

The relationship between psychological capital, eudaimonic well-being and work engagement

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ABSTRACT

Orientation: The struggle for survival in the mining industry is intense and a competitive advantage can be obtained by having employees who are engaged in their work.

Research purpose: To conceptualise the relationship between PsyCap, eudaimonic well-being and work engagement and to determine the predictive nature of PsyCap and eudaimonic well-being in terms of work engagement.

Motivation for the study: Organisations with more highly-engaged employees for every actively disengaged employee than their competitors, experienced higher earnings per share. Companies who can increase the level of work engagement may experience an increase in profit due to an increase in employee output.

Research design, approach and method: A quantitative, cross-sectional approach was employed. The convenience sample (n=339) included males and females, with different levels of education and tenure. Exploratory factor analyses and calculation of Cronbach's alpha were used for validity and reliability testing. Coefficient correlations were used to assess relationships. Regression analyses were used to determine the predictability of PsyCap and eudaimonic well-being on work engagement.

Main findings: There is a positive relationship between PsyCap, eudaimonic well-being and work engagement. PsyCap was found to be a strong predictor of work engagement. Eudaimonic well-being was not a predictor of work engagement.

Practical/managerial implications: The study highlights the relationship between PsyCap, eudaimonic well-being and work engagement. The importance of PsyCap as a predictive tool of work engagement was underlined, PsyCap being open for development and enhancement, thus creating opportunities for management to improve the PsyCap levels which will result in increased levels of work engagement.

Contribution/value-add: The study confirmed the predictive nature of PsyCap and provided increased knowledge regarding the relationship between eudaimonic well-being and work engagement. The business environment world-wide face enormous challenges

with regards to disengaged employees. Organisations can increase profits by investing in PsyCap to increase work engagement amongst employees.

KEY TERMS: Positive psychology; positive organisational behaviour; psychological capital; eudaimonic well-being; work engagement; hope; resilience; efficacy; optimism

LIST OF ABBREVIATIONS AND STATISTICAL SYMBOLS

HFC: Hernic Ferrochrome (Pty) Ltd

POB: Positive Organizational Behaviour

EWB: Eudaimonic well-being

PCQ: PsyCap Questionnaire

QEWB: Questionnaire for Eudaimonic Well-Being

UWES: Utrecht Work Engagement Scale

SWB: Subjective well-being

IOM: Inspector of Mines

SSPS: Statistical Package for the Social Sciences

PCI: PsyCap Intervention

α : Cronbach's alpha

KMO: Kaiser-Meyer-Olkin measure of sampling adequacy

S: Spearman's correlation coefficient (S)

P: Pearson's correlation coefficient

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CHAPTER 1: INTRODUCTION AND ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Organisations should not only be able to survive under difficult economic conditions but should be able to thrive when opportunities arise. This study focused on the potential competitive advantage that employees can bring to Hernic Ferrochrome (Pty) Ltd (HFC). HFC is one of the world's largest integrated ferrochrome producers and is based in the North West Province, South Africa, which forms part one of the world's largest chrome ore deposits, known as the western limb of the Bushveld Complex. Hernic operates four electric arc furnaces, including the largest ferrochrome furnace in the Southern Hemisphere. This study adopted a Positive Organizational Behaviour (POB) perspective by specifically exploring the relationship among psychological capital, eudaimonic well-being and work engagement.

Chapter 1 outlines the background of the study, the problem statement, the objectives and the scope of the study. The planned research methodology to fulfil the objectives is explained in this chapter. The chapter proceeds to give an overview of the research methodology that was followed to fulfil the objectives of the study. The limitations and significance of the study are considered in this chapter which concludes with an overview of the study structure.

1.1.1 Background

HFC is part of the global village where globalisation has brought growth in international trade but also the risk of losing customers (Sengül *et al.*, 2015:57). Competitors may acquire the right technology to produce Ferrochrome (FeCr) at similar prices without experiencing major obstacles to reach HFC's current customers. Luthans and Youssef (2004:144) posit that physical resources such as systems and procedures can be replicated through benchmarking. This may happen through networking which is aided by the internet and employees moving from one company to another. The mining industry has three major factors which may determine the success of operations, namely raw-materials, technology and employees. Raw material cannot be altered and the technology used can be replicated by competitors. Human capital investment, on the other hand, may be developed into a competitive advantage. The advantage may be realised not by

knowledge alone but by having positively oriented employees. One way to strengthen competitive advantage through human capital investment is by adopting a POB perspective. Survival is intense during market downturns and leaders need to build on the strengths of employees through appreciation without trying to only fix weaknesses (Fineman cited by Luthans & Youssef, 2007:322). This does not mean that the employer must turn a blind eye to poor work performers. False hope, over-confidence and unrealistic optimism can lead to failure, since it may lead to a benevolent view of poor-performing individuals being tolerated (Vancouver, Thomson, Tischner and Putka; Vancouver, Thomson and Williams; Peterson; Luthans, Youssef, et al., 2007a cited by Luthans & Youssef, 2007:322).

A company may lose its competitiveness by not holding on to employees who are driving the company's culture. Luthans and Youssef (2004:146) explain that explicit knowledge can be acquired through education or by appointing new employees with the required skills. Tangible knowledge becomes part of the company's culture over time and once the employee leaves the company, the investment in human capital is lost (Luthans & Youssef, 2004:146). In the next few paragraphs, a few human capital related factors that are closely related to optimal individual work performance will be discussed as a preamble to the problem statement

Sy and Choi (2013:133) posit that positive emotions of leaders pass through to groups within the organisation. Leaders can take advantage of these positive moods to increase productivity although too much positivity might lead to complacency as opposed to aggressiveness or inactivity from a negative work force (Sy & Choi, 2013:138). Leaders and employees have a responsibility to all stakeholders to find ways to prevent complacency, aggressiveness or inactivity ensuring competitiveness. Organisations can enhance their competitive advantages through the development and investment in positive psychological capital (Luthans *et al.*, 2007b:3). Psychological capital or simply PsyCap forms its roots in POB. PsyCap consists of hope, efficacy, resilience and optimism (Luthans *et al.*, 2007b:3). The four individual components measure performance and job satisfaction (Luthans *et al.*, 2007a). Each of the components includes unique cognitive and motivational factors which are exacerbated when combined (Luthans *et al.*, 2007a).

Persons with high self-efficacy have the belief that they can influence their surroundings to be successful; by being motivated and by having clear role perceptions (Mcshane & Von Glinow, 2015:68). Self-directed employees do not need to be pushed, instead they have the ability to pull an organisation through difficult times and have the frame of mind to take advantage of opportunities. Employees with low self-efficacy set lower goals for themselves, since they do not believe they can achieve difficult goals (Malik, 2013:1). Employees with low self-efficacy are normally the ones who use words like 'impossible' or 'can't be done', and then it becomes reality, causing organisations to stagnate and eventually go bankrupt.

Optimism has a positive impact on physical and psychological health, which leads to success. Pessimism, on the other hand, may lead to depression and mortality (Malik, 2013:2). Optimistic workers set stretch goals and regard setbacks as temporary, without seeing themselves as failures during difficult periods at work (Malik, 2013:2). Optimism is an important trait in the heavy chrome-smelting industry, where the goal posts are continually being moved to produce at lower cost. Breakdowns (setbacks) do occur from time to time and it is important to remain optimistic in order to be ready to pounce on opportunities even during difficult times in order to stay competitive.

Individuals with high hope tend to demonstrate more adaptive coping methods, are less inclined to give up and are able to devise alternative pathways to achieve their goals (Heyns & Badenhorst, 2015:16). These employees give a competitive advantage to organisations in that they do not want to be micro-managed in achieving difficult goals (Heyns & Badenhorst, 2015:16). With hope, an individual can turn things around in tough situations. A person who lacks hope might decide to leave his current work environment for something he perceives to be better or easy to pursue.

People who score high in resilience make use of positive emotions to undo the effect of negative emotional experiences by showing faster cardiovascular recovery than people who scored low in resilience (Fredrickson, 2013:16). The broaden build theory explains that people need to have a balance between positive and negative emotions. Positive emotions help to build a person's ability for survival where negative emotions carry adaptive emotions like fleeing or fighting which has always been part of the human instinct to stay alive (Fredrickson, 2013:17). Longer term adaptive importance for human

ancestors are being carried over time by the human race through positive emotions inculcated by discovering new knowledge or skills (Fredrickson, 2013:17). A long-term adaptive capability means not missing opportunities when they arrive, but by being resilient through difficult times and profitable driven during good times.

A closely related aspect that impacts on performance concerns the emotional state and particularly the emotional well-being of employees. Negative emotional actions are required during life-threatening situations resulting in narrow quick decisions (Fredrickson, 2004:1369). In contrast, positive emotions have a complimentary effect on neutral and routine situations, broadening a person's thought action and increasing the collection of possible actions of persons (Fredrickson, 2004:1369). According to Tov and Chan (2012), employee well-being effects productivity and work relationships within organisations. By having satisfied and happy workers, trust among employees, compliance with work rules and regulations should be high (Tov & Chan, 2012). The field off well-being revolve around two distinct overlapping philosophies namely hedonism and eudemonism (Ryan & Deci, 2001:143). The hedonic perspective according to philosophers suggests that people need to pursue human appetites, sensation, pleasure and that society was built on individuals who attempted to maximise pleasure and self-interest (Ryan & Deci, 2001:143). Some pleasurable outcomes or subjective happiness are not good for individuals and would not promote well-being (Ryan & Deci, 2001:146). The objective qualities of eudemonia can be distinguished from subjective well-being (SWB) (Waterman *et al.*, 2010:42). Happiness (hedonia) is viewed as the end goal with respect to SWB; whereas the subjective experiences are by-products while pursuing intrinsic goals within the eudaimonic well-being (EWB) framework (Waterman *et al.*, 2010:42). The value activity itself is the motive for eudaimonic and not the accompanying subjective experience (Waterman *et al.*, 2010:43).

Durable psychological and social resources are being developed through EWB activities that, in turn, lead to more resilient and fulfilled employees (Steger *et al.*, 2008:38). People who engage in eudaimonic activities felt will feel that their lives have been more meaningful than people with low eudaimonic activities (Steger *et al.*, 2008:39). Through development programmes employees might be influenced as to which activities to spend their time on in order to enhance well-being (Tončić & Anić, 2014:14). Having employees

with positive characteristics, will contribute to innovation and productivity by having socially integrated employees (Tov & Chan, 2012).

Bakker and Schaufeli (2008:147) emphasise that employees play a major role in innovation, organisational performance and the ultimate success of a business (Bakker & Schaufeli, 2008:147). Work engagement is defined as positive employees with a sense of energy and connects with their work activities (Schaufeli *et al.*, 2002:73). Engaged employees perform better than non-engaged workers due to the positive emotions they experience. These emotions include happiness, joy and enthusiasm (Bakker & Demerouti, 2008:215). A study conducted by Gallup (2013) showed that South Africa had the highest level of actively disengaged employees amongst the 26 nations which were evaluated (Rothmann, 2017:317). According to Rothmann (2017:317), one factor contributing to this state is the destabilising labour unrest in the mining sector. Low levels of actively disengaged employees are a worldwide challenge where actively disengaged employees outnumber engaged employees 3 to 1. Organisations with higher engaged employees for every actively disengaged employee than their competitors experienced higher earnings per share. The financial loss to the United States economy due to actively disengaged employees amounted to \$550 billion per year; Germany up to \$186 billion, and the United Kingdom up to \$112 billion per year (Rothmann, 2017:317). These indications further underline the importance of developing a deeper understanding of factors that may help to strengthen work engagement amongst employees in the ferrochrome industry.

1.2 PROBLEM STATEMENT

As mentioned previously, organisations should not only be able to survive under difficult economic conditions but should also be able to thrive when opportunities arise. Globalisation levelled the playing fields amongst ferrochrome competitors which underlines the drive in having human capital that can contribute to the competitiveness of the organisation. Employees who are emotionally equipped to deal with pressure and disappointments and who are nevertheless able to maintain high levels of work engagement will contribute to the uniqueness and sustainability of the organisation.

A South African study by Du Plessis and Barkhuizen (2011:28) concluded that HR practitioners and managers embraced the core elements of POB as depicted in PsyCap

with employees in senior positions having higher levels of PsyCap than employees in lower positions. Managers through POB can successfully influence workplace change and also the transformation of social and economic realities which is very relevant to leaders within the South African context (Du Plessis & Barkhuizen, 2011:28).

Although companies see engagement as a competitive advantage, more employees are disengaged than engaged (Kular *et al.*, 2008:1). By being people-focused, improvements will be experienced in job satisfaction, productivity and the financial well-being of an organisation (Kular *et al.*, 2008:22). Bakker (2011:265) noted that the level of work engagement of an individual varies during a day.

The previous section highlighted the fact that PsyCap, which contains the components of hope, efficacy, resilience and optimism, has a positive influence on a person's general outlook on life. It is thus anticipated that an increase in PsyCap leads to higher levels of work engagement. Davis (2010:5) concluded that organisations need to find ways for employees to do their best and be at their best due to a greater need for knowledge, innovation and creativity. Human capital can be developed through positive psychology contributing to the success of organisations by transforming employees from being ordinary to being great (Davis, 2010:5). It is expected of leaders and employees to deal with a variety of demands in the mining environment for example; twenty-four-hour operation, increase in electric tariffs, the Inspector of Mines (IOM), industrial action, increase in labour costs, political uncertainty and varying metal prices.

In addition to the main concepts mentioned thus far, well-being in the workplace has become as important to organisational scholars as concepts like leadership and motivation due to the link between life experiences and every day work (De Simone, 2014:121). According to De Simone (2014:120) the organisational behaviour constructs of job involvement, work engagement, thriving, flow and intrinsic motivation, meaning in work display partial overlap with eudaimonic well-being.

It was against this background that the research questions for the current study were formulated as follows:

- Is there is a positive relationship between PsyCap, EWB and work engagement?

- Which of the four PsyCap sub-constructs – hope, optimism, efficacy and resilience – has the strongest relationship with EWB and work engagement?
- Is PsyCap is a predictor of work engagement?
- Is EWB a predictor of work engagement?

From the perspective of POS, PsyCap elements are all positive and it is posited that the PsyCap elements relates positively to EWB and work engagement. Furthermore, it is also positing that PsyCap and EWB will be predictors of work engagement.

1.3 RESEARCH OBJECTIVES

1.3.1 General objective

The aim of this study is to contribute to the existing body of knowledge and to provide new knowledge on positive constructs by determining the relationship between PsyCap, EWB and work engagement.

1.3.2 Specific objectives

- 1) To develop a conceptual understanding and definitions of the key concepts relevant to PsyCap, EWB and work engagement through a literature review.
- 2) To empirically assess the levels of PsyCap, EWB and work engagement.
- 3) To determine the predictive nature of PsyCap and EWB on work engagement.
- 4) To make recommendations regarding human resource interventions, as applicable to the findings of the study.

1.4 SCOPE OF THE STUDY

The scope of this study is the mining and smelting industry and in the academic field of Organisational Behaviour. The focus is mainly on the effects of PsyCap and EWB on work engagement.

1.5 RESEARCH METHODOLOGY

1.5.1 Research approach

The business world and management together with intellectual traditions and philosophical ideas shape business research (Bryman & Bell, 2011:4). Research, according to Bhawna and Gobind (2015:48), is a logical and systematic search for new and useful information on a particular topic to increase or revise current knowledge by discovering new facts. Two research approaches are identified, namely the quantitative and the qualitative research approaches (Bryman & Bell, 2011:30). The comparisons between quantitative and qualitative research approaches are listed in Table 1.1 (De Vos *et al.*, 2005:75)

Table 1. 1: Comparison between quantitative and qualitative research approaches

Quantitative approach	Qualitative approach
Epistemological roots in positivism	Epistemological roots in phenomenology
Purpose is testing predictive and cause-effect hypothesis about social reality	Purpose is constructing detailed descriptions of social reality
Deductive logic is used in the method	Inductive logic is used in the method
Suitable for a study of phenomena which are conceptually and theoretically well developed; seeks to control the phenomena	Suitable for a study of a relatively unknown terrain; seeks to understand phenomena
Concepts are developed into operational definitions; results appear in numeric form and are eventually reported in statistical language	Participants' natural language is used in order to come to a genuine understanding of their language
The research design is standardised according to a fixed procedure and can be replicated	The research design is flexible and unique and evolves throughout the research process. There are no fixed steps that should be followed and design cannot be exactly replicated
Data are obtained systematically and in a standardised manner.	Data resources are determined by information richness of settings; types of observation are modified to enrich understanding
The unit of analysis is variables which are atomistic (elements form part of a whole)	The unit of analysis is holistic, concentrating on the relationships between elements, contexts, etc. The whole is always more than the sum

(Source: Adapted from De Vos *et al.*, 2005:75)

The quantitative research approach entails the collection of numerical data regarding the relationship between theory and research as deductive (Bryman & Bell, 2011:31). The objective of this method is to develop and employ theories and hypotheses regarding a topic (Bhawna & Gobind, 2015:48). With qualitative research, data are collected through words, pictures and actions as opposed to the numerical data collection in the quantitative approach (Bryman & Bell, 2011:41). Table 1.1 shows that qualitative research design is flexible as opposed to the fixed procedure of the quantitative approach. Due to the need to quantify relationships between variables intended for this study, a quantitative research approach was chosen.

