This indicates that individuals who possess higher levels of Hope are most likely to also possess higher levels of Self-efficacy. This association makes theoretical sense as someone, with a high level of Self-efficacy, will believe in their abilities to successfully execute specific tasks. This in itself will create Hope in the person and the belief that they can find pathways to attain desired goals and be motivated to use those pathways. This corresponds with previous findings by Bandura (1997) who argued that Hope and Self-efficacy partly overlaps, as the definition of Self-efficacy shares some similarities with the agency (willpower) component of Hope. Moreover, Snyder (2000) found that individuals high in Hope tend to be more confident on specific tasks (Self-efficacy).

The positive Resilience, Hope association underscores the views of previous researchers (e.g Marcel, 1965) who claimed that Hope can only be experienced when the temptation to despair exists. For example, Snyder (2000) found that individuals high in Hope will be able to quickly bounce back (Resilience) after temporary hopelessness.

The Optimism, Self-efficacy ($r = .544$, $n=202$, $p < 0.01$) result indicates that respondents who reported to believe that through the responsible use of knowledge and reason, existing conditions can be improved (which is the definition provided for Optimism by Gabris et al., 1998) also reported to believe in their abilities to organize and execute courses of action to produce given attainments (which is the definition provided for Self-efficacy by Bandura, 1997).

In addition, the Optimism, Resilience association further implies that people with an Optimistic attribution of events also tend to draw heavily on favourable dispositional attitudes and behaviours like internal locus of control, pro-social behaviour and empathy, to face life stresses (Blum, 1998) which will enable them to overcome adversity. This relationship is also reflected in the respective definitions of these two constructs. Optimistic people attributes positive events to personal, permanent and pervasive causes and interprets negative events in terms of external, temporary, and situation specific factors (Seligman, 1998). This is in accordance to the description given for Resilience by Anthony (1974), Garmezy (1991), Rutter (1985, 1987, 1993) and Werner and Smith (1982, 1992) as they describe Resilient people as people who have an internal locus of control¹⁰, the definition of which partly overlaps with the above mentioned description of Optimism.

A moderate relationship between Self-efficacy and Resilience ($r = .585$, $n=202$, $p<0.01$) emerged. This indicates that respondents with high levels in Self-efficacy also scored high in Resilience. A strong relationship between these two constructs was also found and explained by Bandura (1997). He argued that those high in Self-efficacy recover more quickly and maintain commitment to their goals when setbacks occur. Snyder (2000) has also shown that those high in Self-efficacy will be more resilient to adversity.

4.3.5 The relationship between Burnout and Employee Engagement

In order to explore the relationship between Employee Engagement and Burnout, the following hypotheses were formulated:

¹⁰ Locus of control refers to whether or not individuals believe that the events of their lives are related to their own behaviour. It means the effects of reward or reinforcement on preceding behaviour depend in part on whether the person perceives the reward as contingent on his own behaviour or independent of it (Rotter, 1966). An individual who believes that an outcome or reinforcement is a function of fate or chance, under the control of others, or unpredictable may be described as having an external locus of control. However, individuals who expect an outcome or reinforcement to be contingent upon his or her own behaviour (e.g., amount of effort he or she expends; amount of preparation/training) may be described as embodying an internal locus of control (Singh & Mansi, 2009).

Hypothesis 9: Significant negative¹¹ relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Personal Burnout.

Hypothesis 10: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Work Burnout.

Hypothesis 11: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Client Burnout.

Table 4.3.5: The relationships between the sub-dimensions of Burnout and the sub-dimensions of Employee Engagement

Constructs	Burnout		
	CBIPers	CBIWork	CBIClient
Vigour	.451**	.567**	.388**
Dedication	.239**	.354**	.246**
Absorption	.009	.110	.089

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); CBIPers = Personal Burnout; CBIWork = Work Burnout; CBIClient = Client Burnout

The relationships between Employee engagement and Burnout have been researched in several documented studies. For example, Schaufeli et al. (2002); Schaufeli et al. (2008); as well as Rothmann et al. (2004) reported significant relationships between Engagement and Burnout in each of their respective samples. The results of this study, as reported in table 4.3.5, confirm the previous research as significant (i.e. low and moderate) relationships emerged between two of the Engagement dimensions, Vigour and Dedication, with all three Burnout dimensions. The strongest relationships were found with Work Burnout. This may be an indication of the salient work themes present in the Work Burnout and Engagement constructs as measured in this study. These results indicate that participants who reported lower levels of Burnout also reported higher levels of Engagement in their work.

¹¹ Higher scores on the UWES-9 indicate more employee Engagement. However, lower scores on the CBI indicate higher Burnout. Therefore, although a negative relationship was hypothesised between Engagement and Burnout in this research, positive correlations in the current data would provide support for this hypothesised relationship.

However, no significant relationships between Absorption and any of the Burnout dimensions emerged in this study. Previous research also found Absorption to have the weakest relationship with Burnout of the three Engagement sub-dimensions (Bakker et. al., 2005; Schaufeli et. al., 2002; Schaufeli et. al., 2008; Schaufeli et. al., 2009). Given these results, only partial support for hypotheses 9 to 11 emerged in this study.

4.3.6 The relationship between Occupational Stress and Employee Engagement

In order to explore the relationship between Occupational Stress and Employee Engagement, the following hypothesis was formulated:

Hypothesis 12: Significant negative relationships will exist between the three sub dimensions of Employee Engagement (i.e. Vigour, Dedication and Absorption) and Occupational stress.

Table 4.3.6: The relationships between Occupational stress and the sub-dimensions of Employee Engagement

Constructs		Vigour	Dedication	Absorption
Occupational Stress	STot	-.480**	-.311**	-.062

N = 202; **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed); PsyCapTot = PsyCap Total; STot = Occupational stress Total

The results in table 4.3.6 provide evidence to suggest that moderate significant negative relationships existed between Occupational stress and Vigour ($r = -.480$, $n=202$, $p<.01$), as well as Occupational stress and Dedication ($r = -.311$, $n=202$, $p<.01$). However, consistent with the Burnout results, no relationship emerged between Occupational stress and Absorption ($r = -.062$; $n=202$; $p<0.01$). Hence, only partial support for hypothesis 12 was evident. These findings indicate that those respondents who report higher levels of Occupational stress (experience excessive demands and pressure in their work) would most likely also report low levels of Vigour (which refer to an individual's level of energy, zest and stamina while working) and Dedication (which refer to an individual's level of significance, enthusiasm, pride, and inspiration from work). These findings replicate previous research by Schaufeli et al. (2008) who also found a significant relationship between Vigour and Dedication

and Occupational stress but not between Absorption and Occupational stress. Also, the relationship between Vigour and Occupational stress found in their sample of managers were the strongest of the three Engagement sub-dimensions, similar to the results reported here. This suggests that stress probably has the most significant effect on the energy (psychological and eventually physical) levels of an individual, and not so much the cognitive evaluation of work in terms of the meaning that is found in work (Dedication).

4.3.7 Regression: PsyCap and Employee Engagement

In order to investigate which of the PsyCap dimensions predict the greatest variance in the dimensions of Engagement, it was hypothesised that:

Hypothesis 13: The different dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) can be used to predict Vigour (as a dimension of Employee Engagement).

Hypothesis 14: The different dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) can be used to predict Dedication (as a dimension of Employee Engagement).

Hypothesis 15: The different dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) can be used to predict Absorption (as a dimension of Employee Engagement).

Three regression models were tested to investigate these hypotheses. The first model included Hope, Optimism, Self-efficacy and Resilience (independent variables) and Vigour as the criterion (dependent variable). The results are presented in table 4.3.7.1 and 4.3.7.2 below. The standard regression results indicate that the model was significant ($p < 0.05$) and that it explained 42% of the variance in Vigour. Only two of the independent variables entered into the regression model made a significant unique contribution to explaining the variance in Vigour scores. These independent variables were Optimism ($\beta = .364$, $p < .05$) and Self-efficacy ($\beta = .159$, $p < .05$). The R for regression was significantly different from zero, $F(4; 197) = 34.956$, $p < .05$. Hence, hypothesis 13 was partially supported.

Table 4.3.7.1: Model summary: PsyCap and Vigour

Model	Multiple R	Multiple R square	Adjusted R square	Std Error of the estimate	F	Sig.
1	.644 ^a	.415	0.403	2.369	34.956	.000 ^a

a. Predictors: (Constant), Hope, Optimism, Self-efficacy and Resilience

b. Dependent Variable: EVigour

Table 4.3.7.2: Coefficients obtained from the regression between the dimensions of PsyCap and Vigour

Model	Standard Coefficients			
		Beta	t	Sig.
PsyCap	(Constant)		-3.043	.003
	Hope	.106	1.330	.185
	Optimism	.364	5.026	.000
	Self-efficacy	.159	2.104	.037
	Resilience	.140	1.915	.057

a. Dependent Variable: Vigour

The second model which were tested included Hope, Optimism, Self-efficacy and Resilience (independent variables) and Dedication as the criterion (dependent variable). The standard regression results are presented in tables 4.3.8.1 and 4.3.8.2. Table 4.3.8.1 indicates that this model was significant ($p < 0.05$) and explained 42% of the variance in Dedication. Hope ($\beta = .272$, $p < .05$), Optimism ($\beta = .278$, $p < .05$) and Self-efficacy ($\beta = .190$, $p < .05$) were significant predictors for Dedication. The R for regression was significantly different from zero, $F(4,197) = 36.242$, $p < .05$ and partial support for hypothesis 14 was concluded.

