

**PREDICTORS OF EMPLOYEE ENGAGEMENT IN SELECTED  
ORGANISATIONS IN THE WINDHOEK AREA IN NAMIBIA**

**A THESIS SUBMITTED IN PARTIAL FULFILMENT**

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## **ABSTRACT**

The academic study of engagement has its roots in studies of happiness and of burnout. Happiness consists of three distinct dimensions, namely, pleasure, meaning and engagement. The dimension of engagement is highly relevant to a working environment. The positive outcomes that have been linked to engagement have driven much of the research in this field. Living in an increasingly competitive world where performance and competitive advantage guide the thinking patterns it has become important to investigate this concept in a local setting in order to determine its roots, its predictors and the underlying processes that influence and determine engagement. This is because it is not clear what the levels of employee engagement are in Namibian organisations. It is also unclear what the psychological conditions and antecedents of engagement are in Namibian organisations and whether these are consistent with findings elsewhere. In addition to this it also is not clear what the effects of the psychological conditions, and antecedents thereof, are on employee engagement in Namibian organisations.

The aim of this study was to investigate the levels of engagement in Namibian organisations as well as the antecedents and underlying psychological conditions that lead to engagement. In this study a cross-sectional survey design was used with a sample of 309 currently employed individuals. A biographical questionnaire together with the Antecedents Questionnaire, Psychological Conditions Questionnaire and Engagement Questionnaire were used as measuring instruments. Statistical analysis in terms of descriptive, factor, correlation, canonical, multiple regression and mediation analyses have been conducted.

The results showed that Namibian employees showed higher levels of engagement than those of employees investigated in other areas. In addition, it was shown that rewards, co-worker relations, resources, supervisor relations, job enrichment, self-consciousness, work role fit and organisational support had statistically significant relationships with employee engagement. Psychological meaningfulness mediated the relationship between job enrichment and work role fit on the one hand and employee engagement on the other. However, the relationship between co-worker relations and engagement was not mediated by psychological meaningfulness. The relationship between resources and engagement was not mediated by psychological availability. In this study, psychological safety did not mediate the relationship between co-worker relations and engagement. However, psychological safety mediated the relationship between supervisor relations and self-consciousness on the one hand and employee engagement on the other.

The results build on previous findings regarding antecedents of employee engagement by confirming the important role of psychological meaningfulness and psychological availability as intervening variables between work context factors and employee engagement.

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## **DEDICATION**

I dedicate this study to my wife, Annie, and my baby, Adrienne. Your support during the completion of this thesis was immeasurable. Thank you for taking up additional burdens when I was tired and irritable. Thank you for letting me sleep after having worked late and for your support when I felt like giving up. Thank you for your help in capturing the seemingly endless amount of data and for keeping the fort while I was away to work on the data analysis. I love you both deeply and could not have done this without you.

## DECLARATION

I, Coen Welsh, declare hereby that this study is a true reflection of my own research and that this work or part thereof has not been submitted for a degree in any other institution of higher education.

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Coen Welsh

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Date

## **CHAPTER 1**

### **INTRODUCTION**

This dissertation deals with the levels and antecedents of employee engagement in Namibian organisations in the Windhoek area.

In this chapter the problem statement is addressed. The research objectives are set out; this includes the general and specific objectives. Furthermore, the research method is explained and the division of chapters is presented.

#### **1.1 BACKGROUND TO THE STUDY**

In the past decades, and specifically in the period immediately after the Second World War, the focus of psychology as a discipline was on healing the hurt and fixing the things that were the worst in life (Seligman & Csikszentmihalyi, 2000). Since 2000, when the new field of positive psychology was introduced, a large number of scientific publications appeared in this regard (Seligman, Steen, Park, & Peterson, 2005). Positive psychology is seen as a concept that is used to describe “the study of positive emotions, positive character traits and enabling institutions” (Seligman et al., 2005, p. 410).

The concept of happiness (which includes aspects of both subjective and psychological well-being) emerged from this focus on positive psychology (Seligman, 2002). *Subjective well-being* refers to subjective judgments of how life is

perceived by the individual. This is based on three domains: cognitive, positive, and negative affective experiences, in addition to the degree of satisfaction (Diener, Kesebir, & Lucas, 2008). *Psychological well-being* is an objective approach to understanding well-being in terms of the presence of an array of psychological qualities indicative of mental health. According to Ryff and Singer (1998), psychological well-being is a multi-dimensional process that involves intellectual, social, emotional, and physical health. The dimensions of psychological well-being include having purpose in life, worthwhile connections with others, self-regard, and mastery. Seligman (2008) suggests that happiness results in various positive outcomes, including superior attention, longevity, recovery from illnesses, and protecting people against the onset of diseases. In addition, happy people are more productive, have higher self-esteem, and are generally more satisfied with life (DeNeve & Cooper, 1998).