1.5.2 Phases of research methodology

The research methodology was divided into two phases, namely a literature review (Phase 1) and an empirical study (Phase 2). In Phase 1 the main research constructs and variables of the constructs are discussed. Phase 2 focuses on the research design, participants, measuring instruments and the statistical analysis.

1.5.2.1 Phase 1: Literature review and sources

The literature review was conducted by utilising articles published in scientific journals, academic books and presentations, the Internet and other research data sources namely:

- EbscoHost: International journals on Academic Search Premier, Business Source.
- Emerald: International journals.
- Internet: Google Scholar.
- JSTOR: International journals and books.
- Nexus: Database of current and completed research in South Africa.
- SACat: National catalogue of books and journals in South Africa.
- SAePublications: Database for South African journals.
- Scopus: Database for international journals.
- SAMedia: Newspaper articles.

A literature review was done to give insight into PsyCap, EWB and work engagement.

1.5.2.2 Phase 2: Empirical study

1.5.2.2.1 Participants

The target population involved employees across all levels at a smelter operation in the North West Province of South Africa. A non-probability, convenience sampling technique was used. With this sampling technique a good response rate could be obtained (Bryman & Bell, 2011:30).

1.5.2.2.2 Research instruments

The measuring instrument consisted of a biographical questionnaire and a combination of three structured questionnaires that were previously tested for their reliability, namely:

- 1) PsyCap Questionnaire (PCQ) (Luthans *et al.*, 2007b:237) was used to measure PsyCap.
- 2) The shortened Utrecht Work Engagement Scale (UWES) (Schaufeli & Bakker, 2006:714) was used to measure employee engagement.
- 3) Questionnaire for Eudaimonic Well-Being (QEWB) (Waterman *et al.*, 2010:49)

1.5.2.2.3 Research procedure and approvals

The research project was approved by the Ethics Committee of the North-West University for evaluation and (EMSPBS16/11/25-01/13) acceptance. Approval was received from HFC to conduct the study and the ethical aspects will be discussed further in Chapter 3. The sample as stated above was contacted over a period of four weeks. The questionnaires were handed out in hard copy to employees at the smelter. Participants were informed of their voluntary participation and they were provided with clarity on the research.

1.5.2.2.4 Statistical analysis

The statistical analysis of the collected data was done by the Statistical Consultation Service of the North-West University, utilising the SPSS (Statistical Package for Social Sciences) (2013, version 22) programme as set out in Chapter 4 of this study.

1.6 SIGNIFICANCE OF THE STUDY

This study aimed to expand the current body of knowledge of PsyCap and EWB and the relationship it may have with work engagement, particularly in the smelter environment of South Africa.

With organisational change being at the centre of the mining industry it is important that leaders influence the employees to help shape the future of the organisation in a way where all stakeholders can benefit. The significance of PsyCap in nurturing change orientated behaviour was discussed by Lin *et al.* (2015:410) where training and development can build a durable PsyCap reservoir resulting in an engaged, creative and energised workforce. A study by Avey *et al.* (2008a:29) found organisational cynicism to be negatively related to PsyCap which further underlines its importance during change management. Youseff and Luthans (2013:279) theorise that with the declining power of economic capital to create sustainable competitive advantages, organisations can differentiate themselves from competitors by developing human-based core competencies through PsyCap.

Managers in South Africa need to embrace PsyCap to create a caring workplace taking into consideration the broader economic and social issues affecting employees (Du Plessis & Barkhuizen, 2011:28). Creating a caring workplace is critical to prevent work stoppages which result in financial losses for the organisations and the employees themselves. Besides the financial losses these workplace stoppages tend to turn violent which can result in property damage and sometimes the loss of human lives. The responsibility to leaders stretch further than the organisation but also towards the community it serves.

Although the benefits of positivity are continuously growing there is also a downside to positivity where negative emotions are suppressed to achieve quick fixes according to Harris (2006:5). It is posited that rather than labelling emotions as “positive” or “negative” individuals may be better served to accept that all emotions have a purpose (Harris, 2006:5). Leaders should not avoid or turn a blind eye to employees’ weaknesses; since it might prevent employees from becoming more valuable assets to the organisation.

EWB activities develop durable psychological and social resources which will lead to more resilient and fulfilled employees according to Steger *et al.* (2008:39). This will give meaning and purpose to the employees resulting in a mature workforce. The emphasis is to develop resources in order to reach one's potential in order for an individual to "function well" - that includes the elements of the good life going beyond the pleasant effect and life satisfaction (Wiesmann, 2017:616).

Meaningful discussions between managers and employees regarding the strengths of the individuals will result in the employees feeling more engaged and energised in a survey conducted by McQuaid and VIA Institute (2015). During the survey it was found that 68% of managers fail to have these discussions with most of them providing minimum positive feedback mainly focussing on the faults of the employee without offering any guidance for improvement (McQuaid & VIA Institute, 2015).

Roffey (2016:268) indicated that adaptive behaviour and innovation are promoted by work engagement which effects productivity, profits and customer satisfaction. The variance in the level of work engagement is due to the continuous state which goes further than a specific moment, individual or behaviour (Schaufeli & Bakker, 2006:702). This shows that, if an individual can maintain a high level of work engagement for longer periods, organisations will gain competitiveness. This underlines the importance to find a predictor of work engagement. During this study, PsyCap and EWB were investigated as possible predictors of work engagement.

Previous studies looked at the predictive nature and relationship of PsyCap towards work engagement but not within the smelter industry of South Africa. The relationship and predictive nature of EWB on work engagement will result in new findings which will add to the current academic literature in the field of POB.

In view of global and national economic difficulties, it was of great importance to reflect on how positive behaviour in the workplace could be beneficial. The results of the study will show whether the currently employed human resources are a competitive advantage to the organisation or not. The benefits of this knowledge will determine which interventions might be needed to equip staff to increase their levels of PsyCap, EWB and work engagement.

1.7 LIMITATIONS

Convenience sampling might lead to biases since a particular group within the study might be over or under-represented (Bryman & Bell, 2011:41). The scope will only include a limited number of variables which might play a role in the level of work engagement.

1.8 OVERVIEW

The study consists of the following chapters:

Chapter 1: Introduction

This chapter provides an introduction to the study. It highlights the problem statement and poses the research questions and objectives and explains the research methodology.

Chapter 2: Literature review

This chapter contains a literature review, based on the views of different sources related to this specific field of study. The relevant theories and practices are explained, taking into account books, articles, journals and other sources. Specifically, the elements of PsyCap namely hope, efficacy, resilience and optimism, eudaimonic well-being and work engagement are explained. The relationship between the variables is investigated.

Chapter 3: Methodology

The research methodology employed in this study is described in Chapter 3.

Chapter 4: Results

This chapter discusses the results and findings of the empirical research.

Chapter 5: Conclusion

In this chapter, the focus is on the recommendations which stem from the results of the study, addressing the limitations of the study as well as what the contribution of the study is to the current body of knowledge.

1.9 CHAPTER SUMMARY

Chapter one provided a problem statement derived from a background and literature study. It was refined to primary and secondary objectives, leading to research questions. This led to the utilisation of a research methodology, divided into an empirical literature review and a resultant empirical study. The latter comprises a research design, target participants, measuring instruments and statistical analysis. This was concluded by limitations of this research and a layout of the chapters.

CHAPTER 2: A THEORETICAL OVERVIEW OF PSYCHOLOGICAL CAPITAL, EUDAIMONIC WELL-BEING (EWB) AND THEIR RELATIONSHIP WITH WORK ENGAGEMENT

2.1 INTRODUCTION

The purpose of this chapter is to provide a theoretical overview of the main constructs, namely PsyCap, EWB and work engagement. The following section addresses the concepts of positive psychology and positive organisational behaviour. Thereafter, PsyCap and its four elements – hope, efficacy, resilience and optimism – are discussed, followed by EWB and work engagement.

2.2 POSITIVE PSYCHOLOGY AND POSITIVE ORGANISATIONAL BEHAVIOUR (POB)

Luthans (2002b:59) defines POB as “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement in today’s workplace”. Besides positivity, to be included as a psychological resource capacity within this defined POB framework, it must meet the following criteria: (a) The capacity must be theory and research-based and validly measurable, and (b) the capacity must also be “state-like”. Youssef and Luthans (2007:776) explained that the positive resource capacity of state-like is open for change over time which is on the opposite side of the positive resource capacity of trait-like which is hard wired like the personality or intelligence of individuals. The states referred to here are more stable than momentary states like moods that can be experienced (Youssef & Luthans, 2007:776).

During the first Positive Psychology Conference which was held in 1999, presentations by Martin Seligman and Ed Diener “opened” Fred Luthans’s eyes on how positive psychology can benefit organisational behaviour (Luthans, 2002a:696). Seligman led a group of people, namely Diener, Christopher Peterson and Rick Snyder, during the early 2000s establishing a research orientated theory (Luthans, 2002a:697). The objective of positive psychology was to focus on strengths instead of weaknesses and to be interested in resilience as opposed to vulnerability (Luthans, 2002a:697).

Bakker and Schaufeli (2008:148) noted that the predictive capability of POB can be used to determine an employee's general mental ability and emotional intelligence. The positive psychological conditions and individual strengths are related to employee well-being (Bakker & Schaufeli, 2008:148). Extreme or prolonged negative emotions (Fredrickson, 2004:1367) cause problems like anxiety, aggression sexual disorders and even suicide amongst individuals. Due to this relationship with dangers, negative emotions captured most of the attention of psychologists with positive emotions taking a back seat (Fredrickson, 2004:1367).

The pioneers of positive psychology are not the first to emphasise the importance of positivity. Research has been conducted over the years into positive constructs like positive affectivity, positive reinforcement, procedural justice, job satisfaction and organisational citizenship (Youssef & Luthans, 2007:775). Positive psychology is attempting to give a transformed emphasis on positivity (Youssef & Luthans, 2007).

2.3 PSYCHOLOGICAL CAPITAL (PsyCap) as higher order construct.

PsyCap is defined as an individual's positive psychological state of development that is characterised by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward achieving 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 (Luthans *et al.*, 2007b:3). PsyCap's definition includes measurability and improvement in performance at the workplace underlining its value in the business context not just to the individual but also to the organisation (Luthans, 2002a:696).

In a cross-sectional study of practising business managers using a PsyCap Intervention (PCI) training model developed by Luthans *et al.* (2006); it was demonstrated that human resource development may be able to transform employees to become more resilient amongst adversity, more efficacious to get the job done, more optimistic about the future, and more hopeful in the tactical planning with the resourcefulness to change direction when required (Luthans *et al.*, 2010:61). PsyCap is concerned with developing individuals to reach their potential through the investment in resources for a future return to the organisation by being concerned who the individuals are rather than being interested in

the knowledge of the individuals (Luthans *et al.*, 2006:388). PsyCap which is open to development (state-like) is separated from trait-like positively orientated organisational behaviour techniques which focus on personality traits, leadership qualities, core self-evaluation techniques and motives (Youseff & Luthans, 2013:278).

A study by Luthans *et al.* (2007a:566) showed a positive relationship between PsyCap, performance and job satisfaction. Each individual has baggage from life experiences and the environment is continuously shaping the individual's confidence, hope, optimism and resilience. By developing these individuals to suit the company's unique needs, they will become intangible assets resulting in a competitive advantage (Luthans *et al.*, 2006:388). A study done by Simons and Buitendach (2013:7) found that PsyCap had a positive relationship with work engagement and organisational commitment.

Authentic leadership in a study of state-owned enterprises in Namibia was positively associated with psychological capital resulting in an increase of hopefulness, optimism, confidence and resilience amongst the employees (Amunkete & Rothmann, 2015:278). Employees' psychological capital is encouraged by authentic leaders due to their exemplary behaviour and constructive feedback promoting authentic interpersonal relationships (Amunkete & Rothmann, 2015:278).

Overlapping and conceptual similarities of the PsyCap constructs (self-efficacy, optimism, hope and resilience) do occur; for example hope and efficacy share the positive expectation of success by believing in one's own ability (Avey *et al.*, 2008a:14). Highly efficacious and hopeful employees direct themselves towards challenging assignments through motivation and effort however the ability to generate alternative pathways ("waypower") is unique to hope (Avey *et al.*, 2008a:14). Efficacy, hope and optimism tend to be more proactive in nature whereas resilience is mostly expressed as reactive or a response to a setback; efficacy and resilience shares a perseverance component which motivates endurance during challenging situations (Avey *et al.*, 2008a:15). Thriving or self-efficacious people, the motivational component of hope and the positive emotions associated with optimism, were drivers of dedication in a study by (Herbert, 2011:184).

These constructs are discussed in detail below.

2.3.1 Hope

The Oxford Dictionary defines hope as “A feeling of expectation and desire for a particular thing to happen”. A more detailed definition is given by Snyder *et al.* (1991:570) defining hope as a “cognitive set that is based on a reciprocally derived sense of successful (a) agency (goal-directed determination) and (b) pathways (planning of ways to meet goals). According to this definition hope reflects an individual perception regarding its own resources to have clarity on goals, developing strategies and to be motivated to initiate and sustain actions to achieve the goal (Snyder *et al.*, 2003:122). Youssef and Luthans (2007:778) explain that hope is a positive motivational state where the agency or “willpower” is needed to pursue the goal, whereas the pathways or “waypower” indicates the different paths to be considered that may have been blocked in the absence of hope (Youssef & Luthans, 2007:778).

Hopeful goals need to be part of organisational strategies in South Africa, taking into consideration the volatile past of South Africa and the uncertainties that the future holds (Luthans *et al.*, 2004:12). The activating force of hope enables people overcoming major barriers to foresee a way around it through goal setting and goal pursuit. Hopeful individuals are goal-driven and direct their energy to strategies in achieving goals (Harris, 2012:156).

Malik (2013:4) concluded that hope can play an important role in selection of employees for specific jobs and it can be enhanced through training and development to retain valuable employees and improve work performances, due its state-like attributes. Helland and Winston (2005:46) referred to Vroom’s (1964) expectancy theory that, once individuals have hope that their efforts will result in success and that they will receive a worthwhile reward or outcome they will be motivated to pursue the goals. Helland and Winston (2005:47) further note that effective leaders are able to raise hope in employees by communicating how the vision can be achieved. Youssef and Luthans (2007:778) found in their research that hope was positively related to job performance, work happiness and organisational commitment.

2.3.2 Efficacy

Albert Bandura, a renowned researcher who was elected as an Officer of the Order of Canada on 26 December 2014 due to his pioneering work in psychology (<http://www.gq.ca/document.aspx?id=15922&lan=eng>) defines self-efficacy (also known as social cognitive theory or social learning theory) as people's beliefs about their capabilities to produce designated levels of performance that exercise an influence over events that affect their lives (Bandura, 1994:2). Instead of beliefs, Luthans *et al.* (2007b:3) define self-efficacy as the confidence an individual possesses to take on and succeed with challenging tasks. Bandura (1993:125) posits that individuals with high self-efficacy figured out ways how to cope in environments where few opportunities exist and how individuals with low self-efficacy are struggling to succeed in environments with many opportunities. This coping mechanism was found amongst professionals where high levels of self-efficacy were associated with low levels of job burnout in a meta-analysis amongst various occupations (Shoji *et al.*, 2016:14). Highly efficacious people do not underestimate their ability to achieve their goals resulting in them preserving until the targets are reached (Harris, 2012:156). Furthermore Williams and Rhodes (2016:12) noted that self-efficacy is a popular predictive construct in health behaviour research underlining its relationship with the coping behaviour of individuals.

Bandura (1997), as cited by Lunenburg (2011:2), identified four principal sources of self-efficacy: past performance, vicarious experience, verbal persuasion and emotional cues. Bandura sees past performance as the most important source of self-efficacy. Self-efficacy may also increase through vicarious experience where a fellow worker is observed succeeding at a task. Lunenburg (2011:3) noted that by convincing people (verbal persuasion) of their abilities to succeed may increase self-efficacy. This according to Lunenburg (2011:3) is a form of self-fulfilling prophecy or the Pygmalion effect where leaders who are confident that their followers can be successful at their jobs ensure that the followers perform at higher levels. Bandura, as cited by (Lunenburg, 2011:3) argued that self-efficacy is dictated by emotional cues where a person who finds a task too demanding and expects to fail with it may experience physiological symptoms like a pounding heart, feeling flushed, sweaty palms, headaches etc.