Table 4.3.8.1: Model summary: PsyCap and Dedication

Model	Multiple R	Multiple R square	Adjusted R square	Std Error of the estimate	F	Sig.
1	.651 ^a	.424	0.412	2.223	36.242	.000 ^a

a. Predictors: (Constant), Hope, Optimism, Self-efficacy and Resilience

b. Dependent Variable: EDedication

Table 4.3.8.2: Coefficients obtained from the regression between the dimensions of PsyCap and Dedication

Model	Standard Coefficients			
	Beta	t	Sig.	
PsyCap	(Constant)		- .832	.406
	Hope	.272	3.454	.001
	Optimism	.278	3.876	.000
	Self-efficacy	.190	2.531	.012
	Resilience	.025	.349	.727

a. Dependent Variable: Dedication

Lastly, the third model that was tested consisted of Hope, Optimism, Self-efficacy and Resilience (independent variables) and Absorption as the criterion (dependent variable). Table 4.3.9.1 presents the model summary, whilst the standardised coefficients are presented in table 4.3.9.2. The results show that this model was also significant ($p < 0.05$) and that it explained only 19% of the variance in Absorption. Only Optimism ($\beta = .210$, $p < .05$) made a significant unique contribution to explaining variance in Absorption scores when entered into the regression model. The R for regression was significantly different from zero, $F(4, 197) = 11.812$, $p < .05$. Hypothesis 15 is partially supported.

Table 4.3.9.1: Model summary: PsyCap and Absorption

Model	Multiple R	Multiple R square	Adjusted R square	Std Error of the estimate	F	Sig.
1	.440 ^a	.193	0.177	2.53420	11.812	.000 ^a

a. Predictors: (Constant), Hope, Optimism, Self-efficacy and Resilience

b. Dependent Variable: EAbsorption

Table 4.3.9.2: Coefficients obtained from the regression between the dimensions of PsyCap and Absorption

Model	Standard Coefficients			
	Beta	t	Sig.	
PsyCap	(Constant)		1.366	.173
	Hope	.106	1.138	.257
	Optimism	.210	2.467	.014
	Self-efficacy	.061	.682	.496
	Resilience	.152	1.770	.078

a. Dependent Variable: Absorption

The results of the standard regression analyses reported above provided some unique insights into which of the PsyCap variables most probably act as predictors of Work Engagement. As showed in the tables above, Optimism and Self-efficacy were the most prominent predictors in two of the Engagement sub-dimensions. Optimistic people is described by Seligman (1998) as individuals who make internal and stable attributions regarding positive events (e.g. task accomplishment) and who attribute external, unstable and specific reasons for negative events (e.g., a missed deadline). Thus, people with this outlook towards life and work would find it useful to invest their time and energy in work because of the significance and pride they gain from it, which will be seen as worth the personal effort they have invested in their work. The ability of Self-efficacy to predict an employee's engagement can be explained by the fact that Self-efficacy refers to a person's belief in their abilities to complete certain tasks (Stajkovic & Luthans, 1998). Moreover, Luthans et al., (2007) describe Self-efficacious people as individuals who set high goals for themselves, who are motivated to accomplish their goals, invest the necessary effort to accomplish these goals and who will persevere in the face of difficulty to obtain these goals. These characteristics will in effect predict whether a person will experience high energy levels, stamina and be motivated when they are working (components of Engagement).

This information could be particularly useful, should an organization want to implement a development intervention or training workshop to increase the Engagement of their employees. Knowing that Optimism and Self-efficacy is the two best predictors of Engagement would enhance the effectiveness of interventions that focus on these two constructs, in order to gain the maximum output and return on investment from employee engagement interventions.

4.3.8 The moderating effect of PsyCap on Occupational Stress, Burnout relationship

In order to explore whether PsyCap might act as a moderator in the Occupational stress - Burnout relationship, a series of moderated multiple regression analyses were conducted to test the following hypotheses:

Hypothesis 16: PsyCap (total score) will moderate the relationship between Occupational stress and Personal Burnout.

Hypothesis 17: PsyCap (total score) will moderate the relationship between Occupational stress and Work Burnout.

Hypothesis 18: PsyCap (total score) will moderate the relationship between Occupational stress and Client Burnout.

In the moderated multiple regression analyses that were conducted, an interaction effect will exist when the impact of one independent variable (i.e. Occupational stress) depends on the value of another independent variable (i.e. PsyCap) (Lewis-Beck, 1980). In order to execute this regression, a dichotomous variable, named *PsyCapLowHigh* was computed with the median as reference point. The specific type of regression employed to investigate the interaction effect (in order to plot the effect on a scatter plot), involves forming a multiplicative term. In this case Occupational stress (*STot* – PSS total score) were multiplied with the dichotomous variable, *PsyCapLowHigh*, creating a new variable called *PsyCapLowHighStress* (i.e. interaction effect variable). In these regression analyses, Burnout (i.e. Personal-, Work- and Client Burnout) were entered as respective dependent variables and Occupational stress (*STot* – PSS total score), *PsyCapLowHigh* (dichotomised PsyCap variable) and *PsyCapLowHighStress* (PsyCap as moderator) were entered as independent variables.

The first regression model was computed by entering Personal Burnout as the dependent variable and Occupational stress (*STot*), PsyCap (*PsyCapLowHigh*) and PsyCap as moderator (*PsyCapLowHighStress*) as the independent variables. Figure 4.1 depicts the scatterplot which illustrate the moderating effect of PsyCap in the Occupational stress – Personal Burnout relationship.

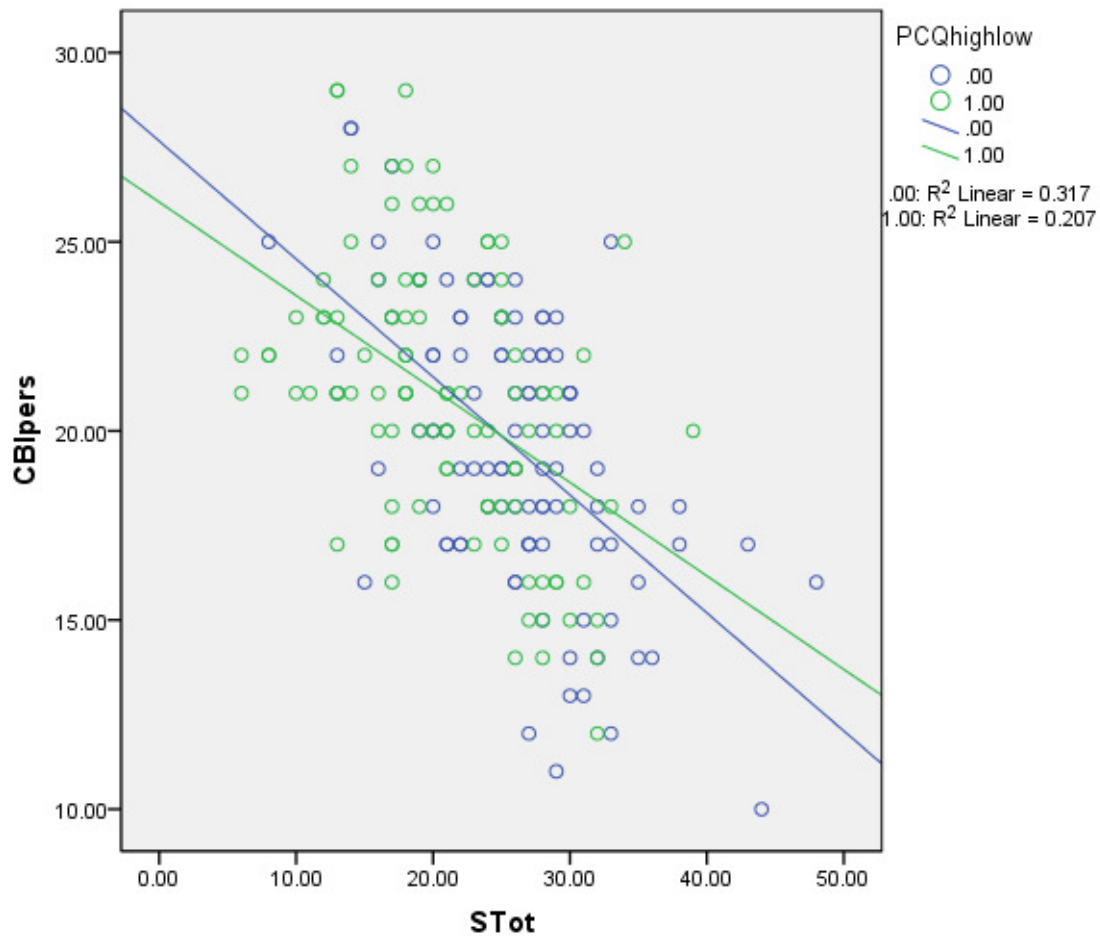


Figure 4.1: Interaction effect: PsyCap as a moderator in the Occupational stress – Personal Burnout relationship

From the scatter plot (figure 4.1) it may be deduced that individuals which possess higher levels of PsyCap (i.e. green line, numbered “1”) report experiencing lower levels of Personal Burnout as Occupational stress increases, than their lower PsyCap counterparts (depicted by the blue line, numbered “0”). This can be seen in the slopes of the regression lines. It is clear that the slope of the lines differ after entering the PsyCap Interaction variable. Those higher in PsyCap (green line) do not report the same level of Burnout (i.e. they report less Burnout¹²), as those with lower PsyCap levels (blue line), when a specific level of Occupational stress is being experienced.

¹² Lower scores on the CBI (i.e. Burnout measure), indicate more Burnout.