Many researchers, including Lyubomirsky, Tkach, and Dimatteo (2006) and Myers (2000), have attempted to answer the question of how to achieve happiness. In popular literature there are various theories that suggest ways to achieve it. Ryan and Deci (2001) proposed two avenues to genuine happiness, the first being the hedonic path. This path is characterised by the principle of pleasure opposed to pain or pleasure against displeasure (Ryan & Deci, 2001). A second path to genuine happiness is the eudaimonic path. Aristotle, according to Ryan and Deci (2001), found the idea of human beings merely chasing pleasure or desires quite crude and as an alternative proposed that real happiness can only be found in “doing what is worth doing” or by conveying virtue (Ryan & Deci, 2001, p.145).

Peterson, Nansook, and Seligman (2005) suggest three routes to happiness, namely pleasure, meaning, and engagement. The pursuit of pleasure is often seen as the first route to happiness and is also called the hedonic path. According to Seligman, Parks, and Steen (2004) increasing the pleasure will not increase happiness indefinitely. This is because people have a genetically determined set-point for pleasure which means that they will quickly adapt to pleasure and the utility of increased pleasure will decrease. The second route to happiness is to find meaning in what you are doing. This was also suggested by Ryan and Deci (2001). The third route to happiness is by engaging in a task, hobby, or relationship (Seligman, 2002).

A person is engaged when he/she feels fully involved and enthusiastic about his/her job and organisation (Macey & Schneider, 2008). Engaging in the present leads to gratification, rather than short-term pleasure. Engagement consists of three dimensions, namely a physical (vigour), an emotional (dedication), and a cognitive dimension (absorption) (May, Gilson, & Harter, 2004; Schaufeli & Bakker, 2004). Employee engagement as a concept originated because of its usefulness as a predictor of individual performance within organisations. However, it was only recently that scientific studies regarding employee engagement were undertaken (Macey & Schneider, 2008). Macey and Schneider (2008) also state that conceptualising engagement is problematic. This arises because of the abovementioned desire to tap into the usefulness as a predictor and enhancer of individual and organisational performance. However, in the eagerness to study this phenomenon, the definitions of engagement differ markedly across the available research (Macey & Schneider, 2008).

One of the key issues when conceptualising engagement is seen in the fact that it is defined as both a state, and a trait. This is confusing and makes it difficult to accurately research the concept empirically (Macey & Schneider, 2008). Similarly, much of the research around engagement has stemmed from the research on burnout. This again makes it hard to pin down engagement, as some researchers believe engagement and burnout are two opposing ends of a continuum (Leiter & Maslach, 2010), whereas others believe engagement and burnout are two distinct and separate concepts.

The area of engagement research is also compounded due to the fact that there are several factors that lead to engagement (May et al., 2004). There are predictors such as job and personal resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009a) and a variety of other factors are also studied in relation to engagement (see Kahn, 1990; May et al., 2004). Some researchers postulate that there are mediating conditions in the relationship between the antecedents of engagement and engagement itself. Olivier and Rothman (2007) found evidence for psychological meaningfulness and psychological availability as factors that mediate this relationship. May et al. (2004) found further evidence that psychological safety mediates this relationship. These researchers state that one needs to investigate the mediators of engagement in order to understand the concept more clearly (Olivier & Rothmann, 2007).

## **1.2 PROBLEM STATEMENT**

No studies were found which investigated employee engagement and its antecedents in Namibia. Furthermore, research is needed regarding antecedents of employee engagement in Namibia, as well as possible psychological conditions which mediate between engagement and its antecedents. Historically, the Namibian working situation is rooted in an autocratic style of management and leadership which may not have been conducive to engaging behaviours. These resulting behaviours may have impacted on the competitiveness of the Namibian employees. In general, a mentality of “us” and “them” between workers and management seems to exist, and understanding engagement may serve as a way to improve this situation. With the world economy becoming more open, this creates more challenges for the Namibian workforce to become competitive.

The research problems can be summarised as follows: Firstly, it is unclear what the levels of employee engagement are in Namibian organisations. It is also unclear what the psychological conditions and antecedents of engagement are in Namibian organisations. Secondly, it is also unclear what the effects of the psychological conditions, and antecedents thereof, are on employee engagement in Namibian organisations. No scientific information exists regarding the mediating effect of the psychological conditions between its antecedents and employee engagement. Scientific information regarding these issues can be of great value when managing employees and implementing programmes to address their engagement at work. Therefore it is necessary to conduct scientific research regarding employee engagement, psychological conditions contributing to it, and its antecedents.

Taking the above research problems into consideration, the research objectives are formulated.

### **1.3 RESEARCH OBJECTIVES**

#### **1.3.1 General objective**

The research objective of this study is to investigate employee engagement and its antecedents in selected organisations in the Windhoek area in Namibia.

#### **1.3.2 Specific objectives**

The specific study objectives are as follows:

- To conceptualise employee engagement and antecedents from the literature.
- To study the antecedents of employee engagement in selected organisations within the Windhoek area in Namibia.
- To investigate the antecedents of psychological availability, safety and meaning in selected organisations within the Windhoek area in Namibia.
- To study whether psychological meaningfulness, availability, and safety mediate the relationships between employee engagement and its antecedents in selected organisations within the Windhoek area in Namibia?