Through social learning, by anticipating actual outcomes, a person's cognitive skills provide the person with the awareness and farsightedness in order to guide the person's behaviour (Bandura, 1971:3). Within the social learning framework self-esteem is determined by the discrepancy between the person's behaviour and what he or she perceived as the standard or expected performance (Bandura, 1971:30).

The person's self-concept might be negatively influenced with below par performances leading to self-punishment like alcoholism, fantasising how they perform where they failed in reality or even suicide (Bandura, 1971:31). Bandura (1977:191) introduces self-efficacy as an important attribute in the cognitive process where perceived self-efficacy influences behaviour where fearful situations are avoided and perceived achievable challenges are pursued. The stronger the perceived self-efficacy or efficacy expectation, the more effort will be exerted to reach the goal (Bandura, 1977:194). Through cognitive modelling, observing success stories enhances perceived self-efficacy of individuals by reducing fear (Bandura *et al.*, 1980:49). Bandura (1993:119) discusses how individuals with high self-efficacy visualises success and individuals with low self-efficacy visualises failure while doubting their ability.

The human ability is not a fixed attribute but the capability of an individual to organise the cognitive, social, motivational and behaviour skills to fulfil different roles under different circumstances (Bandura, 1993:118). A person with the required knowledge and skills but with lack of emotional intelligence might not have the self-belief of efficacy to succeed with a mission especially under stressful or trying conditions (Bandura, 1993:119).

Zimmerman (2000:90) concluded that self-efficacy is a good predictor of students' motivation and learning. Lai and Chen (2012:388) found a positive relationship between self-efficacy on job performance and job satisfaction. Beliefs about a person's own ability was founded by Yakın and Erdil (2012:376) to influence work related attitudes and motivations effecting both satisfaction and performance positively.

2.3.3 Resilience

Resilience found its roots in the science of physics and mathematics where material or a system has the capacity to return to equilibrium after displacement (Norris *et al.*, 2008:127). Therefore Norris *et al.* (2008:127) argued that applying "resilience to people

and their environments is thus a metaphor". According to Masten and Obradovic (2006:14) resilience is a "broad conceptual umbrella, covering many concepts related to positive patterns of adaption in the context of adversity" when a system has been threatened as being capable of destroying or damaging the operation of the system. Luthans (2002a:702) defined resilience as the "positive psychological capacity to rebound, to 'bounce back' from adversity, uncertainty, conflict, failure, or even positive change, progress and increased responsibility".

It was concluded by Denovan *et al.* (2016:226) that resilience is related to wellbeing and personal development; and that it can be developed although some people are born with it; indicating that resilience can both be state-like and trait-like. In adverse circumstances, resilience is enhanced by positive emotions with individuals becoming more resilient each time they rebound from a stumbling block (Luthans *et al.*, 2007a:546). Organisations will benefit from an increase in resilience amongst employees relating to an increase in productivity, job performance, retention, engagement and physical well-being (White, 2013:4). Resilient organisational cultures have environments where employees take care of their physical, mental emotional and spiritual needs in order for resilience to occur (White, 2013:4). Research done by Youssef and Luthans (2007:792) showed that resilience is positively related to work happiness, organisational commitment and job satisfaction. Ong *et al.* (2006:742) concluded that individuals with positive emotions are adaptive under stress. Highly resilient individuals tend to be more positive than those low in psychological resilience who struggles to regulate negative emotions (Ong *et al.*, 2006:742). The positive emotions of highly resilient individuals allow them to rebound from adversity (Ong *et al.*, 2006:742).

Resilient individuals are not "drama queens" and they don't get worked up easily by daily frustrations (Lee, 2008:1). A resilient workforce is able to work under pressure and are susceptible to change without getting stressed out (Lee, 2008:2). This was confirmed by Magnano *et al.* (2015:14) where resilience had a mediating effect on emotional intelligence and achievement motivation amongst Italian workers. Under highly stressful conditions the intellectual, emotional and physical consequences can compromise the competitive advantages of a company (Lee, 2008:2).

2.3.4 Optimism

Optimism can be defined as a “stable personality trait related to positive expectations regarding future events” (Scheier and Carver, 1985 cited by Bastianello *et al.*, 2014:253). Optimists expect good things to happen to them versus pessimists who expect bad things to happen (Scheier and Carver, 1985 cited by Bastianello *et al.*, 2014:253). People may shift between optimism and pessimism although some people tend to lean towards one side of the optimism-pessimism scale (Hecht, 2013:173). This determines whether a person is seen as an optimistic or pessimistic person (Hecht, 2013:173). The optimistic person is fully absorbed in his work due to the behaviour, which is influenced by the way events are viewed and interpreted (Herbert, 2011:184).

Optimistic people tend to stay confident and persistent even while the progress is slow (Carver *et al.*, 2010:880). In the same situations pessimists are doubtful and hesitant (Carver *et al.*, 2010:880). These differences between optimistic and pessimistic people have implications for how people cope with stress and their goal directed behaviour (Carver *et al.*, 2010:880). Optimism is a cognitive construct according to Scioli *et al.* (1997:726) where an individual has belief in his or her personal efficacy that there is a likelihood for a positive outcome in achieving the goal.

Scheier *et al.* (1994:1063) discuss how pessimists tend to cope through denial and withdrawal while optimistic people through self-regulation use problem-focused and emotion-focused coping strategies to overcome adversity. According to Scheier *et al.* (1994:1063) this model is rooted in the expectancy-value theories of psychology where employees stay engaged as long the belief exists that the goal is achievable and once their doubts are high they might give up on the threatened goals (Scheier *et al.*, 1994:1063).

Research indicated that optimism is associated with better coping through psychological and physical adjustments to stressful events resulting in a better immune system against infections from viruses than pessimists (Segerstrom *et al.*, 1998:1651). Conversano *et al.* (2010:28) posit that optimism is a mental attitude which has a direct effect on an individual's physical and mental health.

Optimism, when combined with self-efficacy and hope, will give an individual a positive perspective, the confidence and the persistence to pursue various options to achieve the optimistic goals (Luthans *et al.*, 2007a:566).

Peterson (2000:50) noted that unrealistic optimism can result in a person underestimating the risks in achieving the goals resulting in wishful thinking. A person needs to be realistic when evaluating the situation to determine what can be achieved (Peterson, 2000:50).

2.4 EUDAIMONIC WELL-BEING (EWB)

Many philosophers, religious masters and visionaries have derogated happiness as the main criterion for well-being - for example Aristotle considered hedonic happiness as a vulgar ideal, making humans slavish followers of desire and, instead, posits that true happiness was found in the expression of virtue by doing what is worth doing (Ryan & Deci, 2001:145).

Eudaimonia is a valuable concept because it refers to well-being as a distinct from happiness. Not all outcomes or desires valued by individuals according to eudaimonic theorists will equate to the well-being of individuals (Ryan & Deci, 2001:146). EWB was only recently introduced into the field of positive psychology as a concept of scientific inquiry (Lee & Carey, 2013:18). EWB incorporates both subjective and objective elements where the subjective experiences are experiences of eudaimonia/feelings of personal expressiveness and the objective elements are the behaviours involved in pursuing the eudaimonic goals. The development of personal potentials and their utilisation in ways that give purpose and meaning are the behaviours within the EWB framework (Waterman *et al.*, 2010:43).

Waterman *et al.* (2010:43) developed the Questionnaire for Eudaimonic Well-Being (QEWB) as a measurement instrument to assess EWB in terms of the elements associated with eudaimonia. During the creation of the QEWB instrument priorities were placed on items closely grounded in the eudaimonic philosophy (Waterman *et al.*, 2010:44). The six inter-related categories of the QEWB instrument are 1) self-discovery, (2) perceived development of one's best potentials, (3) a sense of purpose and meaning in life, (4) investment of significant effort in pursuit of excellence, (5) intense involvement

in activities, and (6) enjoyment of activities as personally expressive (Waterman *et al.*, 2010:44).

2.4.1 Self-discovery

Eudaimonism calls upon each person to strive to self-realisation (Waterman *et al.*, 2010:44). While progressing towards self-realisation a person must have discovered what type of person one already is, thereby making the discovery to self-discovery central to eudaimonic functioning (Waterman *et al.*, 2010:44).

2.4.2 Perceived development of one's best potentials

From a eudaimonist perspective the individual's potential needs to be identified and acted upon to be fully developed (Waterman *et al.*, 2010:44).

2.4.3 A sense of purpose and meaning in life

A person's talents and skills need to be directed to life goals where an individual must find ways in putting these talents and skills to use to reach meaningful objectives (Waterman *et al.*, 2010:45).

2.4.4 Investment of significant effort in pursuit of excellence

Here a person puts in additional effort to strive towards excellence (Waterman *et al.*, 2010:45). The individual exerts more effort in the meaningful goals than in other activities in which a person engages in (Waterman *et al.*, 2010:45).

2.4.5 Intense involvement in activities

The intensity of involvement in engagement in personally meaningful activities is greater than when engaging in more routine activities (Waterman *et al.*, 2010:45).

2.4.6 Enjoyment of activities as personally expressive

One of the defining aspects of EWB is the direct experiences of happiness in the form of eudaimonia (Waterman *et al.*, 2010:45). Employees who are characterised with high

EWB should report that what they do at work and at home is expressive of who they are (Waterman *et al.*, 2010:45).

2.5 WORK ENGAGEMENT

Work engagement is defined by four major approaches discussed by Shuck (2011:306-315): (1) Kahn's (1990) need-satisfying approach, (2) Maslach *et al.*'s (2001) burnout-antithesis approach, (3) Harter *et al.*'s (2002) satisfaction-engagement approach, and (4) Saks's (2006) multidimensional approach. These four approaches are explored below:

1) Kahn's (1990) Need-Satisfying Approach

Kahn (1990:694) defined personal engagement "as the harnessing of organisation members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances". Kahn (1990:694) further defines "personal disengagement as the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances". Kahn (1990:694) argues that people's ability to engage and disengage themselves from a role enables them to cope with both internal uncertainties and external conditions. Kahn (1990:705) further discusses three dimensions of psychological conditions which influence personal engagement which is the perception of a return on investment of self, safety against negative consequences and the sense of having the resources necessary for investing self in the role performance.

Geldenhuys *et al.* (2014:3) found that employees are attracted to meaningfulness in their work and are constantly on the lookout for more meaningful tasks by being committed to the organisation. Geldenhuys *et al.* (2014:9) concluded that meaningful work increases work engagement and organisational commitment. Employees who have the resources will engage in their work once they find the work meaningful (Olivier and Rothmann (2007:55).

Nel (2013:49) through her research found a positive relationship between positive leadership and work engagement underlining the importance POB on work engagement. Based on the results, positive leaders have a positive influence on employees'

psychological empowerment, work engagement and satisfaction with life. It is recommended that organisations focus on the training and coaching of leaders on how to identify and harness employees' strengths. Leaders should also be encouraged to give genuine recognition to employees and their accomplishments.

2) Maslach *et al.*'s (2001) burnout-antithesis approach

Schaufeli *et al.* (2002:74) used the Maslach *et al.* (2001) burnout-antithesis approach to determine vigour, dedication, and absorption. Engagement is characterised by Maslach & Leiter (1997) cited by Maslach *et al.* (2001:416), by energy, involvement and efficacy. According to Maslach *et al.* (2001:399), job burnout is a psychological syndrome as a response of chronic interpersonal stressors at work. The dimensions of these responses are exhaustion, cynicism and ineffectiveness – the opposites of the 3 engagement characteristics.

3) Harter *et al.*'s (2002) Satisfaction-Engagement Approach

Harter *et al.* (2002:269) define employee engagement as "the individual's involvement and satisfaction with as well as enthusiasm for work". The Gallup Q12 is the main measurement developed from this approach. A Gallup Poll's meta-analyses showed that higher work place engagement relates to higher earnings per share (EPS) amongst publicly traded companies (Kumar & Swetha, 2011:237). The Gallup findings provided strong evidence that highly engaged workers outperform employees with low levels of engagement.

4) Saks' (2006) Multidimensional Approach

Saks (2006) cited by Shuck (2011:316) was the first to examine the antecedents and consequences to employee engagement in academic literature. Saks (2006:602) defined the emerging multidimensional concept of employee engagement as "a distinct and unique construct consisting of cognitive, emotional, and behavioural components ... associated with individual role performance". Shuck and Wollard (2010:103) propounded a similar definition to that of Saks (2006) where the individual employee's cognitive, emotional, and behavioural state is directed toward desired organisational outcomes.

The approach most relevant to this study is the Maslach *et al.* (2001) framework which was tested by Schaufeli *et al.* (2002:74) using the MBI-GS. Schaufeli *et al.* (2002:74) defined engagement slightly differently from Maslach as a positive, fulfilling, work-related state of mind that is characterised by three engagement dimensions vigour, dedication, and absorption. Geldenhuys *et al.* (2014:3) posit that vigour constitutes the physical components; dedication the emotional side and absorption the cognitive component of work engagement. Vigour, according to Bakker and Demerouti (2008:209), is when an individual is energetic and possesses mental resilience in the workplace. Schaufeli *et al.* (2002:74) theorise that a dedicated person is involved in his work by enthusiastically taking on challenges while experiencing the significance of it. Bakker and Demerouti (2008:210) define absorption as being “fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work”.

Through a cross-sectional survey conducted by Schaufeli and Bakker (2006:712) using the UWES-9 scale, the three engagement dimensions were negatively related to burnout, thereby confirming Maslach *et al.*’s burnout-antithesis. This approach will be discussed in further in detail below

Engaged employees due to their sense of energy and connectedness to their job are able to deal with job demands which is an antipode of job burnout (Schaufeli & Bakker, 2006:702). Work engagement combines work pleasure with high activation where employees perform for longer periods (Bakker, 2011:265). Motivation together with absorption and vigour is included in work engagement (Bakker, 2011:265). Job satisfaction is a passive form of employee well-being and work-related flow may result in a peak performance which is not sustained over long periods (Bakker, 2011:265). Work engagement therefore is a better predictor of job performance than constructs like job satisfaction, work-related flow and motivation (Bakker, 2011:265). The job demands-resources model (Bakker *et al.*, 2003b; c; Demerouti *et al.*, 2001a, b cited by Bakker & Demerouti, 2007:312) has the assumption that each occupation has unique job demands and job resources associated with job stresses. High work pressure, an unfavourable physical environment, and emotionally demanding interaction with clients are examples of job demands (Bakker & Demerouti, 2007:312). Job resources that are the physical, psychological, social or organisational aspects of the job have a function that is not only

to deal with job demands but is also important in their own right. Resources are the means to effect achievement or they offer protection to other resources (Bakker & Demerouti, 2007:312). Job resources help to achieve work goals, reduce job demands and the stimulating of personal growth, learning and development (Bakker & Demerouti, 2007:312). These resources include 1) career opportunities, pay and job security offered by the company, 2) the interpersonal and social relations with supervisors and team cohesiveness, 3) role clarity in the workings including participation in decision-making and 4) at the task level referring to skills variety, significance of the task, identifying with the task, autonomy and performance feedback. Job resources helps to achieve work goals, reduce job demands and the stimulating of personal growth, learning and development (Bakker & Demerouti, 2007:312).

2.6 RELATIONSHIP BETWEEN THE VARIABLES

Positive emotions are positively related to employee attitudes of engagement and negatively to organisational cynicism (Avey *et al.*, 2008b:60). PsyCap and work engagement was found to be positively related during a study by Simons and Buitendach (2013:1) and by Harris (2012:156). Hope had a positive effect on vigour, dedication and absorption with positive emotions having an indirect effect on the dimensions of work engagement through hope (Ouweneel *et al.*, 2012:1144). Hope and efficacy had strong connections with work engagement and work enthusiasm amongst the employees in the automotive industry in South Africa (Harris, 2012:156). Schaufeli and Bakker (2006:712) found evidence that professional efficacy was strongly related to all three engagement dimensions.

Herbert (2011:183) during her research found support for PsyCap's predictive capability of work engagement, with optimism as the only PsyCap construct to be strongly related to all three work engagement constructs. Simons and Buitendach (2013:9) also indicated that optimism had a positive relationship with work engagement. Conversano *et al.* (2010:28) noted that the application form of optimism will be beneficial to mental and physical health patients when integrated into treatments and prevention programmes in order to improve well-being.

Resilience was directly related to all three components of work engagement: vigour, dedication and absorption in a study conducted by Sweetman and Luthans (2010:61).