To further investigate these results another moderated regression with PsyCap, specified as a continuous variable was conducted (results presented in tables 4.3.10.1 and 4.3.10.2). In this regression analysis, Personal Burnout (as a dimension of Burnout) was entered as a dependent variable and Occupational stress (*STot*), *PsyCapTot* (PsyCap total score) and *PsyCapStressInter* (PsyCap as moderator) were entered as independent variables. The results from this regression, as shown in table 4.3.10.1, indicate that the model was significant ($p < .05$) and that it explained 30% of the variance in Personal Burnout. The standardised coefficients presented in table 4.3.10.2 indicate that Occupational stress ($\beta = -1.269$, $p < 0.05$) made a significant contribution to explaining the variance in Personal Burnout. This table also shows that the PsyCap interaction variable (*PsyCapStressInter*) ($\beta = .673$, $p = .068$) made a contribution in the regression model that leans towards significance ($p < 0.05$). This weak impact of the PsyCap moderation effect is evident in the scatterplot as presented and discussed above (figure 4.1). Overall it is concluded that fair evidence exist to suggest that PsyCap may moderate the relationship between Occupational stress and Personal Burnout, providing partial support for hypothesis 16.

Table 4.3.10.1: Model summary: Interaction Effect of PsyCap on the Occupational stress - Personal Burnout relationship

Model	Multiple R	Multiple R square	Adjusted R square	Std Error of the estimate	F	Sig.
1	.545 ^a	.297	.287	3.152	27.949	.000 ^a

a. Predictors: (Constant), PCQStressInter, PCQTot, STot

b. Dependent Variable: Personal Burnout

Table 4.3.10.2: Coefficients: Interaction Effect of PsyCap on the Occupational stress - Personal Burnout relationship

Model	Standard Coefficients		
	Beta	t	Sig.
1	(Constant)	5.451	.000
	STot	-1.269	.003
	PsyCapTot	-.266	.164
	<i>PsyCapStressInter</i>	.673	.068

a. Dependent Variable: Personal Burnout

The second regression model (with the PsyCap dichotomised variable) was computed by entering Work Burnout as the dependent variable and Occupational stress ($STot$ – PSS total score), $PsyCapLowHigh$ (PsyCap dichotomised variable) and $PsyCapLowHighStress$ (PsyCap as moderator) as the independent variables respectively. The scatter plot depicted in figure 4.2 illustrates the moderating effect of PsyCap in the Occupational stress – Work Burnout relationship.

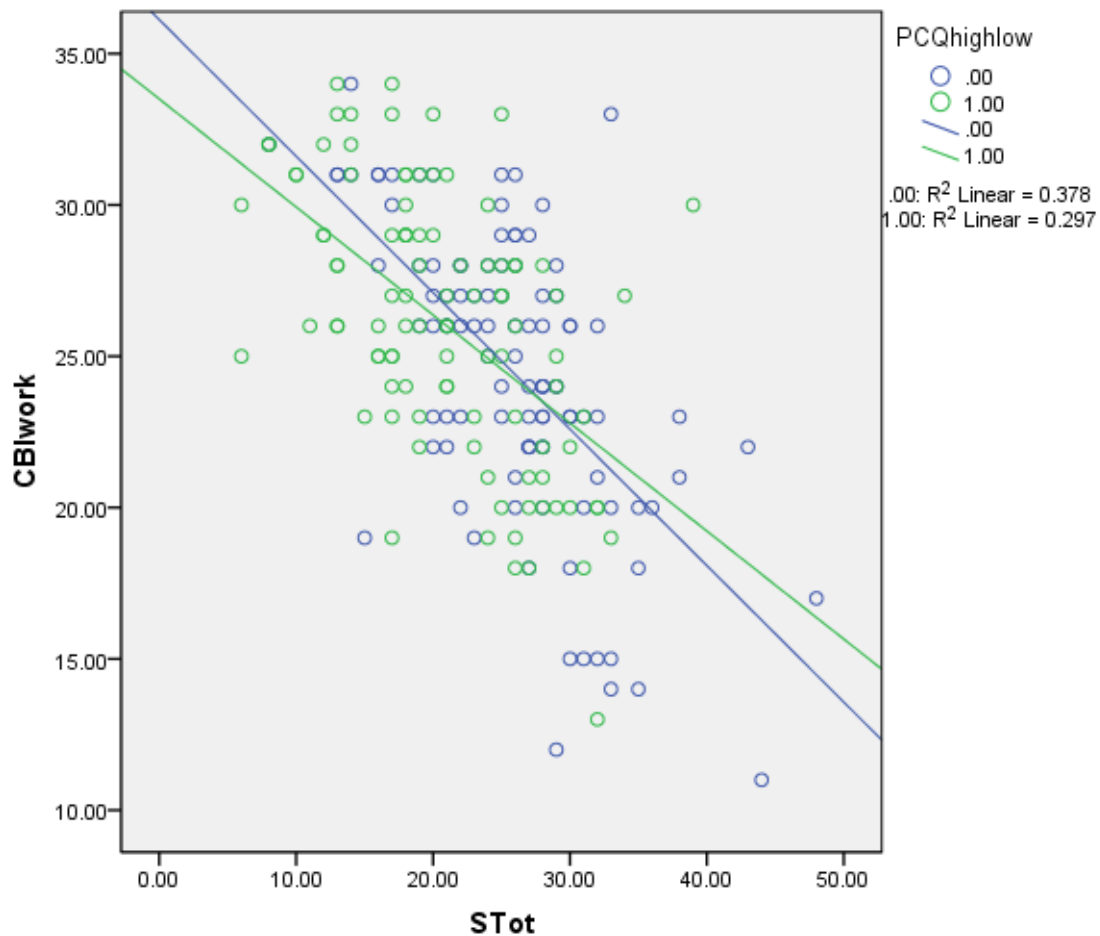


Figure 4.2: Interaction effect: PsyCap as a moderator in the Occupational stress – Work Burnout relationship

The significant impact of the PsyCap moderation effect can be seen in the slope of the regression lines in the scatter plot. The regression lines illustrate that people with higher levels of PsyCap (green line numbered “1”) experience lower levels of Work Burnout when their perceived Occupational stress increase, than their lower PsyCap counterparts (depicted by the blue line, numbered “0”).

To further investigate this result, another moderated regression analysis with the PsyCap continuous variable was conducted (results presented in tables 4.3.11.1 and 4.3.11.2). In this regression analysis, Work Burnout (as a dimension of Burnout) was entered as a dependent variable and Occupational stress (*STot*), *PsyCapTot* (PsyCap total score) and *PsyCapStressInter* (PsyCap as moderator) were entered as independent variables. The results from this regression, as shown in table 4.3.11.1, indicated that the model was significant ($p < .05$) and it explained 38% of the variance in Work Burnout. The standardised coefficients presented in table 4.3.11.2 indicate that Occupational stress ($\beta = -1.494$, $p < 0.05$) made a significant contribution to explaining the variance in Work Burnout. Moreover, the *PsyCapStressInter* variable (PsyCap as a moderator, i.e. the interaction effect) ($\beta = .837$, $p = .016$) also made a significant contribution to the regression model. This provides strong evidence to suggest that PsyCap does indeed moderate the relationship between Occupational stress and Work Burnout. Hypothesis 17 is therefore supported.

Table 4.3.11.1: Model summary: Interaction Effect of PsyCap on the Occupational stress - Work Burnout relationship

Model	Multiple R	Multiple R square	Adjusted R square	Std Error of the estimate	F	Sig.
1	.620 ^a	.384	.375	3.737	41.139	.000 ^a

a. Predictors: (Constant), PCQStressInter, PCQTot, STot

b. Dependent Variable: Work Burnout

Table 4.3.11.2: Coefficients: Interaction Effect of PsyCap on the Occupational stress - Work Burnout relationship

Model	Standard Coefficients			
		Beta	t	Sig.
1	(Constant)		6.002	.000
	STot	-1.494	-3.759	.000
	PCQTot	-.293	-1.638	.103
	PCQStressInter	.837	2.434	.016

a. Dependent Variable: Work Burnout

A third moderated regression analysis was conducted by entering Client Burnout (as a dimension of Burnout) as a dependent variable and Occupational stress (*STot*), *PsyCapLowHigh* (PsyCap dichotomised variable) and the *PsyCapLowHighStress*

variable (PsyCap as moderator) as independent variables. However, the results from this regression indicated that the model was not significant ($p > .05$). No evidence exists to suggest that PsyCap moderates the Occupational stress – Client Burnout relationship. Therefore hypothesis 18 was not supported by the current results.

4.4 CHAPTER SUMMARY

In this chapter the research results were reported and interpreted. Results obtained through the various data analyses were discussed. The following chapter will focus on a consolidated discussion of the reported results, with the reference to relevant literature. Limitations of this study will then be noted and recommendations for future research will be proposed.

CHAPTER 5

DISCUSSION

5.1 INTRODUCTION

The research findings of this study were presented in chapter 4. This chapter discuss the findings, as well as general conclusions related to the empirical evidence obtained in this research. References to, and comparisons with, the relevant literature and previous research will also be presented. This chapter concludes with limitations of this study as well as recommendations for future research.

Research on Occupational stress and Burnout has increased dramatically over the past decade (Schaufeli & Buunk, 2003). With the rapid increase in the use of technology in the workplace and the impact of globalisation, organisations are continually pressured into ensuring client satisfaction and retention through fast and efficient client services. Within the construction industry in South Africa, the economic recession, which limited the available new construction contracts, as well as the demanding circumstances brought on by the 2010 FIFA Soccer World Cup, caused this work environment to be an even more challenging one for employees within which to remain in a good state of health and well-being. Occupational stress and Burnout is an ever-increasing and multi-faceted phenomenon that managers and human resources practitioners have to address (Pietersen, 2005). A greater awareness of the presence and negative consequences of Occupational stress and Burnout in the workplace and the ability to cope with it is necessary to uphold an effective organisation and good employee health.