### **1.4 RESEARCH METHOD**

The research method consists of a literature review and an empirical study.

### **1.4.1 Literature review**

The literature review focuses on previous research done regarding levels and antecedents of engagement worldwide. An overview is given on how engagement is conceptualised in the literature and what the influence of various antecedents is on these constructs as well as the predictors of the components of engagement.

### **1.4.2 Empirical study**

The empirical study consists of the research design, participants, measuring instruments and statistical analysis.

#### **1.4.2.1 Research design**

A quantitative approach is followed in this study and a survey design is used. This type of design is suitable for studying the relationships between different variables (TerreBlanche & Durrheim, 1999). Questionnaires are used to gather primary data in a non-random field survey.

#### **1.4.2.2 Participants**

The population for this study consisted of employees with permanent appointments within the selected organisations in the Windhoek area in Namibia – all participants who are employed in junior level managerial roles as well as operational levels in the organisational structure.

Owing to time constraints, a convenient sample ( $N = 309$ ) was taken of employees in organisations in the Windhoek area in Namibia. The sample included participants who were available and willing to complete the measuring instruments.

#### **1.4.2.3 Measuring instruments**

A biographical questionnaire was compiled to gather information regarding the demographic characteristics of the participants, such as gender, marital status, language, age, educational level, years of employment at the company, and employment type. To simplify the completion of the questionnaire, it consisted of multiple-choice questions. Participants had to tick appropriate blocks, and spaces were provided for answers not included in the list.

The *Antecedents Questionnaire* is used to measure work-role fit, job enrichment, co-worker relations, supervisor relations, resources, outside activities, and self-consciousness. All areas were measured by 3-10 items. A 7-point agreement-disagreement Likert format varying from 1 (*strongly disagree*) to 7 (*strongly agree*) was used for all items.

The *Psychological Conditions Questionnaire* (PCQ) is used to determine the underlying psychological conditions that affect engagement. *Psychological meaningfulness* was measured by averaging six items drawn from the research of Spreitzer (1995) and May et al. (2004). These items measure the degree of meaning individuals discovered in their work-related activities. *Psychological availability* is measured by averaging six items drawn from the research of May et al. (2004).

These items measure the degree of availability (cognitive, emotional, and physical) individuals discovered in their work-related activities. *Psychological safety* is measured by averaging six items ( $\alpha = 0.90$ ) drawn from the research of May et al. (2004). These items assess whether the individuals feel comfortable to be themselves and express their opinions at work or whether there is a threatening environment at work.

The *Engagement Questionnaire* (EQ) is used to measure employee engagement. This scale was originally developed by May et al. (2004) and adapted by Van Zyl, Deacon and Rothmann (2010). All items were measured on a 7-point agreement-disagreement Likert Scale. The format was from 1 (*never*) to 7 (*always*). These items reflect each of the three components of Kahn's (1990) conceptualisation of employee engagement, namely emotional, cognitive and physical engagement.

#### **1.4.2.4 Statistical analysis**

The analysis is carried out with the SPSS 17.0 program (SPSS, 2009). Descriptive statistics (e.g. means and standard deviations), alpha coefficients and correlations are used to analyse the data. Cronbach alpha coefficients ( $\alpha$ ) are used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Pearson correlation coefficients are used to specify the relationships between variables. The level of statistical significance is set at  $p < 0.01$ . A cut-off point of 0.30 (medium effect, Cohen, 1988; Steyn, 2002) is set for the practical significance of correlation coefficients. Canonical correlation analysis is used to determine the relationships

between the constructs. The goal of canonical correlation is to analyse the relationship between two sets of variables (Tabachnick & Fidell, 2001).

Hierarchical multiple regression analyses are used to assess the amount of variance in the dependent variables that are explained by them. Mediation effects are assessed by following the procedure recommended by Baron and Kenny (1986). First, the relationship between the independent and dependent variables is assessed. Second, the relationship between the independent variable and mediator is assessed. Third, the relationship between the mediator and the dependent variable is computed. The relationship between the independent variable (entered in the first step of a regression analysis), mediator (entered in the second step of the regression analysis) and dependent variable is studied. The procedure to determine mediation effects, as explained by Preacher and Hayes (2008), is followed to compute the bootstrap estimated indirect effects of antecedents on employee engagement. Two-sided 95% bias corrected confidence intervals (5000 trials) and the statistical significance of indirect effects are computed. The significance of the indirect effects is assessed in terms of zero versus non-zero coefficients rather than in terms of statistical significance only (Preacher & Hayes, 2004).

## **1.5 OVERVIEW OF CHAPTERS**

In Chapter 2 engagement, its antecedents and predictors are discussed. Chapter 3 deals with the empirical study. The results will be set out in Chapter 4 and a discussion and recommendations will follow in Chapter 5.