Avey *et al.* (2010:25) found PsyCap and psychological well-being to be strongly correlated in the work place. The results in the study a Gorgens-Ekermans and Steyn (2016:44) showed direct and indirect influences between optimism and subjective well-being which was defined as psychological health and satisfaction with work-life. The various definitions of resilience agree that the ability to deal with stressors and setbacks is important to the survival of individuals which is associated with successful outcomes and well-being (Denovan *et al.*, 2016:212). During a meta-analysis conducted by Reichard *et al.* (2013a:298) hope was found to be positively related to well-being. The findings in this paragraph indicate that there may be a correlation between PsyCap and EWB.

The overlapping elements of employee well-being and engagement were mentioned by Robertson and Cooper (2011:33-35). De Simone (2014:120) noted that organisational behaviour constructs of job involvement, work engagement, thriving, flow and intrinsic motivation, meaning in work display partial overlapping with eudaimonic well-being. Although well-being and work engagement overlaps; it is different from work engagement in that it is the enabling of employees to reach their full potential and to set the scene in the work-place in order for them to flourish (Oades & Dulagil, 2016:363).

Sweetman and Luthans (2010:58) proposed the following relation of the four PsyCap constructs and work engagement:

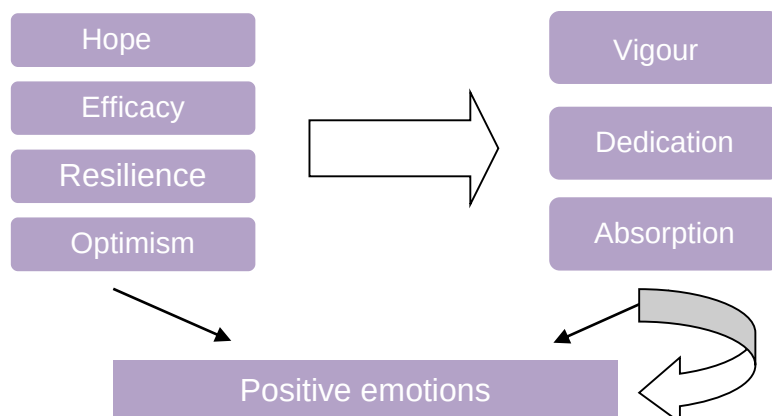


Figure 2. 1: Proposed conceptual model relating PsyCap to work engagement through positive emotions

Source: Sweetman and Luthans (2010)

The positive implications of bolstering individuals EWB may be the promotion of mental health and the development of positive institutions and happy nations according to Lee and Carey (2013:19).

In view of the above, the following model is proposed where both PsyCap and eudaimonic well-being predict work engagement.

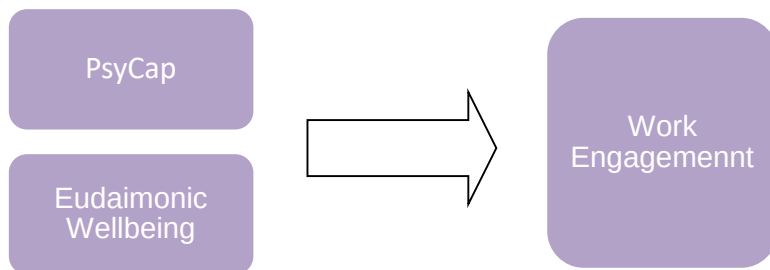


Figure 2. 2: Proposed conceptual model where PsyCap and eudaimonic well-being predict work engagement

The research hypotheses therefore are as follows:

Hypothesis 1: There is a positive relationship between PsyCap, eudaimonic well-being and work engagement.

Hypothesis 2: Optimism has the strongest relationship with work engagement and EWB of the four constructs of PsyCap

Hypothesis 3: PsyCap is a predictor of work engagement.

Hypothesis 4: Eudaimonic well-being is a predictor of work engagement.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter investigated the applicable literature of PsyCap, EWB and work engagement. By understanding the relationship between the constructs, it may be implied that high levels of PsyCap and EWB will result in high levels of work engagement.

Chapter 3 presents the research methods and techniques that were applied during the research. The chapter includes detailed explanations of the research process, measuring instrument, population, data-collection method, analysis methods and ethical considerations.

3.2 RESEARCH APPROACH

As mentioned in Chapter 1, it was decided to follow a quantitative approach to investigate the research objectives of the study. The other most common research approach that was considered is the qualitative technique. The strengths and weaknesses of the two approaches vary and are illustrated in Table 1.1 in Chapter 1.

Bhawna and Gobind (2015:49) define quantitative research as a “systematic empirical investigation of observable phenomena via statistical, mathematical or computational techniques” - the objective being the developing and employing of mathematical models, theories and/or hypotheses pertaining to phenomena (Bhawna & Gobind, 2015:49).

During quantitative research data are collected and analysed with the adoption of a deductive approach to the relationship between theory and research according to Bryman *et al.* (2016:31). With this study, the numerical data were used to test the theory on PsyCap, EWB and work engagement.

3.3 RESEARCH DESIGN

Welman *et al.* (2005:52) define any research design as “a plan according to which we obtain research participants (subjects) and collect information from them. In it we describe what we are going to do with the participants, with a view to reaching conclusions about the research problem”.

The study used a non-probability, non-experimental, cross-sectional survey design. The researcher did not have any control over the variables since a non-experimental design was followed. Existing previously validated questionnaires were used during the research. The reason for the study was explained to all the respondents and they would have access to the results of the study once this became available. Previous studies were scrutinised to confirm previous findings and explore possible new findings.

3.4 RELIABILITY AND VALIDITY OF MEASURING INSTRUMENTS

Reliability is concerned with the repeatability of the results in a study (Bryman *et al.*, 2016:24). Stable measuring instruments are especially important in quantitative research ensuring that no wild fluctuations are obtained when administered two or more occasions (Bryman *et al.*, 2016:24).

Systematic errors are a main concern within validity (Drost, 2011:106). Random or systematic measurement errors may occur with a good example being the bathroom scale as discussed by Rosenthal and Rosnow (1991) cited by Drost (2011:106). A systematic error is when a person repeatedly weighs him or herself on a bathroom scale with a consistent measurement of weight but repeatedly 2kg for example heavier than it should be. Random errors occur when the scale is accurate but the person misreads it when weighing him or herself. Sometimes the reading taken will be slightly higher or slightly lower than it actually was. The random errors will cancel out on repeated measurements as opposed to systematic errors which will not. Cronbach's alpha coefficients were used to assess the reliability of the measuring instruments in this study.

3.4.1 PsyCap questionnaire

PsyCap was measured with the PsyCap Questionnaire (PCQ) developed by Luthans *et al.* (2007b:237) comprising 24 items which make use of the Likert response scale. The original instrument used a 6-point scale as opposed to a 7-point scale in this study in order to be the same than the work engagement and EWB questionnaires. The scale ranged from strongly disagree to strongly agree with the only change the addition of an option for neither agree nor disagree. PsyCap is represented as a higher order construct with four sub-dimensions according to Luthans *et al.* (2007b:566). Görgens-Ekermans

and Herbert (2013:2) provided strong evidence for the higher-order factor structure for the overall PsyCap measure.

The four sub-dimensions of PsyCap, namely self-efficacy, hope, resilience and optimism comprised each of 6 questions within the PCQ. “I feel confident presenting information to a group of colleagues” is a sample of a self-efficacy question. “There are lots of ways around any problem” are one of the questions measuring hope. A sample of the resilience questions is “I can get through difficult times at work because I’ve experienced difficulty before”. “In this job, things never work out the way I want them to” represent one of the questions measuring optimism.

Luthans *et al.* (2007a:555) conducted two studies to determine the psychometric properties of the PsyCap questionnaire. The Cronbach Alpha for the overall PsyCap (.88, .89, .89 and .89) measures for four samples confirmed the reliability of the measuring tool. The Cronbach Alpha for each of the four subscales was also found to be adequately reliable, indicated as follows: with hope (.72, .75, .80 and .76); efficacy (.75, .84, .85 and .75); resilience (.71, .71, .66 and .72) and optimism (.74, .69, .76 and .80).

The PsyCap measuring instrument has been tested across cultures and tested in traditional work settings (Reichard *et al.*, 2013b:161). Two South African studies of Simons and Buitendach (2013:5) and Görgens-Ekermans and Herbert (2013:6) confirmed the overall internal validity of the PsyCap measure as initially indicated by Luthans *et al.* (2007a:555). With all three studies resilience and optimism sub-scales showed lower internal validity than hope and efficacy. Görgens-Ekermans and Herbert (2013:6) noted that the reverse score items 13 (resilience) and 20 (optimism) obtained the lowest corrected item-total correlations as compared to the other items in the scale. These items were flagged by Görgens-Ekermans and Herbert (2013:6) as possible problem items which need to be investigated further (Luthans *et al.* (2007a:555).

3.4.2 Questionnaire for Eudaimonic Well-Being (QEWB)

EWB was measured using the QEWB scale developed by Waterman *et al.* (2010:49) and comprises 21 items which make use of the Likert response scale. Two samples of students from universities and colleges in the United States of America (USA) were used

to test the validity of the scale. The Cronbach's alpha for sample 1 (.86) and for sample 2 (.85) was found to be adequately reliable (Waterman *et al.*, 2010:52).

Schutte *et al.* (2013:8) confirmed the external validity of the QEWB scale on multicultural South Africans with a Cronbach alpha of .8. It was concluded that the scale shows potential for future use of the recently developed scale given that its multidimensionality is proven during future research (Schutte *et al.*, 2013:1). Both Schutte and Waterman did the study on students and it was suggested by Schutte *et al.* (2013:19) that the investigating cross-cultural applicability of the scale in the diverse cultural groups in South Africa would be of great value.

Waterman *et al.* (2010:49) depict the QEWB scale as a single construct. Schutte *et al.* (2013:19) on the other hand concluded that it may also be used as a multi-dimensional construct. The analyses conducted by Schutte *et al.* (2013:16) indicated a three-factor structure of the "dimensions of Sense of Purpose, Purposeful Personal Expressiveness, and Effortful Engagement, or a four-factor structure where the Purposeful Personal Expressiveness factor divided into Engagement in Rewarding Activities and Living from Beliefs factors".

3.4.3 Utrecht Work Engagement Survey

A shortened 9-point Utrecht Work Engagement Scale (UWES) scale developed by Schaufeli and Bakker (2006:714) was used in measuring work engagement using a 7-point Likert response scale. The self-reporting questionnaire includes the three aspects of work engagement: vigour, dedication and absorption. A large international database were used to measure work engagement and to validate the instrument (Schaufeli and Bakker (2006:714). The studies were conducted in 10 countries where in only 10% (3 out of 30) of the cases the Cronbach's alpha resulted in values slightly lower than .70. The departure point is the 17-item scale developed by Schaufeli *et al.* (2002:14). The shortened version of the scale correlated highly with the original longer version where 80% of their variances were shared. By reducing the number of questions, the risk of fatigue from participants was reduced.

3.5 POPULATION AND SAMPLING

The population for this study consisted of permanent and non-permanent employees in the smelting industry from where the study was conducted. The non-probability method was selected instead of probability sampling where each unit in the population has a known chance of being selected according to (Bryman *et al.*, 2016:170). With a non-probability sample, the sample was not selected by a random selection method where some units in the population having a better chance to be selected than others (Bryman *et al.*, 2016:170). Probability sampling involves a lot of preparation and is frequently avoided due the degree of difficulty and high costs. (Bryman *et al.*, 2016:178).

Babbie (2010:193) names four types of non-probability sampling: reliance on available/convenient subjects, purposive or judgmental sampling, snowball sampling and quota sampling. During this study convenience sampling was used where information was collected from employees at HFC who were available at the time.

3.6 DATA-GATHERING PROCEDURES

Permission were obtained from HFC to conduct the research prior to the data gathering. Primary data were gathered through the distribution of hard copy questionnaires and emails to administrative employees at HFC. The questionnaires were distributed in English. The cover letter explained the purpose of the study and filling in of questionnaires took approximately 30 minutes. The cover letter informed employees that it was a voluntary process and that their anonymity was important. The researcher collected the questionnaires during the month of March 2017 covering operations, maintenance, contractors and administrative employees of HFC. In total, 339 valid questionnaires were received back.

3.7 ETHICAL CONSIDERATIONS

The four major areas of ethical considerations for researchers according to Bryman *et al.* (2016:120) are:

- Whether or not harm comes to participants
- Informed consent

- Invasion of privacy
- Deception

To comply with the ethical considerations written permission was obtained from the executive committee of HFC to conduct the study among the permanent and non-permanent staff. The research method selected did not result in any harm to participants. Participants were provided with clarity on the research. Confidentiality was maintained throughout the process and participants were allowed to withdraw immediately if they wanted to. No money or gifts were offered to the participants resulting in no cost implication to be considered by the participants.

3.8 DATA ANALYSIS

Quantitative techniques were used to analyse the data. The data were analysed by the Statistical Package for the Social Science (version 2.23). The data were described by means of descriptive statistics. A confirmatory factor analysis was conducted to determine the factor structure of the PsyCap Questionnaire, QEWB and UWES.

Cronbach's alpha coefficients were used to determine the reliability of the measuring instruments (scale). According to Malhotra (2010:319) a Cronbach's alpha of more than .6 is an acceptable indicator of reliability. Bryman *et al.* (2016:38) posit that Cronbach's alpha calculates the average of all possible split-half reliability coefficients which vary between 0 (no correlation) and 1 (perfect correlation). Extensive item analyses were conducted on each individual item to determine how it relates to the scores on all other items in the scale. Clark and Watson (1995:15) noted that the average inter-item correlation should fall somewhere between .15 and .50. According to Clark and Watson (1995:15) by measuring a broad higher order construct a mean correlation as low as .15-.20 may be desirable where a .40-.50 mean inter-item correlation range might be needed for a narrower construct such as talkativeness.

Factor analyses are used in social science where things are measured which cannot be directly measured (Field, 2013:628) . Factor analyses according to Field (2013:671) are purely for exploratory purposes where future hypotheses are guided or where researchers are informed of patterns in data sets. The rotational factor analyses were

reported in table format where the pattern matrix containing the factor loadings were compared to the factor matrix which were interpreted for the orthogonal rotation.

Pearson's and Spearman's correlation coefficients were used to determine the relationships between PsyCap, eudaimonic well-being and work engagement. The factor score coefficients were calculated using the regression method. The regression analyses were used to determine the predictive capability of PsyCap and EWB on work engagement. During the regression method the initial correlations of the variables were taken in account through the adjustment of the factor loadings to stabilise the variable variances (Field, 2013:634) .

3.9 CONCLUSION

The research methodology was described in Chapter 3 in terms of research approach, research design and research methods. The reliability and validity of the measuring instruments were confirmed. The results of the data analysis are presented in Chapter 4.

CHAPTER 4: RESULTS

4.1 INTRODUCTION

The methodology applied during the research was provided in Chapter 3. This chapter firstly provides results on the demographic information of the respondents, descriptive results on the concepts of PsyCap, EWB and work engagement. Finally, the data are explored for any relationships between the constructs and the predictive capability of PsyCap and EWB with an analysis of any statistical and practical significance between groups.

4.2 SAMPLING

This section presents the descriptive statistics derived from the variables included in the biographical questionnaire. These variables are age, gender, educational qualification, race, language, tenure, job classification, employment status and marital status. A total of 405 questionnaires were distributed by hand to employees in a smelter in the North-West area of South Africa and were collected within a reasonable time frame. Male and female respondents of any race who were included and willingly consented to voluntarily participate in the study were included. Non-responders were excluded. A total of 339 employees completed the questionnaires resulting in an 83.7% return rate. The results of the analysis of the biographical data are presented in graphic format, with a brief description of the respondents with regard to the particular data.

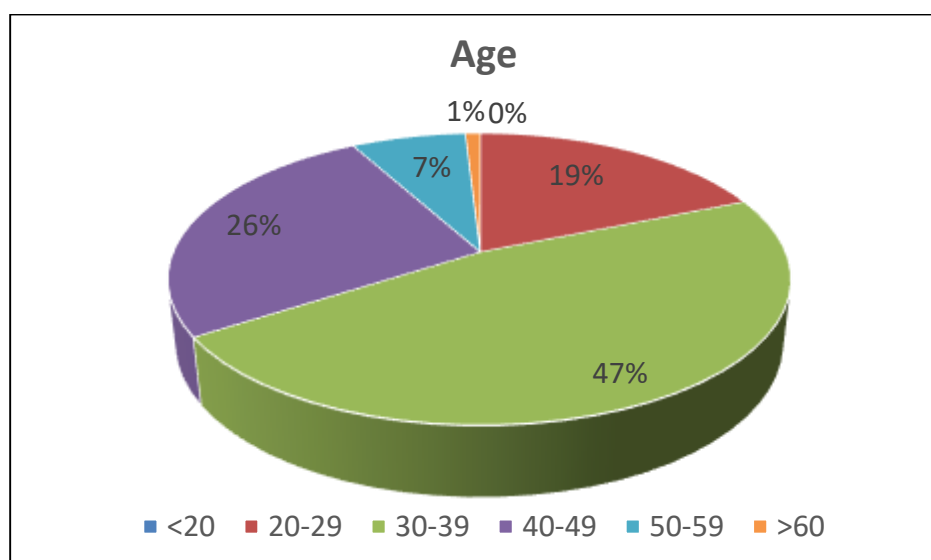


Figure 4. 1: Age distribution

From Figure 4.1, it is clear that the majority of respondents were in the age category of 30 – 39 years (47%) while 26% of respondents fell in the 40 – 49 age category. Nineteen per cent of respondents were between the ages of 20 – 29. None of the respondents were younger than 20 years while 7% were in the 50-59 age category. Only 1% of the respondents were above 60 years.