Research (e.g. Davis et al., 2004) suggests that individual differences, like a person's attributes, characteristics and resources, may predispose individuals to respond in an adaptive way, when faced with stressful environments (e.g. not experience Occupational stress, or Burnout). The notion that PsyCap could have a positive influence on both the individual's work performance, as well as overall organisational performance, has been supported by various studies which linked PsyCap with better job performance (Luthans, Avolio et al., 2007; Luthans et al., 2008; Luthans et al., 2005; Youssef & Luthans, 2007); more job satisfaction (Luthans

& Jensen, 2002; Youssef & Luthans, 2007); better organisational commitment (Luthans & Jensen, 2002; Youssef & Luthans, 2007); lower turnover intention (Harris & Cameron, 2005); and an increase in worker happiness (Youssef & Luthans, 2007). Due to all these advantages of a workforce with high levels of PsyCap, developmental programmes have been developed and tested to increase the PsyCap of employees. Preliminary evidence suggests that such programmes appear to be effective in reducing Occupational stress and Burnout and improving health and well-being, as well as the work performance of employees (Bandura, 1997; Snyder et al., 1996; Carver & Scheier, 2005; Seligman, 1998; Masten & Reed, 2002; Wagnild & Young, 1993; Luthans et al., 2008; Luthans et al., 2006). It should be noted that high levels of PsyCap will not necessarily eliminate feelings of Occupational stress and Burnout entirely, as stressors are inevitable in the work place and arises from job characteristics and the work environment, which is external to the individual and usually beyond the individual's control. However, PsyCap may assist individuals to deal with their Occupational stress more effectively, preventing them from suffering the unpleasant consequences that is brought about Occupational stress and Burnout.

In addition, in order to gain a competitive advantage through their human resources, the organisation can strive to enhance Employee Engagement among their workforce. A growing body of research proof the various positive outcomes Engagement holds for the individual employee, as well as the organisation as a whole. Some of these advantages include improved individual and organisational performance and productivity (Bates, 2004; Harter et al., 2002); increased employee retention and lower turnover (Bates, 2004; Harter et al., 2002; Schaufeli & Bakker, 2004); increased organisation financial performance (Bates, 2004; Harter et al., 2002); better shareholder return (Bates, 2004; Harter et al., 2002); more organisational commitment (Hakenen et al., 2006); better service climate (Salanova et al., 2005); as well as customer loyalty (Salanova et al., 2005). Moreover, Employee Engagement has been shown to be influenced by the PsyCap levels of the workforce (Hobfoll et al., 2003; Xanthopoulou et al., 2007a, b). Increasing an individual's level of PsyCap, could therefore also lead to an increase in their work Engagement.

This study was conducted in a medium-sized organisation in the construction industry of South Africa. The aim was to investigate the relationships between Occupational stress, Burnout, Employee Engagement and PsyCap, as well as the possible moderating effect of PsyCap on the Occupational stress – Burnout relationship. It was argued that long term Occupational stress will lead to Burnout, but that people with higher levels of PsyCap may be less prone to develop Occupational stress, and subsequent Burnout. Hence, it was expected that higher levels of PsyCap will buffer the development of Burnout once Occupational stress is experienced. It was further argued that if the results should provide evidence that PsyCap does indeed moderate the Occupational stress - Burnout relationship, it may then be useful to propose that the development of PsyCap might be helpful to minimise the experience of Occupational stress and subsequent Burnout experienced by employees in the construction industry. Further to this, the current research also investigated the relationship between PsyCap and Employee Engagement. Higher levels of Engagement may also decrease Burnout and influence a whole host of positive individual and organisational outcomes.

5.2 FINDINGS: THE RELATIONSHIPS BETWEEN BURNOUT, EMPLOYEE ENGAGEMENT, OCCUPATIONAL STRESS AND PSYCAP

5.2.1 Burnout and Occupational Stress

It was anticipated that strong associations would be found between Occupational stress and the respective dimensions of Burnout, namely Personal-, Work- and Client Burnout. The results of the data analysis pertaining to the Work Burnout subscale (as a dimension of Burnout) confirmed that Work Burnout had the strongest relationship with Occupational Stress (as measured by the PSS; Cohen et. al., 1983). This relationship proved to be strongly significant suggesting that employees in the construction industry who experience high levels of Occupational stress and thus feel that they were not able to cope with all their responsibilities, would also experience a sense of emotional exhaustion and frustration due to their work. They may also experience their work as frustrating and tiring and consequently feel 'worn out' at the end of a working day, leaving them with insufficient energy for their family

and friends during leisure time. Similar strong results were found between Personal Burnout and Occupational stress. This means that employees in the construction industry who reported feeling nervous, stressed, and unable to deal with irritating hassles within their work environment, also reported experiencing feelings of tiredness, physical- and emotional exhaustion, being 'worn out', as well as feeling weak and susceptible to illness. Lastly, like the previous two subscales, the Client Burnout subscale and Occupational Stress also yielded a significant correlation. This indicates that employees in the construction industry who feel they were not 'on top of things lately' or unable to control important things in their life, will tend to find it hard, frustrating, tiring and draining to work with clients and will also find themselves contemplating the duration of which they will still be able to work with clients. Thus, employees in the construction industry who experience various stressors as a result of their work environment like heavy workload, high demands and low control over their jobs, role conflict, difficulties with interpersonal relationships due to the constant usage of work teams, interaction with people who lack the necessary social skills, hard and unforgiving industry and organisational culture, unsafe work environment and sometimes extreme external physical demands, will mostly likely develop Burnout in the long run.

These findings are in line with results of many studies on the relationship between Occupation stress and Burnout. For example, Milfont et al. (2007), conducted a study on a sample of 129 teachers from secondary schools. The results of their study corroborate closely with findings of this study. They reported correlations between Well-being (as measured by the Well-Being Index; WHO, 1998), which is a measurement of an individual's stress, and all three the respective dimensions of Burnout (as measured by the CBI; Kristensen et al., 2005) in a similar range as what was found in the current study. More specifically, well-being correlated with Personal Burnout ($r = -.66$, $n = 129$, $p < .001$); Work-related Burnout ($r = -.64$, $n = 129$, $p < .001$); and Student-related Burnout (in this specific sample the 'clients' were students) ($r = -.49$, $n = 129$, $p < .001$). In addition, the results of this study also corroborate with results of a study by Tsai and Chan (2009) on 211 judicial officers, comprising 87 judges and 98 procurators. They reported similar correlations between stress (measured by the Job content questionnaire, JCQ; Karasek, 1985; and the

Effort-Reward Imbalance Questionnaire, ERI Questionnaire; Siegrist & Peter, 1996) and Personal- as well as Work Burnout (as measured by the CBI; Kristensen et.al., 2005). Moreover, Tsai et al. (2010) further replicated these results in a sample of 180 lawyers.

5.2.2 Burnout and PsyCap

The data analyses yielded various significant relationships between Burnout and PsyCap, confirming previous research in this area (Salanova, 2004; Schaufeli & Bakker, 2001). Thus, this association suggests that organizations may be able to influence Burnout of their employees by increasing their adaptive resources through developing their personal resources of Hope, Optimism, Self-efficacy and Resilience, in appropriate training and development workshops.

All of the possible relationships to be found between these constructs were significant, with the exception of one of the anticipated correlations. It was anticipated that strong correlations would be found between PsyCap (total score) and all three dimensions of Burnout (Personal-, Work- and Client Burnout). The results revealed that PsyCap (total score) was significantly related to Personal Burnout ($r = .315, p < .01, n=202$), Work Burnout ($r = .387, p < .01, n=202$) and Client Burnout ($r = .258, p < .01, n=202$), thereby confirming this hypothesis. Hence, it could be argued that individuals with higher levels of PsyCap (the constructs of Hope, Optimism, Self-efficacy and Resilience combined) are likely to experience fewer feelings of emotional and physical exhaustion, tiredness and frustration in their every day work and in interactions with clients.

Moreover, the hypothesis regarding the relationships between the respective sub-dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience) and Personal, Work-, and Client Burnout were also confirmed by this study, as all of the expected relationships proved to be significant, with the exception of the correlation between Hope and Client Burnout ($r = .128, n=202, p > .01$). However, moderate relationships emerged between Hope and Personal- ($r = .240, n=202, p < .01$) and Work Burnout ($r = .274, n=202, p < .01$). This result may indicate that the belief that one can find pathways to desired goals and become motivated to use those pathways will not

necessarily, over time, be associated with the development of less Client Burnout. This may be due to the fact that Hope is not so much focused on the relational aspects of possible stressful client interactions. Hope, most probably, becomes more salient in overcoming obstacles related to task driven goals, not relational ones. This may be even more the case in the construction industry.

It is noteworthy that when the dimensional results between PsyCap and Burnout were inspected, the strongest correlation was found between Optimism and the Burnout dimensions, specifically between Optimism and Work Burnout ($r = .438, p < .01, n=202$). Thus, it can be argued that individuals who hold positive expectations and remain confident about the future, even when they are dealing with serious disturbances, will not be likely to experience their jobs as causing them feelings of emotional exhaustion, tiredness, frustration and Burnout. Optimists exhibit improved psychological wellbeing and better adjustment to stressful events. This phenomenon can be ascribed to the fact that Optimistic people are more achievement oriented in any task in their life, feel easy in taking decisions, and find better solutions in handling problems. They also generally believe that people and events are inherently good, so that most situations work out in the end for the best, which would lead to less Stress and thus less Burnout (Singh & Tewari, 2009). Optimism is also a pervasive disposition. Optimism may thus hold the most significant potential to prevent or decrease Burnout in individuals (as suggested by this result), as it predisposes a person, over a period of time, to experience positive emotions which would counteract the negative moods and emotions associated with Burnout (e.g. emotional exhaustion and frustration). This can be explained by the psychological resources theory (Hobfoll, 2002) and Fredrickson's (2001) broaden-and build theory of positive emotions. Frederickson and Joiner (2002) provide both theoretical and empirical evidence that positive emotions trigger "upward spirals" of broader thinking, functioning, and better well-being. She also confirms that these processes act in a synergistic way with each other and refer to it as the "broaden-and build theory" of positive emotions because positive emotions appear to broaden peoples' momentary thought-action repertoires and build their enduring personal resources. Thus, Optimism is proposed to also act in such an integrated, interactive, and broadening way (Luthans, Avolio et al., 2007; Luthans & Youssef, 2007; Luthans, Youssef et al.,

2007) counteracting the endearing negative emotions (and cognitions) associated with the development of Work Burnout over the long term.