## **1.6 CHAPTER SUMMARY**

This chapter addressed the background to the study, problem statement and research objectives. The measuring instruments used for this study were explained, followed by a brief overview of the tools used for statistical analysis.

Chapter 2 focuses on employee engagement.

## **CHAPTER 2**

### **LITERATURE REVIEW: EMPLOYEE ENGAGEMENT**

The literature study aims at providing background to the concept of employee engagement and at clarifying the definitions of the concept in current literature. In addition to this the literature study investigates the surrounding concepts of antecedents and the importance of engagement.

#### **2.1 BACKGROUND**

Employee engagement has its origins in the positive psychological perspective as introduced by Seligman and Csikszentmihalyi (2000).

The premise is that well-being could only be achieved when three distinct but related components are present in any individual. These three components are pleasure, meaning and engagement (Seligman, 2002). Of these three components, or paths, meaning and engagement seem the most likely to result in lasting well-being and happiness (Seligman et al., 2005). The scientific research and investigation of happiness and well-being have gained momentum in recent years. Until as recently as 2000, most indicators of how well a society or group is doing has been measured in economic terms (Diener & Seligman, 2004). Individuals do not work to earn money for the sake of having money, but rather work to have money to spend on items they perceive will bring them more happiness. Money is thus a means to an end rather than a goal in itself. This concept is what limits the value economic

indicators have in measuring how well a group or society is doing, since economic indicators are often measured in a financial form (Diener & Seligman, 2004). This created the need to investigate other concepts and components relevant to lasting happiness. As mentioned above, there seems to be some consensus that engagement can lead to happiness and subjective well-being. The field of industrial psychology lends itself to the research within the work-related environment where the concept “engagement” is more likely to be observed. Understanding and being able to measure engagement could then aid in creating a measure of happiness that would improve on using economic indicators as measures of how well a group or society is doing.

The concept “employee engagement” in particular did not develop on its own, but has been developed from much research in the work environment. Much of the interest in engagement in current literature is as a result of research done on burnout. The conceptualisation of engagement largely arose from research done on burnout. Leiter and Maslach (2010) state that burnout and engagement are two distinct states an individual may experience in a work environment. Burnout and engagement, according to Leiter and Maslach (2010), are measured on the opposite ends of the three interrelated components of engagement.

The ability to engage at work depends on the physical, emotional, and cognitive resources of individuals (Rothmann & Rothmann, 2010). When individuals experience a lack of resources or an overload of demands they tend to withdraw or disengage. Kahn (1990) suggests that when employees receive support and resources in these three areas, they tend to repay the organisation with greater levels of

engagement. Much of the initial research on burnout focussed on minimising or removing the incidence of the negative components associated with burnout. More recently, since the concept of engagement has been introduced, researchers have started to focus on attempting to increase the frequency of the positive components associated with engagement. This approach has been widely accepted and endorsed by organisations, in part, because some organisations are concerned with the negative liability associated with burnout. Organisations such as these would rather focus on the positive elements associated with engagement that could lead to a positive process of change (Leiter & Maslach, 2010).

Kahn (1990) conceptualised that engagement is characterised by three dimensions: a physical dimension (referred to as vigour), an emotional dimension (referred to as engagement) and a cognitive dimension (referred to as absorption). Many researchers in recent years have used the conceptualisation by Kahn (1990) as a framework for further investigation (May et al., 2004; Rothmann & Rothmann, 2010).

Kahn (1990) distinguished between three psychological conditions which contribute to employee engagement, namely psychological meaningfulness, psychological safety and psychological availability. Kahn (1990, p. 703-704) describes psychological meaning as “a feeling that one is receiving a return on investment of one’s self in a currency of physical, cognitive or emotional energy. The second dimension, psychological availability, is described as a “sense of having the physical, emotional or psychological resources to engage” (Kahn, 1990, p. 714). Psychological safety is present when one feels able to “show and employ oneself without fear of negative consequences to self-image, status, or career” (Kahn, 1990,

p. 708). Psychological safety is believed to lead to engagement, because it reflects one's belief that a person can employ him/herself without fear of negative consequences.

The Conservation of Resources (COR) theory also played an important part in the development of the concept of engagement. The COR theory as postulated by Hobfoll (1989), who stated that individuals seek to gain, retain and protect resources. When resources are threatened or when individuals fail to gain resources after investing their limited resources they will experience stress. Resources therefore play an essential motivating role in this theory. According to Xanthopoulou, et al. (2009a), having resources at work, or job resources, may act as an intrinsic motivational factor which could lead to the facilitation of learning and goal achievement which in turn could lead to more commitment and higher levels of engagement. Job resources are often characterised as resources that enable employees to perform their tasks. Examples include a sales person being given a vehicle to use to reach potential clients or a medical doctor given equipment that aids in making diagnoses. Personal resources also play a role in the work-related well-being and in personal well-being. Personal resources are those resources internal to each individual. These resources include aptitude and ability as well as personal drive and determination, to name but a few. Hakanen, Bakker, and Schaufeli (2006) found support for a dual role of job resources. Employees who have adequate job resources often display components of behaviours associated with engagement, namely vigour and dedication. Whereas, employees who do not have access to adequate job resources show signs associated with burnout, namely lower commitment and lower energy levels.