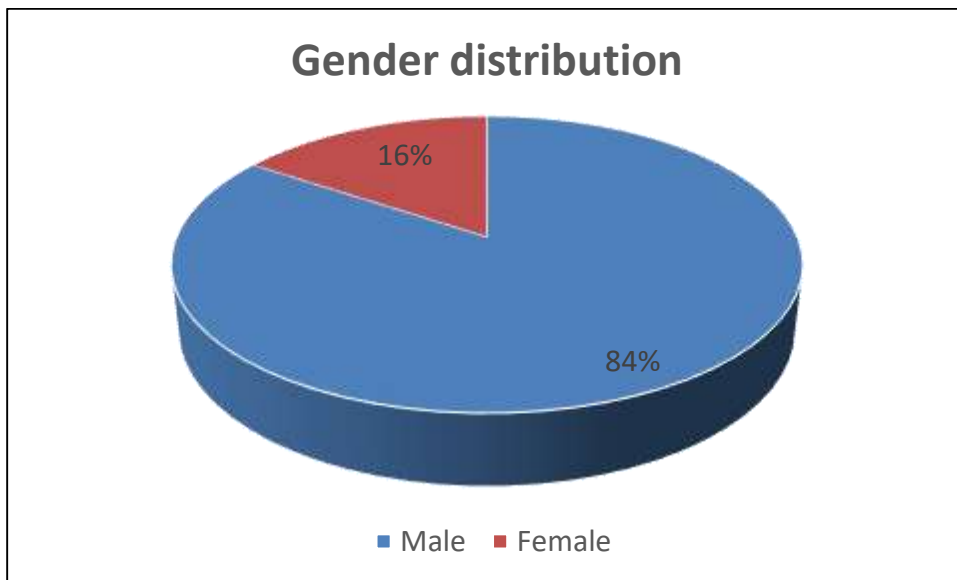


Figure 4. 2: Gender distribution

The above figure indicates that the majority of respondents were male (84%).

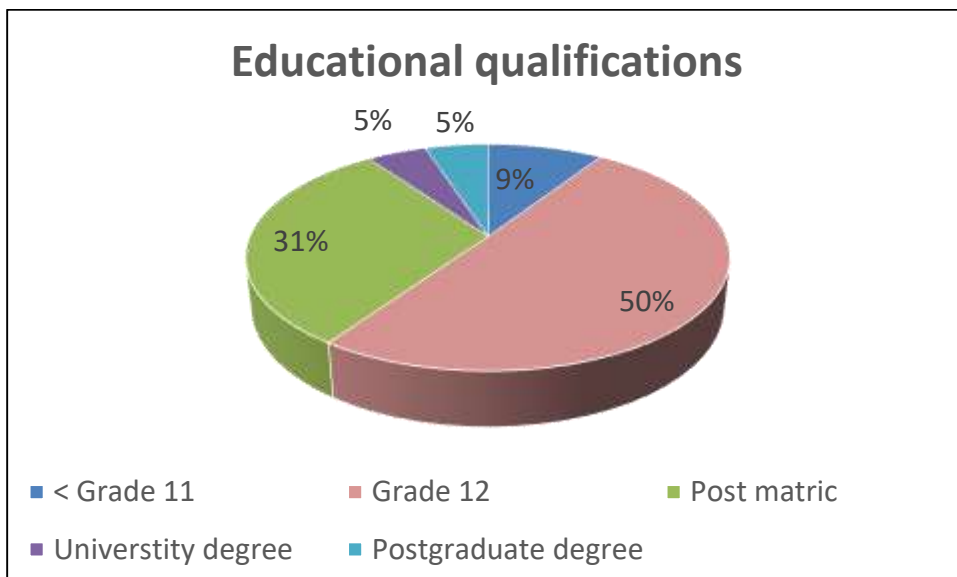


Figure 4. 3: Educational qualifications

Figure 4.3 indicates that the highest qualification of the majority of respondents (50%) had a Grade 12. The majority of the 30% with a post-matric qualification were artisans who had completed their trade test. University degree graduates accounted for 5% with an additional 5% who had completed a postgraduate degree. Only 9% of respondents had a qualification less than matric.

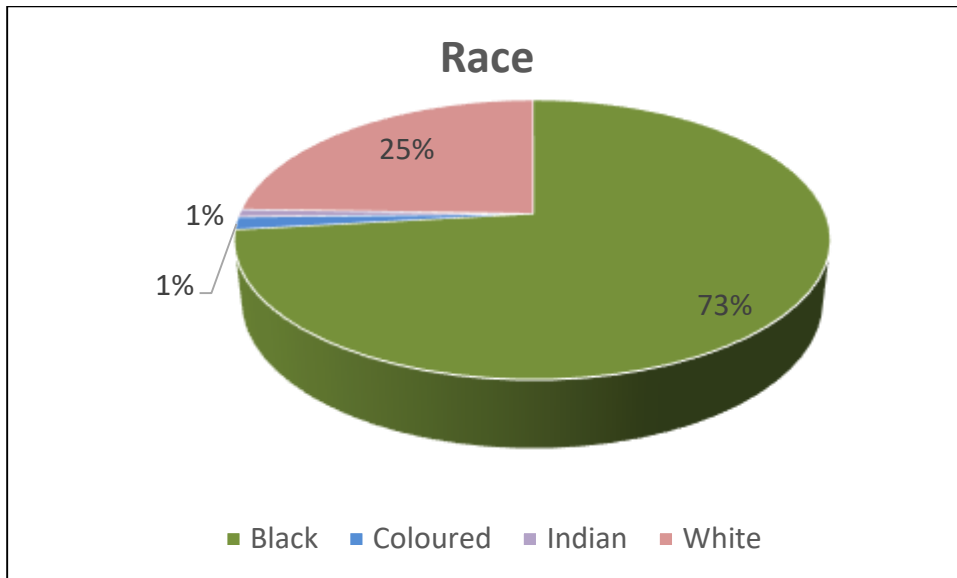


Figure 4. 4: Race distribution

Figure 4.4 indicates that the largest portion of the sample ($n = 339$) is Black (73%). The remaining respondents consisted of White (25%), Coloured (1%) and Indian (1%).

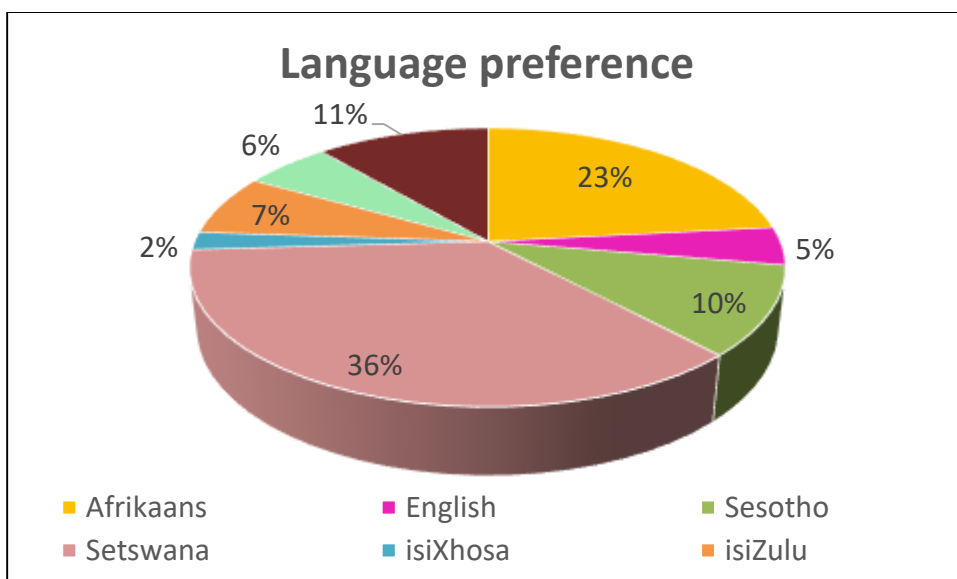


Figure 4. 5: Language preference

Figure 4.5 indicates that the majority of respondents were Setswana-speaking (36%); Afrikaans-speaking respondents constituted 23% and 11% of respondents selected other. A total of 10% of respondents were Sesotho-speaking, 7% isiZulu-speaking, 6% indicated that they preferred Northern Sotho, 5% indicated English and 2% had isiXhosa as their home language.

This correlates with the distribution of ethnicity which indicates that 73% of respondents were Black and 23% White.

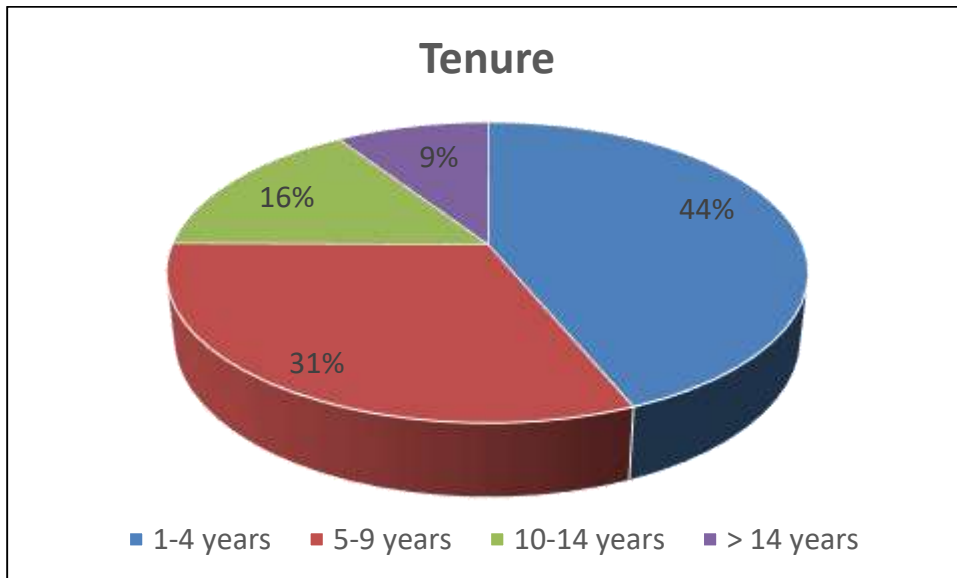


Figure 4. 6: Tenure

Figure 4.6 shows that the majority of respondents (44%) had been employed in their organisation between 1 – 4 years, while those employed for 5 – 9 years represented 31% of respondents. Employees with 10-14 years' experience in their organisation accounted for 16%, whilst those who had been employed for longer than 14 years constituted 9% of the sample.

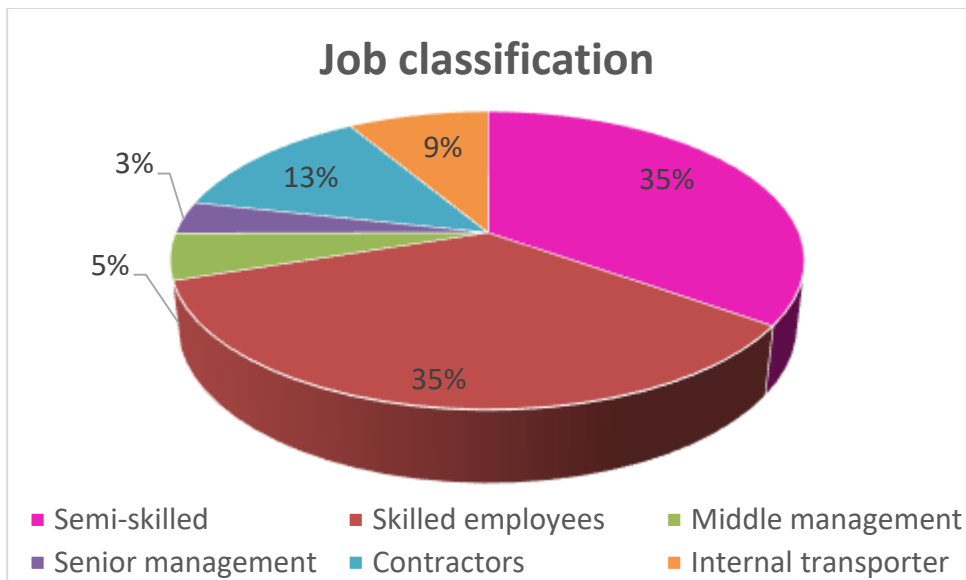


Figure 4. 7: Job classification

Figure 4.7 indicates that 35% of employees were HFC skilled employees, 35% semi-skilled HFC employees. HFC middle managers contributed 5% with senior managers 3% out of the total of 78% of HFC respondents. Contractor respondents accounted for 13% and the internal transporter 9% of the total respondents.

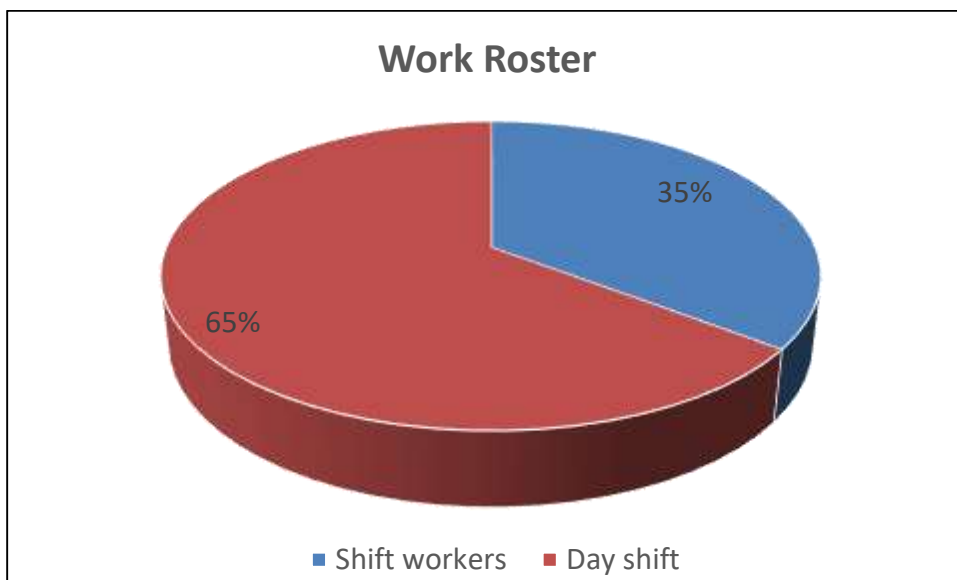


Figure 4. 8: Work roster

Figure 4.8 indicates that 65% were daily employees and 35% of employees were following a shift cycle.

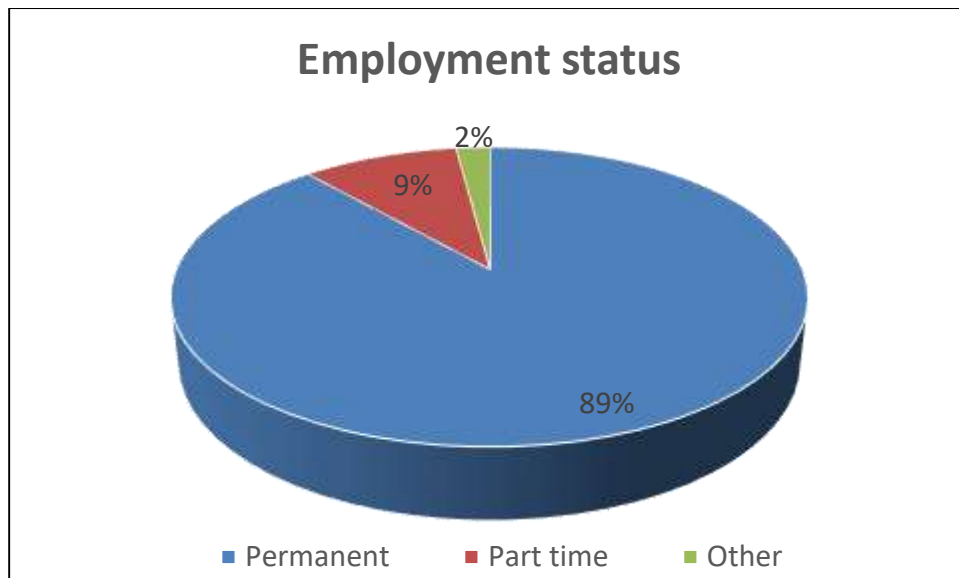


Figure 4. 9: Employment status

Figure 4.9 indicates that 89% of the respondents are permanent employees, 9% are employed on a part time basis and 2% of respondents indicated other.