The present research has continued to confirm the association between Burnout and Self Efficacy, and depicts that people with higher Self Efficacy report less Burnout. Correlations reported in this study ranged from .191 to .294. High self- efficacious people are more confident, assertive, have higher aspirations and strong commitment to the goals they choose to pursue, than low self-efficacious people. More importantly, previous research has shown that highly Self-efficacious people better manage and cope with the threats they experience and their subsequent stress than inefficacious people, as is suggested by the current result. This group (i.e. low Self Efficacy) more easily engage in distress which further impairs their level of functioning in stressful situations (Tong & Song, 2004). Although causality between these variables was not investigated in this research, previous research suggests that there exists a bi-directional relationship between Self Efficacy and Burnout. A possible causal interpretation is that low Self-efficacy may result in feelings of Burnout (Bandura, 1997; Skaalvik & Skaalvik, 2007) and Burnout results in lower performance. However, since Self-efficacy beliefs are heavily based on experiences, it is also reasonable to argue that Burnout may affect Self-efficacy. For example, low performance will lead to less positive performance feedback and appraisal which could in effect impact negatively on a person's Self-efficacy. Consequently, it has been argued that the relation between Self-efficacy and Burnout is reciprocal (Skaalvik & Skaalvik, 2010). A study by Schwarzer and Hallum (2008), however, determined that this reciprocal relationship is stronger from the one direction, namely from Self-efficacy to Burnout. They conducted a longitudinal study, with the sample in study 1 consisting of 1203 teachers, whilst study 2 included 458 teachers. They used a measurement instrument designed by Schwarzer, Schmitz and Daytner (1999) as well as the GSE (General self-efficacy questionnaire; Schwarzer & Jerusalem, 1995) to measure Self-efficacy and the MBI (Maslach et al., 1996) to measure Burnout. The cross-lagged panel analysis suggested that the path from earlier Self-efficacy to later Burnout ($r = .26$) was stronger than the one from earlier Burnout to later Self-efficacy ($r = .00$), indicating that a person's Self-efficacy would have a bigger influence on their perceived Burnout than Burnout on Self-efficacy. Thus, self-efficacious employees would perceive the objective demands of

daily work as being less threatening than those who harbour self-doubts about their professional performance. Successful adaptation to stressful demands, in turn, would prevent the emergence of job Burnout (Schwarzer & Hallum, 2008, Skaalvik & Skaalvik, 2007).

The last construct, Resilience, also obtained significant relationships with Personal- ($r = .229$), Work- ($r = .285$), and Client Burnout ($r = .264$), which is consistent with the literature. For less resilient individuals, the unpleasant experience of one stressful event tends to follow on the heels of another, thereby escalating subsequent Stress levels even higher (Ong et al., 2006) causing Burnout to occur sooner, than it would have within more resilient individuals.

5.2.3 Occupational Stress and PsyCap

Given the Burnout results, and the strong Occupational stress – Burnout relationship, it was also hypothesised that the level of Occupational stress an individual experiences will be lower, if the level of PsyCap of the individual is higher. When the correlations of the PsyCap total score and PsyCap subscales with Occupational stress were investigated, various associations were evident which more clearly elucidate the nature of the relationship between PsyCap and Occupational stress. The hypotheses were confirmed as moderate correlations (ranging from $-.388$ to $-.534$) were found between Occupational stress and PsyCap (total score) as well as between Occupational stress and Hope, Optimism, Self-efficacy and Resilience respectively. Individuals high on PsyCap have a positive psychological state of development which mean they have confidence to take on and put in the necessary effort to succeed at challenging tasks, they make a positive attribution about succeeding now, as well as in the future; they persevere towards goals, and when necessary, they can redirect their paths to their goals in order to achieve these goals and succeed. Moreover, when beset by problems and adversity they can bounce back, and even beyond their previous level of functioning, to attain success (Luthans, Youssef et al., 2007). Individuals with higher levels of these positive psychological states will, as a result, appraise their stressful environments in a more positive light (than individuals lower on PsyCap) and subsequently not report feeling

as nervous, stressed, and out of control, as opposed to their lower PsyCap counterparts.

This is in accordance with various previous studies. For example, in a study by Avey et al., (2009) across several industries it was found that a significant negative relationship ($r = -.35$, $n = 416$, $p < 0.001$) exists between the PsyCap (as measured by the PCQ-24; Luthans, Youssef et al., 2007) of employees and their perceived symptoms of job stress (DASS; Lovibond & Lovibond, 1995). The authors argued that this proves that today's employees need to draw from their untapped positive resources, such as psychological capital, to help them combat the dysfunctional effects of Stress – a view which is fully supported in and through this study.

Similar to the relationships reported between Burnout and PsyCap in the previous section, the weakest relationship emerged between Hope and Occupational stress ($r = -.388$, $n=202$, $p < 0.01$) and the strongest between Optimism and Occupational stress ($r = -.534$, $n=202$ $p < 0.01$). This pattern of results confirms research by Steed (2002) in his sample of undergraduate students. His findings suggested that a significant negative relationship exists between Hope (as measured by the HS; Snyder, Harris et al., 1991) and Occupational stress (measured by the PSS; Cohen et al., 1983) ($r = -.49$, $n = 347$, $p < 0.001$), as well as between Optimism (as measured by the LOT; Scheier & Carver; 1985) and Occupational stress ($r = -.58$, $n = 347$, $p < 0.001$), thus, with the strongest relationship emerging between Optimism and Occupational stress.

The significant relationship between Resilience and Occupational stress reported in this study can be ascribed to the fact that individuals low in Resilience tend to have difficulty regulating negative emotions (caused from stressors in their environment) and hence exhibit heightened reactivity to daily stressful life events (Ong et al., 2006). In addition, a growing number of studies suggest that individual differences in Resilience predict accelerated recovery from stressful situations. In a series of coordinated experimental and individual difference studies, Fredrickson and colleagues (Fredrickson et al., 2003) found that highly resilient individuals exhibited faster physiological and emotional recovery from stress. In one study (Tugade,

Frederickson & Barrett, 2004), higher trait Resilience was linked to quicker cardiovascular recovery following a laboratory stressor. In another study (Fredrickson et al., 2003), higher trait Resilience was associated with lower subsequent depressive symptoms. The available empirical evidence suggests that psychological Resilience is associated with resistance to and recovery from stressful life events (Ong et al., 2006).

One way in which positive psychological states (PsyCap) and their accompanying positive emotions may play a pivotal role in adaptation to Stress has been proposed by Zautra, Smith, Affleck and Tennen (2001) in their dynamic model of affect (DMA). In contrast to other models of Stress and coping, which view emotional adaptation entirely in terms of regulating psychological distress, the DMA takes into account both negative and positive emotions in the Stress process. The model predicts that under ordinary circumstances, positive and negative emotions are relatively independent whereas during stressful encounters an inverse correlation between positive and negative emotions increases sharply (Reich, Zautra & Davis, 2003). One implication of the DMA is that positive emotions are more likely to diminish negative emotions on days of elevated Stress. The model also predicts that a relative deficit in positive emotional experiences (a high probability for individuals lower on PsyCap) should leave individuals more vulnerable to the effects of Stress. Supportive evidence for the DMA comes from research demonstrating that during stressful periods, emotions are experienced along a single continuum in adults coping with chronic health conditions (Potter, Zautra & Reich, 2000; Zautra et al., 2001), laboratory manipulations of Stress (Zautra, Reich, Davis, Potter & Nicolson, 2000), as well as everyday life events (Ong & Bergeman, 2004; Zautra, Affleck, Tennen, Reich & Davis, 2005). Taken together, these prior investigations suggest that the experience of positive emotions amid challenge and adversity may contribute to Stress resistance, and hence adaptation, by interrupting the ongoing experience of negative emotions during times of Stress. Moreover, positive emotions build social resources and these social relationships (e.g. social support in the workplace) can become enduring resources that individuals can draw on in times of need (Frederickson, 1998), like, for example, in a stressful work environment.

Moreover, Fredrickson's (2001) broaden-and-build model of positive emotions raises the possibility that positive emotions are important facilitators of adaptive recovery, quieting or undoing the autonomic arousal generated by negative emotions. Thus, in addition to offsetting the immediate adverse consequences of Stress, positive emotions may also play an important role in the recovery processes. In several laboratory studies in which positive and negative emotions were experimentally induced, Fredrickson and colleagues (Fredrickson & Levenson, 1998) found that positive emotions were linked to faster cardiovascular recovery from negative emotional arousal. More recent investigations confirm the importance of positive emotions in fostering recovery from stressful life events (Fredrickson et al., 2003; Tugade & Fredrickson, 2004). Thus, it is argued that positive emotions, the frequency of which may be enhanced by high levels of positive psychological states like PsyCap, may have a protective and restorative function, guarding individuals from negative emotions, as well as quelling the after effects of such emotions (Ong et al., 2006) which may decrease the amount of perceived Occupational stress reported by individuals.