Engagement is one of the concepts that have seen the most interest among researchers in recent years. Much of this interest surrounding engagement as a concept emerged as a result of consulting firms targeting the returns associated with the beneficial impact perceived engagement may bring. In fact, according to Schaufeli and Bakker (2010), the Gallup organisation has been credited for the first use of the term engagement. Many consulting firms, with the exception of Gallup organisation, do not base their interest and knowledge of the concept engagement on empirical data. Rather these organisations use definitions of engagement that are often in line with their own primary business. For example, if a firm specialises in selection or screening they may emphasise the work role fit predictor of engagement. Similarly, a firm specialising in team building activities may emphasise the impact co-worker and supervisor relations has on engagement. The Gallup organisation developed a questionnaire aimed at measuring engagement in 1998 (Schaufeli & Bakker, 2010). This tool was specifically aimed at managers to improve their performance. Upon closer investigation of the Gallup Q<sup>12</sup>, as the tool is called, does not explicitly measure the experience of engagement as proposed by Kahn (1990), but rather measures the job resources available to the individual (Schaufeli & Bakker, 2010). Many other consulting organisations, including Mercer and Towers Perrin for example, have used the concept “engagement” to promote their own product or service. The common factor linking these organisations and their interest in engagement is positive connotation and results an engaged workforce would bring. However this highlights the problems experienced in the literature with the definition of the concept “engagement”(Macey & Schneider, 2008).

As can be deduced from the above, engagement is occasionally defined in theoretical constructs, occasionally defined in terms of its antecedents and often even as underlying psychological conditions. It is therefore important to derive a definition of engagement before further study is conducted.

## **2.2 DEFINITION OF EMPLOYEE ENGAGEMENT**

In light of the above scenarios it is imperative that the concept “engagement” be defined and clarified. The commonly accepted definition of employee engagement in academic literature is provided by Schaufeli, Salanova, González-Roma, and Bakker (2002). They state that work-engagement can be accurately defined “as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Bakker & Demerouti, 2008, p. 209). This definition is acceptable in the context of this study as it accurately assimilates the three differing components that make up engagement as was originally postulated by Kahn (1990), namely a physical, an emotional and a cognitive component. This definition also alludes to the underlying mediators or psychological conditions that impact on engagement as it specifically refers to engagement as a state of mind and not simply a set of behaviours. Similarly the definition refers to engagement as work-related which differentiates it from flow as formulated by Csikszentmihalyi (1999).

### **2.2.1 Common misconceptions of engagement**

As noted in the previous section, the concept of engagement has had its origins from a variety of sources and the related field. Since the concept is still fairly recent as is the academic interest in the concept, a variety of misconceptions regarding engagement exists that first need to be identified and clarified before further research is warranted. Macey and Schneider (2008) provide examples where engagement has been misinterpreted as organisational commitment. Macey and Schneider (2008) also describe instances where engagement has been conceptualised as job involvement. Other instances highlighted by Macey and Schneider (2008) provide evidence that engagement has been confused with job satisfaction and in rare cases as psychological empowerment.

Macey and Schneider (2008) offer at least three distinctly different conceptualisations of engagement that can be found in literature on the concept. These conceptualisations include psychological state engagement, behavioural engagement, and trait engagement. The common thread between the various definitions of engagement is that it is a desirable condition.

Little and Little (2006) report a similar confusion between engagement as an attitude or as a behaviour. It is important for the future growth, development and understanding of engagement that one separates the mass media understanding of engagement from the academic literature and for the academic literature and research to settle on a common definition of engagement. Macey and Schneider (2008) suggest that the most acceptable interpretation of engagement is to see it as a

psychological condition with the three distinct components as outlined by Kahn (1990).

According to Macey and Schneider (2008), engagement is often interpreted as either state, behavioural or trait engagement. State engagement can be defined as feelings of energy and absorption associated with working according to Macey and Schneider (2008). Trait engagement can be defined as long-term attitudes that include positive views of both life and work (Macey & Schneider, 2008). Lastly, behavioural engagement can be defined as observable behaviours that are often associated with engagement such as adaptive behaviours and personal initiative (Macey & Schneider, 2008). According to Macey and Schneider (2008), most academic research into engagement has been on state engagement. This research study will continue in this same vein.

### **2.2.2 Dimensions of engagement**

In order to create uniformity in the academic literature one needs to settle on a common understanding of this concept. As mentioned above, the concept of engagement is most often seen and studied as a psychological condition. Employee engagement as a state consists of three components, namely a physical component (also referred to as vigour), an emotional component and a dedication component. (Schaufeli, et. al., 2002). Engagement thus has a physical component, namely, vigour, an emotional component, namely dedication, and a cognitive component, namely, absorption. This description of engagement and the accepted definition is

thus similar to the conceptualisation of Kahn (1990), which describes engagement in these following three distinct components.