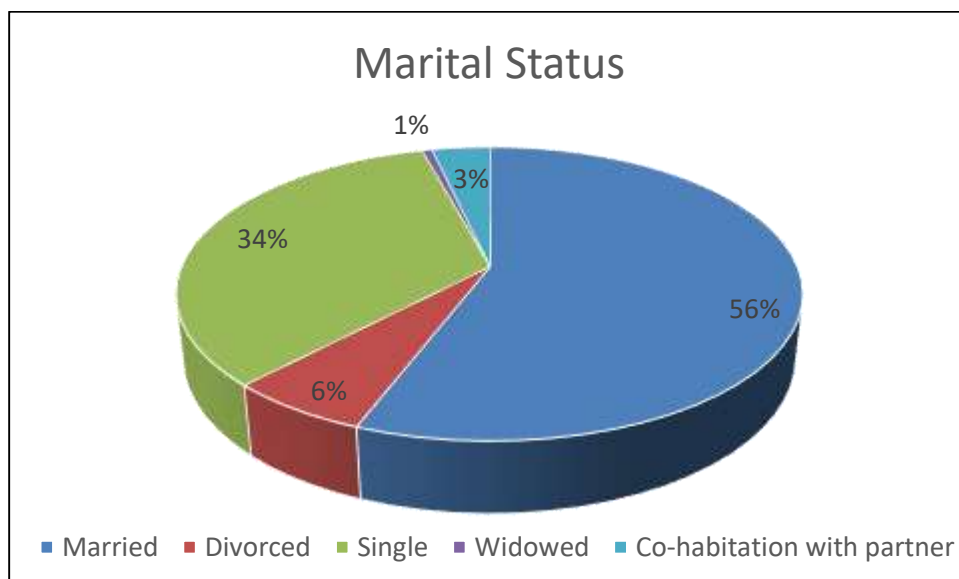


Figure 4. 10: Marital status

Figure 4.10 indicates that the majority of respondents, 56%, were married followed by respondents who were single (34%). Divorced participants comprised 6% of the sample and 3% of the respondents were in a co-habitation relationship. The remaining 1% were widows.

As can be seen from the above charts, the sample consisted predominantly of male respondents (84%) with the largest portion between the ages of 30 – 39 years. The largest portion of the sample was Black (73%). The smelter industry where this study was conducted mainly employs males, given the nature of the specific work done at the ferrochrome smelter and the demographics are therefore a relatively reliable reflection of the specific population.

The biographical data have provided an overview of the sample of this study. The following section deals with the results from the three questionnaires utilised to gather information regarding the levels of PsyCap, eudaimonic well-being and work engagement of respondents.

4.3 RESULTS

4.3.1 Reliability and internal consistency

The reliability and internal consistency of the measuring instruments are depicted below.

Table 4. 1: Reliability of the PCQ, UWES, QWEB and their sub-scales

Dimension	Number of items	n	Inter-item correlations	Cronbach Alpha
Hope	(Questions A7-A12) 6	339	0.40	0.78
Efficacy	(Questions A1-A6) 6	339	0.34	0.75
Resilience	(Questions A13-A18) 6	339	0.29	0.67 *
Optimism	(Questions A19-A24) 6	339	0.27	0.60 **
PsyCap	24	339	0.24	0.87
Vigour	(B1,B2,B5) 3	339	0.51	0.75
Dedication	(B3,B4,B7) 3	339	0.59	0.81
Absorption	(B6,B8,B9) 3	339	0.42	0.67
UWES	9	339	0.45	0.88
Factor 1	(C1,C2,C6,C9,C11,C16,C21) 7	339	0.30	0.73
Factor 2	(C4,C5,C8,C10,C13,C14,C15,C17,C18) 9	339	0.30	0.77
Factor 3	(C3,C7,C12,C19,C20) 5	339	0.29	0.67
QWEB	21	339	0.18	0.84
Factor 1	(C1,C2,C6,C9,C11,C16,C21) 7	339	0.30	0.73
Factor 2a	(C10,C15,C17, C18)4	339	0.29	0.55
Factor 2b	(C4,C5,C8,C13,C14) 5	339	0.33	0.71
Factor 3	(C3,C7,C12,C19,C20) 5	339	0.29	0.70
QWEB	21	339		0.84

* Excluding reversed score question A13; ** excluding reversed score question A20.

Looking at Table 4.1, it can be seen that on average PsyCap (.24) and QWEB (.18) had lower inter-item correlations than the shortened UWES scale (.45). These results indicate that the shortened UWES scale is a narrower construct than that of PsyCap and well-being. The PsyCap data analyses in this study revealed that reversed questions A13 (*‘When I have a setback at work, I have trouble recovering from it, moving on’*) and A20 (*If something can go wrong for me work-wise, it will*) had a negative impact on the reliability of the results. It was decided to delete the variables from the study due to the significant changes it made to the sub-scales of resilience which increased from .54 to .67 and optimism which increased from .50 to .60. By deleting the two questions from the study the total PsyCap Cronbach’s alpha increased from .85 to .87. Table 4.1 shows that both hope and efficacy had Cronbach’s alpha values of .75. Görgens-Ekermans and Herbert (2013:7) flagged items 13 and 20 as possible problem items due to their low inter-item correlation with other items in their respective sub-scales. According to a further

study conducted by Bekker (2016:42) items 13 and 20 were also deleted due to their low correlations with other items. This indicates that the two items do not fit well within the PsyCap instrument and need to be removed or rephrased to make them more understandable to respondents.

Table 4.1 shows that vigour (.75), dedication (.81) and absorption (.67) in shortened UWES work engagement scale were well above the accepted Cronbach's alpha value of .6 showing adequate reliability.

All three PsyCap, QWEB and UWES as shown in Table 4.1 obtained a high Cronbach alpha coefficient, namely .87, .84 and .88 respectively and is indicative of a high level of reliability and internal consistency.

For the remainder of this section the QWEB construct will be analysed in more depth to determine whether the results support the hypothesis of Schutte as discussed in 3.4.2.

Table 4.1 showed adequate reliability for a 3-factor construct with Cronbach alpha values of 73; .77 and .66. The reliability results of the 4 components for a 4 factor construct only question 2a ($\alpha=.55$) had a Cronbach alpha below .6 indicating inadequate reliability.

From Table 4.2 the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) and Bartlett's test was 0.842 (should be above 0.5) and the p-value was 0.000 (should be smaller than 0.05) irrespectively, indicating that a factor analysis can be done. From the pattern matrices in Table 4.3 for a 3-factor and Table 4.4 for a 4-factor construct all of the questions loaded were above 0.3. Thus, from the factor analyses, both a 3-factor and a 4-factor construct were supported although the reliability results as discussed above for factor 2a were inadequate.

Table 4.2: The KMO and Bartlett's test for the QWEB instrument

KMO		0.842
Bartlett's Test of Sphericity	Approx. Chi-Square	1952.408
	Df	210
	Sig.	0.000

Table 4.3: Pattern matrix for a proposed QWEB as a 3 factor construct

	Component		
	1	2	3
C18	0.709		
C14	0.695		
C13	0.647		
C15	0.643		
C17	0.642		
C8	0.603		
C4	0.571		
C6	0.496		-0.374
C1	0.410		
C5	0.381		
C10	0.375		
C19		0.713	
C7		0.653	
C20		0.634	
C3		0.586	-0.332
C12		0.577	
C9			-0.748
C2			-0.659
C21			-0.594
C11		0.473	0.580
C16		0.474	0.509

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 8 iterations.

Table 4.4: Pattern matrix for a proposed QWEB as a 4 factor construct

	Component			
	1	2	3	4
C18	0.787			
C15	0.759			
C14	0.739			
C13	0.610			
C17	0.592			
C8	0.498			
C6	0.497		-0.376	
C5	0.353			
C19		0.722		
C20		0.676		
C12		0.621		
C7		0.607		
C3		0.587	-0.319	
C9			-0.761	
C2			-0.679	0.300
C21			-0.585	
C11		0.395	0.582	0.318
C16		0.428	0.521	
C10				0.696
C4	0.354			0.462
C1				0.369

Due to the inadequate reliability of factor 2a showed in Table 4.1 the correlation results later in this study will only focus on a 3-factor construct of QWEB.

4.3.2 Comparative study – position in the organisation

Question 7 of the biographical section classed the employees into 1) semi-skilled (B-band) then 2) skilled (C-band; D-band and E-band) and 3) contractors. For statistical purposes, the B-band employees were compared with the rest of HFC's employees (C-band, D-band and E-band) and also the contractors.

Based on the results showed in Table 4.5 below:

The semi-skilled and skilled employees had a moderately (.38) practically significant different view on PsyCap. The skilled employees (mean=5.79) had a higher level of PsyCap than the semi-skilled employees (mean=5.13). No different practically significant view with regards to contractors against the semi-skilled and skilled employees was observed.

The semi-skilled employees had moderately practically significant different views on efficacy than the skilled (.49) and contractors (.44). The skilled employees (mean=5.79) had the highest level of efficacy followed by contractors (5.72) with semi-skilled (5.13) the lowest. No different practically significant view between skilled employees and contractors was observed.

The skilled employees had a moderate practically significant different view on resilience than the semi-skilled (.49) and contractors (.46). The skilled employees (mean=5.78) had the highest level of resilience followed by contractors (5.25) with semi-skilled (5.21) the lowest. No different practically significant view with regards to contractors against the semi-skilled and skilled employees was observed.

No different practically significant views on hope or optimism were observed among any of the three groups.

No different practically significant views on work engagement or EWB were observed among any of the three groups.

Table 4.5: Comparative results based on positions in the organisation

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Effect Size	
						Lower Bound	Upper Bound	1 with	2 with
Efficacy	1.00	118	5.13	1.34	0.12	4.89	5.38		
	2.00	148	5.79	1.17	0.10	5.60	5.98	0.49	
	3.00	73	5.72	0.97	0.11	5.49	5.94	0.44	0.06
	Total	339	5.55	1.23	0.07	5.41	5.68		
Hope	1.00	118	5.74	1.13	0.10	5.53	5.95		
	2.00	148	5.86	1.02	0.08	5.69	6.02	0.11	
	3.00	73	5.92	0.79	0.09	5.74	6.11	0.16	0.06
	Total	339	5.83	1.02	0.06	5.72	5.94		
Resilience	1.00	118	5.21	1.17	0.11	4.99	5.42		
	2.00	148	5.78	0.96	0.08	5.62	5.93	0.49	
	3.00	73	5.25	1.14	0.13	4.98	5.51	0.04	0.46
	Total	339	5.46	1.11	0.06	5.35	5.58		
Optimism	1.00	118	5.36	0.98	0.09	5.19	5.54		
	2.00	148	5.44	1.14	0.09	5.26	5.62	0.07	
	3.00	73	5.50	0.78	0.09	5.32	5.69	0.14	0.06
	Total	339	5.43	1.01	0.05	5.32	5.54		
PsyCap	1.00	118	5.37	0.93	0.09	5.20	5.54		
	2.00	148	5.73	0.84	0.07	5.59	5.86	0.38	
	3.00	73	5.62	0.68	0.08	5.46	5.78	0.27	0.13
	Total	339	5.58	0.85	0.05	5.49	5.67		
UWES	1.00	118	5.12	1.38	0.13	4.87	5.37		
	2.00	148	5.53	0.99	0.08	5.37	5.69	0.30	
	3.00	73	5.60	0.84	0.10	5.41	5.80	0.35	0.07
	Total	339	5.40	1.13	0.06	5.28	5.52		
Well_being	1.00	118	5.50	0.72	0.07	5.37	5.63		
	2.00	148	5.70	0.70	0.06	5.59	5.82	0.28	
	3.00	73	5.43	0.75	0.09	5.26	5.61	0.09	0.36
	Total	339	5.57	0.72	0.04	5.50	5.65		

Note on “Effect size” 0.2 = small effect; 0.5 = medium effect and 0.8 = large effect (Cohen, 1988:22)

4.3.3 Correlation

For the correlation analyses the commonly used Pearson’s correlation (P) and Spearman (S) were compared to one another. Table 4.6 (P) and Table 4.7 (S) showed PsyCap, EWB and work engagement to be positively related to one another. According to Field (2013:267) values of +/- 0.1 indicate a low effect with +/- 0.3 medium and +/-0.5 a large effect.

As shown in Table 4.6 and Table 4.7 below:

P (.573) and S (.632) rho indicated a strong relationship between PsyCap and work engagement within a 1 % confidence level ($\alpha < 0.01$).

P (.446) and S (.440) rho indicated a medium relationship between PsyCap and EWB within a 1 % confidence level ($\alpha < 0.01$).

P (.273) and S (.305) rho indicated a medium relationship between work engagement and EWB within a 1 % confidence level ($\alpha < 0.01$).

Table 4.6: Correlation between PsyCap, work engagement and EWB

Pearson's correlations (P)				
		PsyCap	Work engagement	Well-being
PsyCap	Correlation Coefficient	1	.573**	.446**
	Sig. (2-tailed)		0	0
Work engagement	Correlation Coefficient		1	.273**
	Sig. (2-tailed)			0
Well-being	Correlation Coefficient			1
	Sig. (2-tailed)			

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

Table 4.7: Correlation between PsyCap, work engagement and EWB

Spearman's correlations (S)				
		PsyCap	Work engagement	Well-being
PsyCap	Correlation Coefficient	1	.632**	.440**
	Sig. (2-tailed)		0	0
Work engagement	Correlation Coefficient		1	.305**
	Sig. (2-tailed)			0
Well-being	Correlation Coefficient			1
	Sig. (2-tailed)			

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

Pearson's and Spearman's correlation results showed a similar trend as per the above.

Artusi *et al.* (2002) provide the following important information regarding the Spearman's

correlation coefficient (S) as to the Pearson's correlation coefficient (P). Pearson product-moment correlation attempts to draw a line of best fit through the data of two variables, and the Pearson correlation coefficient, r , indicates how far away all these data points are to this line of best fit as opposed to Spearman's correlation coefficient which is a statistical measure of the strength of a monotonic relationship between paired data. It was decided that the Pearson correlation coefficient will be most suited for this study although similar results were obtained in Tables 4.6 and 4.7. From Table 4.8 to Table 4.10 only the P results was reported.

As shown in Table 4.8 below:

PsyCap had some strong relationships with all its sub-constructs; efficacy (.801), hope (.771), resilience (.715) and optimism (.774) within a 1 % confidence level ($\alpha < 0.01$).

Vigour (.515) and dedication (.524) had a strong relationship with PsyCap and a medium relationship was observed between PsyCap and absorption (.449) within a 1 % confidence level ($\alpha < 0.01$).

Optimism (.564) had the strongest correlation with work engagement followed by hope (.509), efficacy (.441) and resilience (.316) within a 1 % confidence level ($\alpha < 0.01$).

Table 4. 8: Correlation between PsyCap and the sub-constructs and work engagement and the sub-constructs

		Efficacy	Hope	Resilience	Optimism	PsyCap	UWES	Vigor	Dedication	Absorption
Efficacy	Correlation Coefficient	1.000	.477**	.438**	.427**	.801**	.441**	.382**	.387**	.382**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hope	Correlation Coefficient	.477**	1.000	.425**	.517**	.771**	.509**	.480**	.483**	.361**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.000	0.000
Resilience	Correlation Coefficient	.438**	.425**	1.000	.413**	.715**	.316**	.255**	.264**	.290**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.000	0.000
Optimism	Correlation Coefficient	.427**	.517**	.413**	1.000	.717**	.564**	.511**	.547**	.410**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.000	0.000
PsyCap	Correlation Coefficient	.801**	.771**	.715**	.717**	1.000	.573**	.515**	.524**	.449**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000	0.000
UWES	Correlation Coefficient	.441**	.509**	.316**	.564**	.573**	1.000	.870**	.844**	.834**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Vigor	Correlation Coefficient	.382**	.480**	.255**	.511**	.515**	.870**	1.000	.664**	.573**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
Dedication	Correlation Coefficient	.387**	.483**	.264**	.547**	.524**	.844**	.664**	1.000	.557**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000
Absorption	Correlation Coefficient	.382**	.361**	.290**	.410**	.449**	.834**	.573**	.557**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

As shown in Table 4.9 below:

Optimism (.425) had the strongest relationship with EWB followed by hope (.375), efficacy (.343) and resilience (.280) within a 1 % confidence level ($\alpha < 0.01$).