5.2.4 Hope, Optimism, Self-Efficacy and Resilience

The results of the data analyses pertaining to the four PsyCap sub-dimensions confirmed all of the stated hypotheses. Evidence for appropriate associations existed between all of the sub-dimensions (Hope, Optimism, Self-efficacy and Resilience) of this second order construct. This confirms the current international literature on PsyCap and provides much needed South African evidence that the individual sub-dimensions have sufficient discriminant and convergent validity within this different cultural setting. These results also provide evidence of the usefulness, as well as the reliability and validity, of the PCQ-24 in the South African context. However, given the limitations of the current sample (e.g. not representative of the ethnic group composition of the South African population, fairly industry and gender specific), further studies should aim to replicate the psychometric properties of the PCQ-24 in South Africa.

The moderate significant relationships which emerged between Hope, Optimism, Self-efficacy and Resilience (correlations ranged between .518 and .624) is an

indication that individuals who have a high level of either one (or more) of the four constructs included in PsyCap, is likely to also have a high level of the other PsyCap constructs as well. This is expected, as all of the constructs included in the second-order factor, PsyCap, are included in the wider categorization of the subjective level of Positive Psychology which is about positive subjective experiences of well-being and satisfaction, flow and constructive cognitions. Hope, Optimism, Self-efficacy and Resilience are all positive personal traits which positively contribute to one's emotional state.

A theory which explains this well is the 'Broaden and build theory' (Frederickson, 2001). As previously discussed, this theory states that positive emotions are durable and the experience of positive emotions increases one's personal resources, which can be drawn from in subsequent moments and in different (maybe difficult) emotional states. This will enable individuals with positive emotions to better cope with possible difficult circumstances the future holds, which will lead to better outcomes for them and thus also increase their personal resources. This theory also proposes that positive emotions function as efficient antidotes for the lingering effects of negative emotions. In other words, positive emotions might 'correct' or 'undo' the after effects of negative emotions (Fredrickson & Levenson 1998). The broaden function of positive emotions may also play a role. By broadening a person's momentary thought-action repertoire, a positive emotion may loosen the hold that a negative emotion has gained on that person's mind and body by dismantling or undoing the preparation for a specific action (Frederickson, 2004). Another aspect of this theory which could explain the significant relationships between the four PsyCap constructs is the fact that positive emotions fuel psychological resiliency. Evidence for the undo effect of positive emotions suggests that people might improve their psychological well-being, and perhaps also their physical health, by cultivating experiences of positive emotions at opportune moments to cope with negative emotions (Fredrickson, 2000). The association between resilience and positive emotions is supported by the network of correlates of resilience discovered across a range of self-report, observational and longitudinal studies. This converging evidence suggests that resilient people have optimistic, zestful and energetic approaches to life, are curious and open to new experiences,

and are characterized by high positive emotionality (Block & Kremen 1996; Klohnen 1996). Although positive emotions are no doubt at times an outcome of resilient coping (Block & Kremen, 1996), other evidence suggests that resilient people may also use positive emotions to achieve their effective coping, indicating reciprocal causality. Thus, positive emotions (most likely an outcome when psychological resources like Hope, Optimism and Self-efficacy are engaged in situations) may increase resiliency. However, highly resilient people may also experience more positive emotions (like Hope, Optimism and Self-efficacy). On a practical level the sufficient evidence of the discriminant and convergent validity of the PsyCap sub-dimensions suggests that training interventions focused on a selection of these constructs (e.g. Self Efficacy), may indirectly benefit and enhance the other PsyCap constructs as well.

5.2.5 Burnout and Employee Engagement

It was anticipated that Employee Engagement (Vigour, Dedication and Absorption) would be significantly related to Burnout (Personal, Work and Client). Previous research has yielded significant relationships between these constructs (Schaufeli et al., 2009; Schaufeli et al., 2002; Schaufeli et al., 2008) and the results of this study confirmed this notion. This result suggests that those individuals in the construction industry with a higher sense of drive, innovation and passion towards their work and the organization are more likely to experience less Personal-, Work-, and Client Burnout, than their lower Engagement counterparts.

On the dimensional level, the most support emerged for the relationships between Vigour and the three dimensions of Burnout, followed by Dedication and the three dimensions of Burnout. However, contrary to what was expected, Absorption did not yield a significant relationship with Personal-, Work- or Client burnout. This is in line with previous other studies that also reported Absorption to have the weakest, or no relationship with Burnout (Schaufeli et al., 2009). This could be partly due to the lower Cronbach alpha yielded by Absorption in this study ($\alpha = .681$). Another explanation for this may be rooted within the conceptualization of the two constructs (i.e. Burnout and Engagement) by Schaufeli et al. (2002). These authors considered Burnout and Engagement to be opposites, two prototypes of employee well-being

that are part of a more comprehensive taxonomy constituted by the two independent dimensions of pleasure and activation (Watson & Tellegen, 1985). Activation ranges from exhaustion to Vigour, while identification ranges from cynicism to Dedication. According to this framework, Burnout is characterised by a combination of exhaustion (low activation) and cynicism (low identification), whereas engagement is characterised by Vigour (high activation) and Dedication (high identification). Hence, in this theory Absorption does not have the same stance as Vigour and Dedication, which could provide an explanation of the pattern of non-correlations between this Engagement dimension and Burnout.

5.2.6 Occupational Stress and Employee Engagement

It was anticipated that strong correlations would be found between Occupational stress and the sub-dimensions of Employee Engagement (Vigour, Dedication and Absorption). These expected correlations only partly realized in this study, as only two of the three anticipated correlations were significant. The relationships between Occupational stress and Vigour as well as Occupational stress and Dedication were significant, indicating that the Occupational stress perceived by an individual will negatively impact on their ability to show high levels of energy, zest and stamina when working. It will also be associated with a lower appraisal regarding their ability to derive a sense of significance, enthusiasm, pride, inspiration and challenge from work. However, no significant relationship emerged between Occupational stress and Absorption. These results confirm previous literature by Schaufeli et al. (2008) among managers in Netherlands, as they too found significant negative relationships between Occupational stress and Vigour and Dedication, but not between Occupational stress and Absorption. In another study by Mauno et al. (2007) Absorption also yielded the weakest relationships with Stress.

Researchers have pointed out that Vigour and Dedication comprise the core dimensions of Work Engagement, whereas Absorption closely resembles the construct of flow¹³ and is somewhat different and a less often experienced phenomenon compared to the other two Engagement dimensions (González-Roma,

¹³ Flow is defined as state of mind in which people are so intensively involved in an activity that nothing else seems to matter. The experience itself (of the activity) is so enjoyable that an individual will do it even at great cost, purely for the sake doing it (Csikszentmihalyi, 1990).

Schaufeli, Bakker & Lloret, 2006). Thus, it is not a surprise that in many recent studies on Work Engagement the focus has been on these two core dimensions (Vigour and Dedication), whereas Absorption has been excluded. Mauno et al. (2007) also reported that Vigour and Dedication have similar antecedents. Hence, one would expect a similar pattern of associations between these two Engagement dimensions and Stress, for example, rather than between Stress and Absorption. To this end, some researchers have even questioned whether Absorption should be included in the UWES scale at all (e.g. González-Roma et al., 2006). Both Vigour and Dedication resemble previously developed motivational concepts. Vigour shares a conceptual similarity, for example, rather with intrinsic motivation (Deci & Ryan, 1985), whereas Dedication conceptually overlaps with the construct of job involvement (Brown, 1996; Lee, Carswell & Allen, 2000). In the light of this argument, Absorption seems to be a dimension which might have unique value in researching motivational experiences in work life.

5.2.7 Regression: PsyCap and Employee Engagement

Regression analyses were performed to determine which of the dimensions of PsyCap (Hope, Optimism, Self-efficacy and Resilience), predicted variance in the three dimensions of Employee Engagement (Vigour, Dedication and Absorption). On a practical level, the results of the regression analyses would provide insight into which PsyCap construct(s), Hope, Optimism, Self-efficacy or Resilience, may be the best construct(s) to focus on in developmental interventions, in order to maximize the output and increase employee Engagement levels. With limited time and resources, as is often the case in companies, it will be likely that organizations may not be able to invest in developing all four of these constructs simultaneously. Thus, by determining which construct will have the optimal influence on Engagement, it may help an organisation to maximize developmental inputs and receive maximum returns in terms of Employee Engagement.

The results provided support for the predictive value of PsyCap in Engagement, as 42% of the variance in Vigour was explained by the first regression model. However, only Optimism and Self-efficacy emerged as significant predictors of Vigour. This suggests that individuals who hold positive expectations about the future, even when

they are dealing with difficult/serious circumstances (Optimists) will be likely to persevere when problems arise (Vigour). Moreover, individuals with high levels of Self-efficacy is characterised to be motivated and willing to invest the necessary effort to accomplish their goals. This seems to be predictive of the willingness one would have to invest effort in one's work (Vigour). However, it is interesting that Resilience did not emerge as a unique predictor of Vigour. Resilience and Vigour both refer to persistence when faced with difficulties and Vigour have also been described as having mental resilience while working (Schaufeli et al., 2002). In the second analysis Optimism, Hope, and Self-efficacy, emerged as significant predictors of Dedication (42% of the variance was explained). Dedication occurs when an employee is strongly involved in their work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. It would seem that the fact that Self-efficacious people thrive on challenges, the motivational component embedded in the Hope definition, and positive emotions associated with Optimism (which may feed into enthusiasm, inspiration and pride), may all be drivers of Dedication. In the last analysis only Optimism emerged as a significant predictor of Absorption (19% variance). An optimistic attribution style impacts on the perception processes and interpretations of an individual. This optimistic outlook of the person will determine how they view and interpret events, which influence their behaviour, like being fully concentrated and happily engrossed in their work (Absorption).