#### **2.2.2.1 The physical component**

The first of the three components of engagement is perhaps the easiest to observe on an anecdotal level. Bakker and Demerouti (2008) state that the physical component of engagement which is often labelled “vigour” is characterised by high levels of energy and resilience in the place of work. This refers to the amount of effort an individual puts into their job and their activities while at work. In layman’s terms vigour can be seen in the employee who is willing to go the extra mile. The person who carries on until the task is complete with high levels of energy even when faced with obstacles and difficulties. Employees who display these characteristics can be seen as physically engaged in their role.

Stander and Rothmann (2010) state that the vigour component of engagement is characterised by the display of persistence even when the individual is faced with difficulties. Employees thus display vigour when they go above and beyond restraints to persist when they are faced with difficulties.

#### **2.2.2.2 The emotional component**

Whereas vigour refers to the physical component of engagement, dedication refers to the emotional component of engagement. Dedicated individuals are involved in their work and display high levels of enthusiasm and experience significance in their roles

(Bakker & Demerouti, 2008). These individuals often experience their jobs as a challenge and are energised by it. To describe this component in layman's terms one could picture individuals that describe themselves in terms of their work, i.e. "I am a male doctor." or "I am a female engineer." The role of the individuals at work is taken up in their self-concept and they feel significant as a result of their work.

### **2.2.2.3 The cognitive component**

Absorption is the third component associated with engagement. This component can be observed when individuals are engrossed in their job. They are fully concentrated in their role and time seems to pass quickly when they are busy with their job (Bakker & Demerouti, 2008). This concept of engagement tends to present very clearly when someone is practising a hobby. In such cases the individual tends to be completely and utterly absorbed by the activity. To picture this state at work one could imagine a researcher who is absorbed by a statistical problem and who is continually busy with that piece of the problem with a disregard for time or other constraints until the goal is reached.

## **2.3 THE IMPORTANCE OF ENGAGEMENT**

As mentioned in the discussion above, many organisations strive towards an engaged workforce as there is evidence of the positive and desirable effects of employees who are engaged (Little & Little, 2006). These positive outcomes of engagement drive the research into engagement as much as the fear of the negative outcomes of disengagement and burnout inspired the research in earlier years. In the available

literature it is possible to separate the positive outcomes of engagement into two classes or categories; individual outcomes and organisational outcomes. Individual outcomes refer to the outcomes experienced on an individual level, like being fulfilled and being happy at work and life in general (Cartwright & Holmes, 2006). Individual outcomes also refer to the personal development goals and achievements. Organisational outcomes refer to outcomes that can be seen on an organisational level. These outcomes are elements such as improved morale, profitability and productivity. These outcomes also refer to non-tangible outcomes such as the perception of the organisation and the subjective values the organisation tries to impart.

### **2.3.1 Individual outcomes**

According to Little and Little (2006), engagement is a desirable state. Many high-performing individuals strive towards engagement in their personal as well as work lives. Commonly, individual outcomes of engagement relate to the positive affect one experiences when engaged in a task. Cartwright and Holmes (2006) state that engaged employees find meaning in their work. This leads to a sense of purpose in the individual and may lead to a higher sense of efficacy. Xanthopoulou, Bakker, Demerouti, and Schaufeli (2009b) found support that happiness, of which engagement is a component, leads to improved performance, and improved performance in turn leads to higher financial returns. Luthans and Peterson (2001) found support that employee engagement could lead to managerial effectiveness. Furthermore, individual outcomes can be subjective experiences: individuals, for instance, can be dedicated to their role, and base part of their self-concept on the role

they perform at work. Personal development goals that are reached as well as promotions are also outcomes that are closely associated with engagement on an individual level.

### **2.3.2 Organisational outcomes**

Positive organisational outcomes have been the main driver of most research done on the engagement concept. As mentioned above, the Gallup group has completed numerous studies to provide evidence of positive outcomes associated with an engaged workforce. Harter, Schmidt, and Keyes (2002) suggest various positive organisational outcomes associated with engaged employees, namely higher customer loyalty, higher productivity and profitability and lower rates of staff turnover. These positive outcomes are in addition to evidence of a negative relationship with absenteeism and even shrinkage, with shrinkage being defined as unaccounted or lost merchandise in retail establishments (Harter, Schmidt, Killham, & Asplund, 2006). Higher organisational commitment, as indicated by low turnover intention, also leads to increased productivity. Competition to attract and retain talent has further enhanced the necessity of having an engaged workforce as engaged employees tend to stay in their roles. Also, potential employees are attracted to an organisation if they perceive an organisation to be one where they will feel engaged. Subjective values an organisation may wish to impart to their customers may also be part of the organisational outcomes of engagement. It is very clear why all these positive outcomes associated with engagement are attractive to organisations and why they would invest in researching this concept.