EWB had strong relationships with all three proposed sub-constructs of EWB; factor C1 (.747), factor C2 (.598) and factor C3 (.791) within a 99% confidence level ($\alpha < 0.01$).

PsyCap had medium relationships with factor C1 (.474) and factor C3 (.416) within a 99 % confidence level ($\alpha < 0.01$) and a no relationship with factor C2 (-.106) with a confidence level of less than 95% ($\alpha > 0.05$).

Efficacy had medium relationships with all three proposed sub-constructs of EWB; factor C1 (.362) and factor C3 (.253) and a weak relationship with factor C2 (.178) within a 99 % confidence level ($\alpha < 0.01$).

Hope had medium relationships with factor C1 (.367) and factor C3 (.425) within a 99 % confidence level ($\alpha < 0.01$) and a no relationship with factor C2 (-.106) with a confidence level of less than 95% ($\alpha > 0.05$).

Resilience had a medium relationship with factor C1 (.384), a weak relationship with factor C2 (.207) within a 99 % confidence level ($\alpha < 0.01$) and a no relationship with factor C3 (-.043) within a confidence level of less than 95% ($\alpha > 0.05$).

Optimism had medium relationships with factor C1 (.437) and factor C3 (.430) within a 99 % confidence level ($\alpha < 0.01$) and a no relationship with factor C2 (-.082) with a confidence level of less than 95% ($\alpha > 0.05$).

Table 4.9: Correlation between PsyCap and its sub-constructs and eudaimonic well-being and its proposed sub-constructs

		Efficacy	Hope	Resilience	Optimism	PsyCap	Well_being	Factor_C1	Factor_C2	Factor_C3
Efficacy	Correlation Coefficient	1.000	.477**	.438**	.427**	.801**	.343**	.362**	-.178**	.253**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000
Hope	Correlation Coefficient	.477**	1.000	.425**	.517**	.771**	.375**	.367**	-0.013	.425**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000	0.806	0.000
Resilience	Correlation Coefficient	.438**	.425**	1.000	.413**	.715**	.280**	.384**	-0.043	.207**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000	0.427	0.000
Optimism	Correlation Coefficient	.427**	.517**	.413**	1.000	.717**	.425**	.437**	-0.082	.430**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000	0.134	0.000
PsyCap	Correlation Coefficient	.801**	.771**	.715**	.717**	1.000	.446**	.474**	-0.106	.416**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.051	0.000
Well_being	Correlation Coefficient	.343**	.375**	.280**	.425**	.446**	1.000	.747**	-.598**	.791**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Factor_C1	Correlation Coefficient	.362**	.367**	.384**	.437**	.474**	.747**	1.000	-.166**	.478**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000		0.002	0.000
Factor_C2	Correlation Coefficient	-.178**	-0.013	-0.043	-0.082	-0.106	-.598**	-.166**	1.000	-.232**
	Sig. (2-tailed)	0.001	0.806	0.427	0.134	0.051	0.000	0.002		0.000
Factor_C3	Correlation Coefficient	.253**	.425**	.207**	.430**	.416**	.791**	.478**	-.232**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

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

As shown in Table 4.10 below:

EWB had medium relationships with all three sub-constructs of work engagement; vigour (.273), dedication (.224) and absorption (.261) within a 99 % confidence level ($\alpha < 0.01$).

Proposed factor C1 had medium relationships with all three sub-constructs of work engagement; vigour (.305), dedication (.346) and absorption (.293) within a 99 % confidence level ($\alpha < 0.01$).

Proposed factor C2 had weak relationships with all three sub-constructs of work engagement; vigour (.092), dedication (.091) and absorption (.020) with a confidence level of less than 95% ($\alpha > 0.05$).

Proposed factor C3 had medium relationships with all three sub-constructs of work engagement; vigour (.321), dedication (.282) and absorption (.327) within a 99% confidence level ($\alpha < 0.01$).

Table 4.10: Correlation between EWB and its proposed sub-constructs and work engagement's sub-constructs

		UWES	Vigor	Dedication	Absorption	Well_being	Factor_C1	Factor_C2	Factor_C3
Well_being	Correlation Coefficient	.273**	.224**	.261**	.222**	1.000	.747**	-.598**	.791**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000	0.000
Factor_C1	Correlation Coefficient	.357**	.305**	.346**	.293**	.747**	1.000	-.166**	.478**
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.002	0.000
Factor_C2	Correlation Coefficient	0.072	0.092	0.091	0.020	-.598**	-.166**	1.000	-.232**
	Sig. (2-tailed)	0.189	0.089	0.093	0.716	0.000	0.002		0.000
Factor_C3	Correlation Coefficient	.321**	.282**	.327**	.218**	.791**	.478**	-.232**	1.000
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	
UWES	Correlation Coefficient	1.000	.870**	.844**	.834**	.273**	.357**	0.072	.321**
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.189	0.000
Vigor	Correlation Coefficient	.870**	1.000	.664**	.573**	.224**	.305**	0.092	.282**
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.089	0.000
Dedication	Correlation Coefficient	.844**	.664**	1.000	.557**	.261**	.346**	0.091	.327**
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.093	0.000
Absorption	Correlation Coefficient	.834**	.573**	.557**	1.000	.222**	.293**	0.020	.218**
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.716	0.000

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

4.3.4 Regression analyses

The regression analyses to determine the predictive capabilities of the PsyCap and QWEB questionnaires are depicted below. Stepwise regression was used to determine the predictive capabilities of PsyCap and work engagement. Table 4.11 shows that 40% (r^2) of the variability of work engagement are explained by PsyCap. The p-value of PsyCap as a predictor of work engagement (UWES) was 0.000 which is within the 0.005 band limit indicating that PsyCap can predict work engagement. Table 4.11 shows that EWB was not a predictor of work engagement since it was excluded by the stepwise regression program with a p-value of 0.024 which was well above the maximum of 0.05.

Table 4.11: Regression results

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.632 ^a	0.40	0.40	0.88	0.40	224.25	1	337	0.000	
a. Predictors: (Constant), PsyCap										
b. Dependent Variable: UWES										
Coefficients ^a										
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.				
		B	Std. Error	Beta						
1	(Constant)	0.72	0.32		2.27	0.024				
	PsyCap	0.84	0.06	0.63	14.98	0.000				
a. Dependent Variable: UWES										
Excluded Variables ^a										
Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics				
						Tolerance				
1	Well-being	.033 ^b	0.70	0.49	0.04	0.81				
a. Dependent Variable: UWES										
b. Predictors in the Model: (Constant), PsyCap										

4.4 SUMMARY

Hypothesis 1: There is a positive relationship between PsyCap, EWB and work engagement.

Tables 4.6 and 4.7 shows that PsyCap and work engagement are strongly correlated (r) ($P = .573$ and $S = .632$ with $p = 0$) followed by the correlation between PsyCap and well-being ($P = .446$ and $S = .440$ with $p = 0$). EWB and work engagement indicated a medium ($P = .273$ and $S = .305$ with $p = 0$) positive influence on each other. The hypothesis is thus supported that PsyCap, EWB and work engagement have a positive relationship to one another.

Hypothesis 2: Optimism has the strongest relationship with work engagement and EWB than the four constructs of PsyCap.

As shown in the results, optimism (.564) had the strongest correlation with work engagement followed by hope (.509), efficacy (.441) and resilience (.316) within a 1% confidence level ($\alpha < 0.01$). Optimism (.425) also had the strongest relationship with EWB followed by hope (.375), efficacy (.343) and resilience (.280) within a 1% confidence level

($\alpha < 0.01$). This supports the hypothesis that optimism had a stronger relationship with work engagement and EWB than the four constructs of PsyCap.

Hypothesis 3: PsyCap is a predictor of work engagement

Table 4.10 shows that 40% (r^2) of the variability of work engagement is explained by PsyCap. The p-value of PsyCap as a predictor of work engagement (UWES) was 0.000 which is within the 0.005 band limit indicating that PsyCap can predict work engagement. This hypothesis is thus *accepted*.

Hypothesis 4: Eudaimonic well-being is a predictor of work engagement

Table 4.10 shows that well-being was not a predictor of work engagement since it was excluded by the programme with a p-value of 0.024 which was well above the maximum of 0.05. This hypothesis is thus *rejected*.

Hypothesis 5: QEWB is a multi-dimensional construct

The reliability and internal consistency of a 3 factor QWEB instrument were adequate as showed in Table 4.1. The pattern matrices in Table 4.3 and Table 4.4 supported both a 3-factor and a 4-factor construct. The hypothesis is thus *accepted*.

4.5. CONCLUSION

Chapter 4 provided an overview of the results of this research study, obtained by a statistical analysis of the data by means of SPSS. The said analysis included descriptive as well as inferential statistics, i.e. Spearman's correlation coefficient and regression analysis. The following chapter suggests recommendations to be made after analysis of the data and furthermore addresses the limitations of the study. Final conclusions are drawn and the significance of the study posited.

CHAPTER 5: CONCLUSION

5.1 INTRODUCTION

The research was presented and discussed in Chapter 4. The patterns of relationship between constructs were outlined and the findings from the research indicated which of the hypotheses were accepted and/or rejected. In this chapter conclusions are drawn and recommendations made to the management of the organisation where the research was conducted. Furthermore, the limitations of the study are demonstrated and recommendations for future research proposed.

5.2 CURRENT RELATIONSHIP FINDINGS AND ITS INTEGRATION WITH AND/OR RELATION WITH REPORTED LITERATURE

5.2.1 Hypothesis 1: There is a positive relationship between PsyCap, EWB and work engagement (WE)

5.2.1.1 *Current finding*

Correlation coefficient (r) between PsyCap and EWB = .446 (P); .440 (S)

p value = 0.000

Correlation coefficient (r) between PsyCap and WE = .573 (P); .632 (S)

p value = 0.000

Correlation coefficient (r) between EWB and WE = .273 (P); .305 (S)

p value = 0.000

5.2.1.2 *Reported related findings*

The strong correlation between PsyCap and work engagement from this study concurs with previous studies from Simons and Buitendach (2013:1) and (Harris, 2012:156) as discussed in Chapter 2.6. The low inter-item correlation of items 13 and 20 with the other questions within the PsyCap questionnaire supported the previous studies by Bekker (2016:42), Görgens-Ekermans and Herbert (2013:7).

Due to limited research conducted on EWB using the QEWB measuring instrument, the medium correlations by PsyCap and work engagement with EWB could not be supported by previous studies. Although Avey *et al.* (2010:22) did find PsyCap and Psychological well-being (PWB) to be strongly correlated using two widely used measuring instruments for PWB: Index of PWB and the General Health Questionnaire for PWB.

EWB and work engagement had a medium correlation in this study, where previous studies as discussed in Chapter 2.6 by Robertson and Cooper (2011:33-35), De Simone (2014:120) and Oades and Dulagil (2016:363) showed overlapping elements between wellbeing and work engagement. Due to the overlapping elements it is expected that two constructs will be positively correlated.

5.2.2 Hypothesis 2: Optimism has the strongest relationship with work engagement (WE) and EWB than the four constructs of PsyCap

5.2.2.1 Current findings

Correlation coefficient between optimism and WE = 0.564 p value = 0.000

Correlation coefficient between optimism and EWB = 0.425 p value = 0.000

Correlation coefficient between hope and WE = 0.509 p value = 0.000

Correlation coefficient between hope and EWB = 0.375 p value = 0.000

Correlation coefficient between efficacy and WE = 0.441 p value = 0.000

Correlation coefficient between efficacy and EWB = 0.343 p value = 0.000

Correlation coefficient between resilience and WE = 0.316 p value = 0.000

Correlation coefficient between resilience and EWB = 0.280 p value = 0.000

The hypothesis was supported that optimism has a stronger relationship with work engagement and EWB than the other three sub-constructs of PsyCap.

5.2.2.2 *Reported related findings*

Previous literature by Herbert (2011:183) and Simons and Buitendach (2013:9) as discussed in Chapter 2.6 supported the findings in this study where optimism had a strong correlation to work engagement.

Previous literature did not compare the correlations between of the four elements of PsyCap with EWB using the QEWB.

5.2.3 Hypothesis 3: PsyCap is a predictor of work engagement

5.2.3.1 *Current findings*

40% (r^2) of the variability of work engagement is explained by PsyCap. P value=0.000. These results support the hypothesis that PsyCap can predict work engagement.

5.2.3.2 *Reported related findings*

Bekker (2016:52) supported the current finding that PsyCap can predict work engagement.

5.2.4 Hypothesis 4: EWB is a predictor of work engagement

5.2.4.1 *Current findings*

Table 4.3 shows that well-being was not a predictor of work engagement since it was excluded by the programme with a p-value of 0.024 which was well above the maximum of 0.05. (r^2) of the variability of work engagement as explained by PsyCap.

5.2.4.2 *Reported related findings*

None of the current literature either accepts or rejects this hypothesis, although overlapping elements of EWB and work engagement also discussed in 5.2.1.2 may be the reason why EWB could not predict work engagement.

5.3 PURPOSE OF THE STUDY

The purpose of this study was to conduct quantitative research within the smelter environment of South Africa in order to investigate the relationship between PsyCap levels, eudaimonic well-being and work engagement. Further to this objective, the study aimed to ascertain whether PsyCap and EWB can predict work engagement. Positive psychology and positive organisational behaviour guided this study and the literature review which was conducted (Chapter 2) addressed PsyCap and WE as two of the well-known POB constructs. Previous empirical studies have concluded that PsyCap can predict work engagement and that the measurement instruments were valid and reliable. Previous research on EWB concluded that the measurement instrument is valid. During this study, it was determined whether a positive relationship exists between PsyCap, EWB and work engagement and the predictive capability of PsyCap and EWB on WE. Previous literature did conclude that PsyCap and work engagement have a positive relationship and that PsyCap can predict work engagement. The EWBQ used to determine EWB was a relatively new tool and the relationship with PsyCap and work engagement was not fully explored in literature yet.

This research was conducted at a ferrochrome smelter operation in the North West Province.

Chapter 3 outlined the research methodology which was utilised in this study and Chapter 4 posited the results of the data analysis. The key findings from this study revealed the following:

The study added more information to the existing knowledge of POB. It underlines the value of the developing employees' PsyCap at the workplace. The positive relationship between PsyCap, EWB and work engagement and the overlapping elements of EWB and work engagement, indicate that, by developing PsyCap, the EWB and work engagement of employees will increase. The study revealed the importance of having optimistic leaders who can positively influence followers to add value within the workplace. Furthermore, the EWB measuring instrument was confirmed as multi-dimensional construct. The factor analysis supported both a 3-factor and a 4-factor construct whereas the internal consistency only supported the 3-factor construct. The study revealed

instances where employees level of PsyCap were developed with positive outcomes revealing the state-like properties of PsyCap.

- PsyCap, EWB and work engagement had a positive relationship; with PsyCap and work engagement having the highest correlation
- Optimism had a stronger relationship with EWB and work engagement than efficacy, hope and resilience.
- PsyCap is a strong predictor of work engagement.
- EWB is not a predictor of work engagement.
- EWB is a multi-dimensional construct with a 3-factor and not a 4-factor construct.
- EWB is a multi-dimensional construct. The factor analyses supported both a 3-factor and a 4-factor construct whereas the internal consistency only supported the 3-factor construct.

5.3 RECOMMENDATIONS

5.3.1 Recommendations to management

It is recommended that a PsyCap intervention programme be conducted amongst the semi-skilled employees within HFC. As mentioned in Chapter 1, PsyCap constructs are state-like which can be developed or enhanced over time. The semi-skilled employees' level of PsyCap was found to be lower than the skilled employees and the contractors. The results of this study can form the baseline of the intervention. HFC will benefit financially with an increase in PsyCap by having more engaged workers with a high level of eudaimonic wellbeing. As discussed in Chapter 1, more employees are disengaged than engaged and the levels of engagement of individuals vary during a day. Disengaged employees will have a negative effect on the organisation's bottom line. By investing in PsyCap, organisations can develop a dynamic workforce who will be able to deal with complex situations (Toor & Ofori, 2010:343). Luthans *et al.* (2006:392) did a PsyCap intervention (PCI) on a sample of 74 engineering managers where a return on investment was calculated at approximately 270% based on employees' productivity and contribution. By having a PCI on HFC employees will increase levels of PsyCap which will also increase the levels of work engagement and EWB due to the positive relationships of the constructs. HFC may also consider comparing each manager's level

of PsyCap to its team members to determine the impact of leaders on its followers' PsyCap level which will impact on work engagement. This study underlines the importance and significance of positive psychological capital (PsyCap) amongst employees at HFC.