Overall, the results clearly indicated the important role of Optimism in Employee Engagement, as Optimism emerged as a significant predictor for all three Engagement dimension. This suggests that Optimism may be a central determinant of successful Employee Engagement. This implies that organisations will best increase the Engagement of their employees by interventions which focus on developing, first and foremost, the Optimism levels of their workforce.

These findings support those of Xanthopoulou et al. (2007a) where they also found strong causal paths between Optimism and Self-efficacy, respectively, and Engagement. It would thus appear from the findings of Xanthopoulou et al., (2007a) and the results which emerged in the present study, that it is especially people who hold positive expectations and remain confident about the future, even when they

are dealing with serious disturbances, as well as those who believe they have the ability to mobilize the motivation, cognitive resources or courses of action needed to successfully execute a specific task, that would cause an individual to engage in their work. Similar findings were also obtained by Bakker, Gierveld and Van Rijswijk (as cited in Bakker, 2007), whilst a study by Roux (2010) reported evidence of the predictive value of Self-efficacy in Engagement. He found that Self-efficacy has a rather strong influence on Engagement. This confirms the conceptual relationship between Self-efficacy and Work Engagement. Studies have shown that the higher a person's Self-efficacy, the more likely she or he will be to initiate tasks, sustain effort toward task accomplishment, and persist when problems are encountered or even in the face of failure (Bandura, 1997; Stajkovic & Luthans, 1998). Luthans and Peterson (2002) have proposed that there is a unique interrelationship between a managers' Self-efficacy and their employees' Engagement levels. They argue that as the manager observes the employees becoming more engaged (cognitively and / or emotionally) in their work, he/she acquires confidence and a belief in her / his abilities to create and build an engaged team or group successfully. This underscores the argument by Bandura (1997) that vicarious experiences are known to increase Self-efficacy. In addition, the engaged team led by an efficacious manager probably results in desired unit/organizational outcomes. A similar explanation could be applied to an individual employee's Self-efficacy in relation to their Work Engagement.

Several studies have highlighted the effects of positive emotions, for example Optimism, on several aspects that could contribute to the presence of Employee Engagement. For example, Derryberry and Tucker (1994) have proposed that positive emotions, even high-arousal positive emotions such as elation and mania, lead to an expansion of attention focus which in effect could impact on an employee's mental resilience (Vigour) and concentration (Absorption) while working. Secondly, Isen's (1987, p. 22) research suggest that positive affect "gives rise to an enlarged cognitive context" and provides empirical support for the claim that positive emotions broaden the scope of cognition, which can include the ability to make better decisions and come up with better solutions to problems under pressure and in a short amount of time. This broadened cognition can increase the feeling of

challenge derived from work (i.e. increased Dedication). Findings by Isen, Johnson, Mertz and Robinson (1985) provided proof for this notion. Thirdly, they also found that positive affect influences creative thinking which can cause individuals to derive inspiration and enthusiasm (i.e. Dedication) from their work and increase their Engagement. Fourthly, other studies show that positive emotions also broadens the scope of thinking, which can be taken as indirect evidence that positive affect will also broaden the scope of action and could possibly impact positively on the energy levels and zest (Vigour) of an employee. Lastly, experimental studies provide support for the claim that positive emotions build intellectual resources through enhanced learning and performance (Masters, Barden & Ford, 1979) which may lead to the experience of a sense of significance and enthusiasm (Dedication) and being happily engrossed in one's work (Absorption). All of the above mentioned research supports the notion that positive emotions (associated with Optimism) may enable an employee to be more engaged in their job.

In conclusion, the knowledge regarding the differential prediction value of the various PsyCap dimensions on Engagement (especially Vigour and Dedication), could be employed in selection, to better match job applicants to potential jobs. Furthermore, given the research evidence that the PsyCap sub-dimensions are malleable (Luthans et al., 2008) organizations would benefit from designing and implementing training programs, targeted at developing PsyCap of employees in order to increase their Engagement.

5.3 PSYCAP AS A MODERATOR

One of the objectives of this study was to investigate whether the relationship between Occupational stress and the dimensions of Burnout was moderated by PsyCap. It was argued that if evidence of this moderator effect emerged, the development of the PsyCap levels may serve a dual purpose. It would not only lead to the increase of Engagement levels (as discussed above) but it would also prevent/decrease the development of Burnout, when Occupational Stress is being experienced. This argument is based on the findings by Spector (2003) who proposed that individual differences play a role in the experience of Occupational stress and the development of Burnout. Davis et al. (2004) also reported that a

person's personal competencies and resources play a very important role in how they react to stressors and demands in the workplace. Hence it was argued that this is where a person's Hope, Optimism, Self-efficacy and Resilience can impact on their perception and reaction to their stressful environments. Thus, given the unavoidable nature of Occupational stress in the workplace, and if evidence of the 'buffering' effect of PsyCap was found, organisations can safely invest in increasing the Hope, Optimism, Self-efficacy and Resilience of their employees in order to safeguard and decrease the development of Burnout among their workforce. Over the long term this will ultimately increase work performance and benefit the organisation as a whole.

The results revealed that the moderating effect of PsyCap was found to be significant in the Occupational stress, Work Burnout relationship. Furthermore, although the interaction effect (i.e. PsyCap as a moderator) was not statistically significant in the Occupational stress, Personal Burnout relationship, a similar trend (than the results for Work Burnout) was evident. This implies that when individuals experience higher levels of Occupational stress, PsyCap could act as a buffer in preventing the development of Burnout (Personal- and Work Burnout).

These results are in accordance with the theory of Ong et al. (2006) which states that positive emotions (most likely an outcome when psychological resources like Hope, Optimism and Self-efficacy are engaged in situations) may have a restorative function and limit and shorten the after effects of stressful situations experienced by individual's. This would decrease the amount of Burnout they develop (known to be caused by enduring stress). Thus, although Occupational stress is an inevitable part of work life, employees with higher levels of PsyCap will not as easily develop Burnout as the result of their experienced Occupational stress, than their lower PsyCap counterparts. There are several specific stressors in the construction industry where the development of Hope, Optimism, Self-efficacy and Resilience of the employees would benefit the individual and the organization in that it will decrease the occurrence of the development of Burnout. One example of a prominent stressor is workload. Increasing the PsyCap levels of construction employees may assist them in better dealing with times of heavy workload. For

example, it could enable them to remain optimistic and hopeful about the future, help them to believe in their abilities and persevere in the difficult times, when they are overwhelmed by the amount of work. Higher PsyCap also leads to Engagement which means that employees may experience more energy, stamina and persistence in their work. This may also assist them in coping with heavy workloads in high stress environments. Another important stressor which could lead to Burnout in the construction industry is interpersonal relationships. Due to the importance of work teams in the day-to-day operations of the construction industry this stressor can easily cause Burnout. By improving the PsyCap of employees increased positive emotions may enhance interpersonal relationships, creating a positive team environment, better teamwork and social support structures, preventing Burnout in the long run.

5.4 LIMITATIONS OF THIS STUDY

Like any research, this study has several limitations (primarily related to the research design) which may have affected the results. A number of these limitations should be mentioned.

The first limitation of this study was that the data was collected with self-report measurement instruments. Although this way of collecting data is being used very often in social sciences research, it is generally criticized for a few reasons (Babbie & Mouton, 2001). The first problem is the problem of common method variance in that the inferences made by the researcher (as to correlation and causal relationships between the variables in question) may be artificially inflated. Another debatable aspect of this way of data collection is that, secondly, self report data can be prone to response biases from the respondents. This, however, should be acknowledged and understood when the results are being interpreted (Donaldson & Gran-Vallone, 2002).

Social desirable responding is one of the response biases that influence the results of studies which make use of self report measures and could have also influenced the results in this study. This occurs when respondents create a more favourable impression of themselves by over-reporting admirable attitudes and behaviours, and

under-report attitudes and behaviours that they feel are not socially acceptable or respected (Zammuner & Galli, 2005). Social desirable responding is an even bigger concern when studies, like this one, only consist of self-report measures. Hence, when the results are being interpreted it should be kept in mind that there are limitations due to the data collection method. However, the assessment of individual Burnout and Occupational stress by peers, subordinates and supervisors or managers has been proven to not be as accurate as self-reported measures (Offermann & Hellmann, 1996). Several reasons may account for why managers or supervisors could be unaware of possible Stress / Burnout of their sub-ordinates. For example, it can be that supervisors and managers have a higher Stress tolerance and thus expect all of their sub-ordinates to also have the ability and resources to be able to cope with the same amount of Stress / subsequent Burnout. Sub-ordinates may also hide their experiences of Stress / Burnout because they are afraid their manager, supervisor or fellow employees might see them as weak. They might even fear that this can influence their credibility or reputation, as well as possible promotions which might come their way (Offermann & Hellmann, 1996). This is one argument favouring the usage of self-reported measurements in this study. The other reason for making use of this type of data collection is that Occupational stress and Burnout are subjective constructs. The main theory and definition used in this study for Stress is one in which Stress is described to be dependent on a person's perception and the individual's subjective attribution of stressors and demands from their environment. This is also the assumption of the PSS and thus, it would make sense to measure these constructs by using self-reported measures in order to get more insight in the perceived levels of Stress/Burnout of employees in the construction industry.