## **2.4 ANTECEDENTS OF ENGAGEMENT**

One of the main challenges and goals of psychology in general, as a discipline, is to predict behaviour (Sternberg, 1998). In order to predict any behaviour, it is important to understand what underlying concepts influence that behaviour. Therefore, in order to predict engagement, it is important to understand the antecedents of engagement. Research surrounding the antecedents of engagement has taken two broad theoretical paths, namely the concept of the employee being attached to his/her role on an emotional, physical and cognitive level (see Kahn, 1990; May et al. 2005). The other theoretical path is the social exchange dimension as postulated by Schaufeli et al. (2004) who propose a Job Demand/Resources model. The Conservation of Resources (COR) theory postulated by Hobfoll (2002) falls into a similar category.

### **2.4.1 Role attachment**

Kahn (1990) conceptualised engagement as the harnessing or the attaching of the employees' self to the work they do. Kahn (1990) suggested that when an employee is engaged that employee will express him/herself on a physical, emotional and cognitive level through the roles they perform at work. This engagement "serves to fulfil the human spirit at work" according to May et al. (2004, p. 12). The employees' self and their role become a dynamic fluid relationship that allows for employees to express their personal energies in their role, and their role allows for self-expression (Kahn, 1990). Kahn's (1990) conceptualisation of engagement is summarised by Saks (2006, p.601), namely that it means "to be psychologically present when occupying and performing an organizational role."

Using Kahn's (1990) conceptualisation of engagement, Olivier and Rothmann (2007) found support that work role fit, resources, and self-consciousness were statistically significant predictors of engagement. These findings were consistent with that of May et al. (2004) who also found that work role fit was statistically significantly related to psychological meaningfulness, which predicts engagement. May et al. (2004) found statistically significant relationships between supervisor relations and psychological safety, but Olivier and Rothmann (2007) could not find support for such a relationship. However, the results of Olivier and Rothmann's (2007) study in a multinational oil company found support for the antecedents of self-consciousness and resources, specifically, to predict psychological availability which in turn predicts engagement.

#### **2.4.1.1 Work role fit**

Various specific antecedents flow from this conceptualisation of Kahn (1990), work role fit being one of the primary antecedents that merits further investigation. By definition, this concept is the fit individuals perceive between their own self-concept and the requirements or characteristics of the role (May et al., 2004). May et al. (2004) and Kahn (1990) believe that when individuals experience greater congruence between their subjective interpretation of the requirements of the role and their self-concept, they will invest greater personal effort to achieve organisational goals. This relationship is mediated by the meaningfulness individuals experience in their work role (May et al., 2004). Van Zyl et al. (2010) found that work role fit not only predicted psychological meaningfulness but also predicted employee engagement. In addition to this they found that work role fit mediated the relationship between the

meaning of work and psychological meaningfulness (Van Zyl et al., 2010). May et al. (2004) found evidence that psychological meaningfulness predicted employee engagement. Support for this has been found in a Southern African context (Olivier & Rothmann, 2007).

When individuals experience a high level of fit between their personal characteristics and their work they tend to be willing to go above and beyond restraints to accomplish specific tasks (Dik & Duffy, 2008).

#### **2.4.1.2 Self-consciousness**

Self-consciousness can be defined as an acute sense of self-awareness. This is particularly being aware of being observed in a critical manner. Olivier and Rothmann (2007) found support that lower levels of self-consciousness were linked to psychological availability.

Olivier and Rothmann (2007) suggest that when an individual displays high levels of self-consciousness they would be more likely to be more focused on external cues and are therefore more likely to get distracted from their roles. This distraction could prohibit individuals to attach themselves to the role as proposed by Kahn (1990). The implication here is that if someone is less self-conscious, that is, less aware of other's criticism, they may be more available to engage in their roles (Olivier & Rothman, 2007).

### **2.4.1.3 Supervisor relations**

May et al. (2004) found that supportive supervisor relations were positively related to psychological safety which, in turn, led to engagement. This concept is defined as the relationship an employee has with his/her immediate supervisor or manager. This relationship has the potential to augment or reduce the likelihood that employees will engage in their roles. Most research in this area has focussed on positive relations between employees and supervisors (May et al., 2004; Olivier & Rothmann, 2007). The assumption is that when the relationship between a supervisor and employee is supportive, trusting and non-controlling, employees would feel safe in their respective roles and are more likely to engage (May et al., 2004; Olivier & Rothmann, 2007). This is because the relationship between a supervisor and the subordinate has a direct impact on how safe the employee experiences the workplace (Olivier & Rothmann, 2007). Masterson, Lewis, Goldman, and Taylor (2000) picture at least two different social exchange relationships at work; one with the organisation and one with their immediate supervisor. The immediate supervisor tends to represent the organisation. A non-controlling positive relationship with the immediate supervisor may thus allow the employee to experience support from the organisation and would then engage in an effort to reciprocate this support. Even though Olivier and Rothmann (2007) did not find evidence that the psychological condition of psychological safety mediated the relationship between supervisor relations and employee engagement, supervisor relations still had a direct effect on employee engagement. To summarise, good and positive relationships with supervisors should lead employees to show a willingness to engage in their roles.