The position or level of authority of employees at HFC had little or no effect on level of eudaimonic well-being and work engagement. Of the four PsyCap constructs levels of efficacy and resilience were lower for semi-skilled employees than the skilled/managerial group which supports Du Plessis and Barkhuizen (2011:28) study where the level of PsyCap was higher amongst senior employees as stated in the problem statement in Chapter 1.2. Luthans *et al.* (2007b:36) explain how self-efficacy can be developed through mastery experiences by building confidence through previous experiences. Management needs to give employees responsibility and some freedom to learn from previous mistakes. Self-efficacy can further be enhanced as noted by Lunenburg (2011:3) when management shows belief in the employees resulting in the employees performing at higher levels (referring to the Pygmalion effect) or the self-fulfilling prophecy discussed in Chapter 2.3.2. Organisational factors like financial resources, systems and team environment and individual factors which include knowledge, skills, abilities, physical and psychological well-being referred by Luthans *et al.* (2007b:37) as “means efficacy” can form the foundation blocks to enhance self-efficacy. Resilience can be enhanced through traditional training and development programmes and also by enhancing efficacy through coaching, mentoring and constructive feedback (Luthans *et al.*, 2007b:125). Optimism amongst HFC employees had stronger relationships with EWB and work engagement than the other three PsyCap constructs. By having employees with high levels of EWB will result in a work force where there are purpose and meaning in their actions which might lead towards better behaviour. Throughout this study it is seen that positivity is contagious and positive leaders will set the scene for a positive workforce. Besides including only technical skills as a criterion for managers HFC also needs to include the positive traits and trait-like characteristics when developing and selecting leaders (Youseff & Luthans, 2013:285). Existing managers or future leaders within HFC can undergo short interventions at minimum costs to develop PsyCap and other positive traits to achieve a return on investment (Luthans *et al.*, 2006:392). The importance of the happy worker hypothesis discussed by Oades and Dulagil (2017:363) must not be

underestimated where high levels of EWB lead to positive emotional states and positive appraisals where employees' performance and quality of life are enhanced leading to a productive workforce. This is even more significant to companies within the mining and smelter industry of South Africa which has undergone major financial losses due to strike action and unproductive workers. With the increase in labour costs and the implementation of minimum wages labour is no longer cheap and unproductive workers exponentially add to the costs and reduce competitiveness not just locally but also internationally.

Luthans *et al.* (2006:389) describe the hope dimension intervention and utilise the hope theory and guidelines from Snyder (2000) where small groups are formed. These employee groups discuss multiple pathways on how to overcome obstacles to reach certain goals. The optimism dimension intervention is where the pessimists list reasons why certain obstacles cannot be overcome as they anticipate bad events. As alternative pathways are discussed the pessimist loses more options to anticipate the bad events (Luthans *et al.*, 2006:389). The facilitator and other employees in the small group serve as role models for efficacy-building processes, drawing mainly on Bandura's work. Here task members gain "imaginary" task mastery experiences to enhance their levels of efficacy (Luthans *et al.*, 2006:389). The PCI intervention on resilience draws mainly on Masten's work where cognitive, emotional and behavioural processes are used to change participants' perceptions of their own and environmental influences. Participants listed recent setbacks and discussed what was in their control, out of control and possible actions to be followed. Employees who more accurately framed personal setbacks with regard to true impact, control, and options are able to adapt and bounce back from setbacks and are able to increase levels of performance under those circumstances (Luthans *et al.*, 2006:391).

To achieve high levels of work engagement according to Bakker *et al.* (2011:85) employer and employees must join hands in developing "a positive, trusting, civil, respectful, and mutually beneficial working relationship such that all parties genuinely believe there is the potential for equity, fairness, opportunity, and meaningful growth within the system".

Bakker *et al.* (2011:85) point out that if all parties know how their work contributes meaningfully to the organisational goals it may lead to higher work engagement.

Employees need to be trained how to communicate effectively and that the organisational design, job design and resource allocation need to be clear to all parties in order to remove stumbling blocks to work engagement (Bakker *et al.*, 2011:85).

Recommendations for future research

The advantage of balancing positive and negative emotions needs to be investigated in detail in order for the study of POB not to follow the benevolence route. Organisations will benefit by having employees who are able to manage their emotions under extreme stressful conditions. Under these circumstances employees who developed the skill to transform negative emotions into positive emotions will thrive when others falter.

To determine the impact of eudaimonia within an organisation by determining the impact of a fully “functioning person” as discussed by Wiesmann (2017:616) on his followers’ job performance and productivity.

From this study it was determined that developing PsyCap and not EWB will increase work engagement. It is suggested to compare other constructs to PsyCap’s predictive capability of work engagement or any other interventions which organisations can apply to increase work engagement. Further studies to determine why certain employees have high levels of work engagement and others will add to the existing body of knowledge on how to increase work engagement within organisations in order to increase their competitiveness.

The correlation coefficients in Chapter 4 indicated that there is a positive relationship between PsyCap, EWB and work engagement. PsyCap was found to be a predictor of work engagement whereas EWB did not predict work. Indications that EWB did not predict work engagement in this study might on a theoretical level at least, be due to a possible overlap between the two constructs i.e. engagement could be conceived as a form of work-related well-being. The correlation between the two constructs, however, did not provide sufficient evidence for this possibility to be explored further in the current study. Future studies could investigate the relationship between PsyCap, EWB and work engagement in different settings to see if similar results could be duplicated.

It is furthermore suggested to consider the removal of questions 13 and 20 from the PsyCap questionnaire due to their low reliability which was also confirmed by Bekker (2016:42) and Görgens-Ekermans and Herbert (2013:7).

Further research needs to be conducted on how EWB can contribute to the bottom line. The importance of PsyCap and WE to industry was well documented in previous research and confirmed in this study. The non-predictive capability of EWB on work engagement needs to be confirmed by future research.

5.4 LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

The degree of difficulty of the questionnaires used was too high for some employees below Grade 12. This is understandable since the questions were in English and only 5% of the respondents in this study had English as their mother tongue as indicated in Figure 4.5. Some of the questionnaires needed to be discarded where it was obvious that they had not been filled in properly.

The balance and impact between negative and positive constructs on the workplace can be addressed in future research where it might be needed that an opposite construct for PsyCap needs to be created. The return on investment (ROI) of PsyCap needs to be quantified in order to supply more proof to justify financial investment in PsyCap. Leaders need to commit to long-term interventions where the employee performance and the financial performance of the organisation are measured (Green *et al.*, 2017:66).

5.5 CONTRIBUTION OF THE STUDY

This study contributes to the literature on positive organisational behaviour constructs as the results of the study confirm previous findings which indicate that there is a positive relationship between PsyCap, EWB and work engagement within the South African context. The study proved that the QEWB is a 3-factor model and that EWB is not a predictor of work engagement.

The study further underlines the importance of interventions to enhance PsyCap in order to increase revenue and remove stumbling blocks which stand in the way of work engagement.

These findings indicate that the four constructs of PsyCap, namely hope, efficacy, resilience and optimism, have a direct influence on an employee's work engagement. As far as it could be ascertained, no studies have been conducted in the smelter industry in South Africa containing the constructs of PsyCap and work engagement. Therefore, the results of this study supplement the growing body of research on POB. The primary aim of this study was to investigate the relationships between PsyCap levels, EWB and work engagement in the smelter industry and to ascertain whether PsyCap and EWB can predict work engagement. By measuring the level of PsyCap in employees, this study showed that the level of their work engagement would be predicted.

By taking cognisance of the findings of this study, organisations and their management teams would benefit by appointing and retaining staff who are engaged in their work. Furthermore, by providing interventions to enhance the PsyCap constructs, a productive environment will be created where employees can immerse themselves in their work. Developing the potential of employees and utilising them in order to create purpose and meaning within the eudaimonic framework, might lead to better behaviour of employees. An improvement in the behaviour and manners of employees might lead to fewer accidents.

5.6 CONCLUSION

The study made several recommendations and revealed a few limitations. The PsyCap questionnaire was found to be a very strong predictor of work engagement. It is concluded that organisations need to take cognisance of the advantages of having PsyCap interventions.

The QEWB instrument was found not to be a predictor of work engagement, although it was positively related to work engagement.

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Appendix A- Questionnaires

ANNEXURE A

March 2017

TO WHOM THIS MAY CONCERN:

We, the undersigned,

Mr J Swanepoel / W. Reyneke

in our capacity as Chief Operations Officer of Hemic Ferrochrome (HFC), herewith gives permission to Mr R Verster (student number 26932008) to conduct research at this organisation relating to his mini-dissertation to be submitted for the partial fulfilment of the Master's degree in Business Administration at the Potchefstroom Campus of the North-West University.

The title of the mini-dissertation is **"Examining the relationship between psychological capital, eudaimonic well-being and selected work outcomes"** and questionnaires pertaining to these constructs can be distributed to HFC employees. Research to be conducted during 2017.



J. Swanepoel
Joint Acting CEO
Hemic Ferrochrome

W. Reyneke
Joint Acting CEO
Hemic Ferrochrome

* * *

BIOGRAPHICAL QUESTIONNAIRE

The following information is requested in order for meaningful analysis.

PART 1: DEMOGRAPHIC INFORMATION

1. State your date of birth (dd/mm/yyyy) Example:25/10/1978

Please tick the appropriate box:

2. GENDER:

- ☐ 1. Male ☐ 2. Female

3. EDUCATIONAL QUALIFICATIONS (Mark only the highest level of education)

- ☐ 1. Grade 11 or lower ☐ 2. Grade 12 (Matric) ☐ 3. Post Matric qualification (diploma) ☐ 4. University degree ☐ 5. Postgraduate degree

4. RACE

- ☐ 1. Black ☐ 2. Coloured ☐ 3. Indian ☐ 4. Asian ☐ 5. White

5. WHAT IS YOUR HOME / FIRST LANGUAGE?

- ☐ 1. Afrikaans ☐ 2. English ☐ 3. Sesotho ☐ 4. Setswana
☐ 5. isiXhosa ☐ 6. isiZulu ☐ 7. Other (please specify) _____

6. HOW MANY YEARS HAVE YOU BEEN WORKING FOR THE ORGANISATION?

- ☐ 1. 1-4 years; ☐ 2. 5-9 years; ☐ 3. 10-14 years; 4. ☐ longer than 14 years

7. POSITION IN THE ORGANISATION

- ☐ 1. B1-B7; ☐ 2. C-Band; ☐ 3. D-Band: ☐ 4. E-Band and above
☐ 5. Contractor

8. SHIFT

- ☐ 1. Shift worker ☐ 2. Day;

9.. EMPLOYMENT STATUS

- ☐ 1. Permanent; ☐ 2. Part time; ☐ 3. Other (please specify) _____

10. MARITAL STATUS

- ☐ 1. Married ☐ 2. Divorced ☐ 3. Single ☐ 4. Widowed
☐ 5. Co-habitation with partner

RESEARCH QUESTIONS

SECTION A

Below are statements that describe how you may **think about yourself right now**. Use the following scale to indicate your level of agreement or disagreement with each statement:

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree; 4 = neither agree nor disagree; 5 = slightly agree; 6 = moderately agree; 7 = strongly agree

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. I feel confident analysing a long-term problem to find a solution.	1	2	3	4	5	6	7
2. I feel confident representing my work area in meetings with management.	1	2	3	4	5	6	7
3. I feel confident contributing to discussions about the company strategy.	1	2	3	4	5	6	7

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
4. I feel confident helping to set targets / goals in my work area.	1	2	3	4	5	6	7
5. I feel confident contacting people outside the company (suppliers, customers) to discuss problems	1	2	3	4	5	6	7
6. I feel confident presenting information to a group of colleagues.	1	2	3	4	5	6	7
7. If I should find myself in a jam at work, I can think of many ways to get out of it.	1	2	3	4	5	6	7
8. At the present time, I am energetically pursuing my work goals.	1	2	3	4	5	6	7
9. There are lots of ways around any problem.	1	2	3	4	5	6	7
10. Right now I see myself as being pretty successful at work.	1	2	3	4	5	6	7
11. I can think of many ways to reach my current work goals.	1	2	3	4	5	6	7
12. At this time, I am meeting the work goals that I have set for myself.	1	2	3	4	5	6	7
13. When I have a setback at work, I have trouble recovering from it, moving on.	1	2	3	4	5	6	7
14. I usually manage difficulties one way or another at work.	1	2	3	4	5	6	7
15. I can be "on my own", so to speak, at work if I have to.	1	2	3	4	5	6	7

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
16. I usually take stressful things at work in stride.	1	2	3	4	5	6	7
17. I can get through difficult times at work because I've experienced difficult before.	1	2	3	4	5	6	7
18. I feel I can handle many things at a time at this job.	1	2	3	4	5	6	7
19. When things are uncertain for me at work, I usually expect the best.	1	2	3	4	5	6	7
20. If something can go wrong for me work-wise, it will.	1	2	3	4	5	6	7
21. I always look on the bright side of things regarding my job.	1	2	3	4	5	6	7
22. I'm optimistic about what will happen to me in the future as it pertains to work.	1	2	3	4	5	6	7
23. In this job, things never work out the way I want them to.	1	2	3	4	5	6	7
24. I approach this job as if "every cloud has a silver lining".	1	2	3	4	5	6	7

SECTION B:

The following statements are about **how you feel at work**. Please read each statement carefully and decide if you ever feel this way about your work. If you have never had this feeling, cross the “1” (one) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 2 – 7) that best describes how frequently you feel that way.

1 = Never; 2 = Almost never / a few times a year or less; 3 = rarely / once a month or less; 4 = Sometimes / a few times a month; 5 = Often / once a week; 6 = Very often / a few times a week; 7 = Always / every day

	Never	Almost never	Rarely	Sometimes	Often	Very often	Always
1. At my work, I feel bursting with energy.	1	2	3	4	5	6	7
2. At my job, I feel strong and vigorous.	1	2	3	4	5	6	7
3. I am enthusiastic about my job.	1	2	3	4	5	6	7
4. My job inspires me.	1	2	3	4	5	6	7
5. When I get up in the morning, I feel like going to work.	1	2	3	4	5	6	7
6. I feel happy when I am working intensely.	1	2	3	4	5	6	7
7. I am proud on the work that I do.	1	2	3	4	5	6	7
8. I am immersed in my work.	1	2	3	4	5	6	7
9. I get carried away when I'm working.	1	2	3	4	5	6	7

SECTION C:

This questionnaire contains a series of statements that refer to **how you may feel things have been going in your life.**

Please use the following scale when responding to each statement.

1 = strongly disagree; 2 = moderately disagree; 3 = slightly disagree; 4 = neither agree nor disagree; 5 = slightly agree; 6 = moderately agree; 7 = strongly agree

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
1. I find I get intensely involved in many of the things I do each day.	1	2	3	4	5	6	7
2. I believe I have discovered who I really am.	1	2	3	4	5	6	7
3. I think it would be ideal if things came easily to me in my life.	1	2	3	4	5	6	7
4. My life is centred on a set of core beliefs that give meaning to my life.	1	2	3	4	5	6	7
5. It is more important that I really enjoy what I do than that other people are impressed by it.	1	2	3	4	5	6	7
6. I believe I know what my best potentials are and I try to develop them whenever possible.	1	2	3	4	5	6	7
7. Other people usually know better what would be good for me to do than I know myself.	1	2	3	4	5	6	7
8. I feel best when I'm doing something worth investing a great deal of effort in.	1	2	3	4	5	6	7
9. I can say that I have found my purpose in life.	1	2	3	4	5	6	7
10. If I did not find what I was doing rewarding for me, I do not think I could continue doing it.	1	2	3	4	5	6	7

	Strongly Disagree	Moderately Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Moderately Agree	Strongly Agree
11. As yet, I've not figured out what to do with my life.	1	2	3	4	5	6	7
12. I can't understand why some people want to work so hard on the things that they do.	1	2	3	4	5	6	7
13. I believe it is important to know how what I'm doing fits with purposes worth pursuing.	1	2	3	4	5	6	7
14. I usually know what I should do because some actions just feel right to me.	1	2	3	4	5	6	7
15. When I engage in activities that involve my best potentials, I have this sense of really being alive.	1	2	3	4	5	6	7
16. I am confused about what my talents really are.	1	2	3	4	5	6	7
17. I find a lot of the things I do are personally expressive for me.	1	2	3	4	5	6	7
18. It is important to me that I feel fulfilled by the activities that I engage in.	1	2	3	4	5	6	7
19. If something is really difficult, it probably isn't worth doing.	1	2	3	4	5	6	7
20. I find it hard to get really invested in the things that I do.	1	2	3	4	5	6	7
21. I believe I know what I was meant to do in life.	1	2	3	4	5	6	7

Declaration

*This is to declare that I, Annette L Combrink, accredited
language editor and translator of the South African
'Translators' Institute, have language-edited the dissertation
by*

R Verster (26932008)

With the title

**The relationship between psychological
capital, eudaimonic well-being and selected
work outcomes**



Prof Annette L Combrink

Accredited translator and language editor

South African Translators' Institute

Membership No. 1000356

Date: 27 September 2017