Secondly, another limitation of this study was the fact that it was found that the wording of the items of the PSS caused the instrument to have an underlying method factor embedded in the factor structure of the instrument. The positive worded items loaded on the positive method factor, and the negatively worded items loaded on the negative method factor. When the method factor was taken into consideration in the CFA, the PSS showed good model fit. However, without this investigation it would have been concluded that the instrument exhibited unsatisfactory validity in the

current sample, and any further analysis with the data of the PSS would have to have been aborted. This is line with research by Ekermans (2009) where it was reported that bilingualism of respondents (as is also the case in this sample) distort the factor structures of instruments by causing method bias in the data derived from these instruments (i.e. method factors emerge). The sample used in this study is made up of a variety of respondents with different first language preferences. The research questionnaire, consisting of the four respective measurement instruments, was distributed only in English. This might have influenced the responses by participants who have English as their second or third language. Future studies using the PSS in the South African context should investigate the hypothesis that the negatively worded items of this instrument can possibly distort the factor structure of the instrument.

Thirdly, another limitation of the study is that of confounding variables. With specific reference to Burnout, the researcher does not always have control over the environment in which the respondents are employed or the additional home / family stress that they could be exposed to and that could likely “spill over” into their work life. The possible influence of situational and time specific variables to which the respondent is exposed at the time of assessment could also have been considered, for example, unstable home and familial relationships, job insecurity, financial insecurity, extent of social support and personality traits. It is thus crucial that these factors be built into future research projects to isolate the variables investigated, in the hope that more meaningful insights will be gained into the relationships between them.

In addition, convenience sampling was used in this study, which limits the generalisation of the results. A last limitation is that it is likely that those individuals who experience high stress levels at work or who perceive Burnout as a sensitive issue (i.e. that their company is not properly addressing the Burnout problem), may have decided not to partake in this study and declined to complete the questionnaires. This may also influence the utility of the research results.

5.5 RECOMMENDATIONS FOR FUTURE RESEARCH

The correlation coefficients indicated significant relationships between the constructs of Burnout, Employee Engagement, Occupational stress and PsyCap, which led to the confirmation of most of the hypotheses. It is therefore possible that those relationships may hold true for future studies using a larger sample, in different occupations and industries (specifically within South Africa), conducted with different measurement instruments for these constructs. However, replication of the results needs to be pursued in further research. More studies using the CBI to measure the construct of Burnout would also extend the validity and reliability of this instrument as a prominent Burnout measure, available in the public domain for research purposes.

The sample size in this research study was fairly large, however it would be very useful if even larger samples can be used in future research. Due to the importance of sample size in the generalisation of the results of research studies, it would be beneficial if a more ethnic diverse sample could be used in future studies. In such a more diverse sample, the researcher would also have to determine the validity and reliability of the measurement instruments, as there might be cultural differences in the manifestation of the measured constructs. The current sample was dominated by a large pool of White, male, Afrikaans speaking respondents. A more ethnic diverse sample would provide results which are more representative of the current South African demographics.

In future research the current European and American knowledge base regarding Positive Psychology and thus PsyCap, should be extended to the African environment in order to obtain empirical evidence for the utility of this approach (and its related constructs) in South Africa. I/O Psychology in South Africa could benefit immensely from studies that focus on PsyCap within the unique South African organisational environment. Studies on the development of PsyCap as well as the related outcomes for individuals and organisations should also be pursued. This can provide further evidence of the state-like nature of PsyCap in South Africa and possibly underscore the usefulness of improving PsyCap levels in the organisational setting. Such research will promote the scientific legitimacy of Positive Psychology and PsyCap phenomenon, as some critiques (e.g. Ruark, 2009) is of the opinion that

the publicity around this 'new psychology' is far exceeding the research evidence of it.

The above discussion evidently stresses the need for continued research in this domain. From the literature review it became evident that exploring the identified constructs requires rigorous quantitative research, in order to further this knowledge domain within the organisational sciences, specifically within the South African context.

5.6 CONCLUSION

The overall aim of this study was to empirically examine the relationships between Burnout, Employee Engagement, Occupational stress and PsyCap. It was also proposed that PsyCap possibly acts as a moderator in the Occupational stress, Burnout relationship.

The results of this study provide evidence that increased Occupational stress is associated with increased Burnout and decreased Employee Engagement. Individuals experiencing continuous Occupational stress will likely develop Burnout in the long run and will find it difficult to be engaged in their work. Both Stress and Burnout are known to result in lower job performance and overall health and well-being of an individual, which impact negatively on the organisation as a whole.

The current research sought to examine the respective relationships between PsyCap and Occupational stress and Burnout. The results indicated that significant associations exist between Occupational stress and PsyCap (total score) as well as between Occupational stress and Hope, Optimism, Self-efficacy and Resilience, respectively. Similarly, significant relationships also emerged between Burnout and PsyCap (total score) as well as between Burnout and Hope, Optimism, Self-efficacy and Resilience, respectively. Thus, this study suggests that, although Stress in the work environment is inevitable, positive personal resources like Hope, Optimism, Self-efficacy and Resilience may increase adaptive capabilities in stressful situations. This may in turn decrease the negative consequences the Occupational Stress can cause an individual, and in effect, the organisation as a whole.

In addition, the role of PsyCap as moderator in the Occupational stress, Burnout relationship was explored and partially / fully confirmed. Stress is part of work life; however it does not necessarily imply that all employees will be affected negatively by all the external stressors they are constantly exposed to. Being Optimistic, Hopeful, believing in oneself and persisting in the face of difficulty, can buffer the development of Burnout, when employees are exposed to Stress over a long period of time.

Lastly, the predictive role of PsyCap (Hope, Optimism, Self-efficacy and Resilience) in Employee Engagement (Vigour, Dedication and Absorption) was investigated. It was found that certain PsyCap sub-dimensions (e.g. Optimism and Self-efficacy) can strongly predict variance in Vigour and Dedication. It would seem that higher levels of PsyCap, specifically Optimism and Self-efficacy, can enhance the overall engagement of an individual in their job which could hold in a whole range of positive outcomes for the individual, as well as the organisation.

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APPENDICES

Appendix 1: Research Questionnaire distributed to participants

October 2010

Dear Participant,

EMPLOYEE BEHAVIOR IN ORGANIZATIONS

Request to complete the attached questionnaire

Thank you for considering taking part in this study about employee behavior in organizations. The attached questionnaire form part of research undertaken for a Master's degree in Industrial Psychology at the University of Stellenbosch. The overall purpose of this questionnaire is to understand how certain characteristics of people influence their health and well-being.

This research is not directed at you personally, or at your specific department or team. Our aim is to use your organisation, and all its employees, as a sample in which each employee will be given the same questionnaire for research purposes.

Your participation is completely **voluntary**. You can decide for yourself whether you will participate by choosing to respond to this request by completing the attached questionnaire. All responses will be treated with anonymity and will only be used for the research purposes of this project. Your individual results will not be made public or be provided to your organization and nobody will be disadvantaged in any form for taking part in this research. **Confidentiality** and **anonymity** is priority and will be honored in this manner.

The attached questionnaire consists of 2 sections. Please respond to all the questions in all the sections. Choose the relevant option to each item and indicate your answer in the applicable manner. There are no right and wrong answers to any of the questions; we are only interested in **your personal opinion**.

In order to gain optimum results from this study, you are earnestly requested to be objective and present your honest and true feelings in answering the questionnaire.

Please answer **ALL** the questions of each questionnaire. The questionnaire should take approximately **20 minutes** to complete.

INFORMED CONSENT

Before you continue please read and sign the following statement of voluntary consent.

1. Confidentiality

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of password controlled access to the data that will be restricted to the researchers (Dr. Gina Görgens-Ekermans, 021 8083596 / ekermans@sun.ac.za & Marthine Herbert, 072 214 2759 / 14813726@sun.ac.za) only. The questionnaires will be stored in a secured locked cabinet, and will be kept for until the research has been completed after which it will be destroyed in an appropriate manner.

2. Participation and Withdrawal

You can choose whether to participate in this study or not. If you agree to participate in this study, you may withdraw at any time without consequences of any kind.

3. Identification of Investigators

If you have any questions or concerns about the research, please contact any one of the researchers (Dr. Gina Görgens-Ekermans at ekermans@sun.ac.za / 021 8083596 or Marthine Herbert at 14813726@sun.ac.za / 072 214 2759).

4. Procedures

If you volunteer to participate in this study, we would ask you to do the following things:

4.1 Receipt of questionnaire

The researcher will be provided with a list of the names and e-mail addresses of all the employees in the organization with access to e-mail by the company. The questionnaire will be distributed to these participants via e-mail. The researcher will also be provided with a list of names and contact details of site managers in and around the Cape Town. A time for the completion of the questionnaire by these participants, without e-mail access, on their specific sites will be arranged with the site agents. These participants will receive a hard copy of the questionnaire, as handed out by the researcher, on their various sites.

4.2 Completion of questionnaire

The participants are required to complete the questionnaires individually. There are no right and wrong answers. After completion, the participants must return the questionnaire to the researcher.

4.3 Questionnaire collection

The participants who received the questionnaire via e-mail can return their completed questionnaire via **e-mail (14813726@sun.ac.za)**, **fax (021 8531938)**, or **post (P.O. Box 916, Strand, 7140)** to these relevant addresses. The participants, who completed the questionnaires in the form of hard copies on the various sites, can hand it back to the researcher after completion.

Please note that by returning your questionnaire via e-mail, you are giving up your anonymity because the researcher will be able to identify the address of the returned questionnaire.

However, the researcher will immediately print out all questionnaires returned via e-mail, followed by deletion of the e-mail as well as electronic version of the returned questionnaires. By doing this, all possible evidence linking a completed questionnaire to a specific individual respondent will be destroyed and the questionnaire will be added to the rest of the received questionnaires.

5. Rights of research respondent

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

CONSENT FORM (please mark the appropriate box below with an 'X')

I agree to take part in this study by completing this assessment and that my data could be integrated into a summary of the results of all the questionnaires without identifying me personally.

I wish to not participate in this study.