#### **2.4.1.4 Co-worker relations**

Co-worker relations are defined as the relationships between co-workers. In other words the relationships are normally found in a professional working environment as opposed to relations on a social plane. May et al. (2004) found that supportive co-worker relations predicted employee engagement. Olivier and Rothmann (2007) confirmed the findings that co-worker relations had a significant impact on employee engagement. Co-worker relations that are rewarding can create an experience of belonging which can lead to feeling more psychologically safe at work and allow individuals to attach to their role (Olivier & Rothmann, 2007).

In addition, Wrzesniewski, Dutton, and Debebe (2003) suggest the employees receive cues from interaction with co-workers to deduce meaning from their work. Meaningfulness, according to May et al. (2004) and Olivier and Rothmann (2007), had by far the strongest correlation with engagement.

#### **2.4.1.5 Resources**

All individuals possess the cognitive, physical and emotional resources to complete their duties at work. Different roles require different blends of resources, for example some roles require physical resources and others rely more on cognitive resources to complete the task. If individuals do not possess the right amount of resources to complete their duties, they may disengage from their roles Olivier & Rothmann (2007). It is possible then to deduce the opposite; if employees have adequate resources, they may engage in their roles.

#### **2.4.1.6 Job enrichment**

Job enrichment, as an antecedent to engagement, is characterised by five different dimensions, namely skill variety, task identity, task significance, autonomy and feedback (May et al., 2004). Skill variety can be defined as the assortment of diverse skills employees have to use to complete their task. This involves cognitive skills to solve a problem and then using physical effort to execute the solution. Task identity relates to the degree to which a specific piece of work is identifiable, in other words, where it is clear to see what piece of work was just completed. For example, physically fitting tyres to a car is very identifiable as a piece of work. The next component of job enrichment is that of task significance. This can be explained as the importance of that piece of work against the backdrop of the overall organisational goal. For example, someone tasked to clean a laboratory where cleanliness is essential, may experience higher levels of task significance than someone who is tasked to clean a motor mechanics' workshop, where cleanliness is not imperative. Autonomy in a task relates to the degree of freedom to which employees can choose what and how to complete their tasks. This can be seen in the role of a psychologist that decides the procedures and course of therapy to be followed when assisting a client. The last component of job enrichment relates to the feedback from the job itself. This is when someone receives feedback from the inherent nature of the role. For example, someone building a house can physically, brick by brick, see the progress of his/her task.

Kahn (1990) postulated that the characteristics of individuals' jobs could influence the meaningfulness they experience in the role. May et al. (2004) found that a

positive relationship existed between job enrichment and psychological meaningfulness. This could possibly be attributed to the fact that if employees have a high degree of task significance, they may experience their role as meaningful in the greater scheme of things. Psychological meaningfulness in turn had a positive relationship with engagement (May et al., 2004). Niehoff, Moorman, Blakely and Fuller (2001) found that job enrichment had a significant positive relationship with the psychological condition “psychological safety”. A possible explanation for this could be where employees have to a high degree of autonomy in their role. Having a high degree of autonomy in the role could allow employees to feel safe, seeing that they have the freedom to decide on the various available methods to fulfil their duties. Niehoff et al. (2001) further postulate that job enrichment allows individuals who have survived a downsizing exercise to find meaningfulness in their roles and to engage even under such strenuous circumstances. This may be because an employee who survives a downsizing may have to draw on a higher degree of skill variety and experience higher levels of task significance than before the downsizing.

#### **2.4.2 Social Exchange Theory**

The social exchange theory adds to the theoretical base of what conditions may lead to engagement. The Social exchange theory is based on the premise that there is a relationship between the organisation and the individual employee. According to Masterson et al. (2000), social exchange relationships differ from relationships based solely on economic exchange. The obligations between parties tend to be unspecified and the measuring of contributions is unclear. Masterson et al. (2000) state that employees are involved in at least two different social exchange relationships at

work; one with the organisation and one with their immediate supervisor. The role of supervisor relations and its impact on employee engagement has been discussed under the previous section of role attachment and thus does not warrant extensive discussion in this section. In summary, the social exchange theories postulate that subordinates will engage in behaviours that relate directly to their supervisor if there is a reasonable and fair exchange. This means the subordinates will engage if they believe that an equal value exchange exists (Masterson et al., 2000).

#### **2.4.2.1 Organisational support**

According to Masterson et al. (2000), employees may perceive organisational support when they receive resources and when they experience that the organisation cares about their personal well-being. Through this experience employees exchange their personal effort and commitment in return for these resources. This means if an organisation treats an employee well, it can reasonably expect the employee to devote increased effort to assist the organisation in achieving its goals (Masterson et al., 2000). Similar to co-worker relations and supervisor relations organisational support generates a psychological condition, namely psychological safety, which allows individual employees the freedom to engage in their role.

#### **2.4.2.2 Job Demands/Resources Model (JD-R)**

According to Schaufeli and Bakker (2004), any job consists of two separate sets of variables, labelled job resources and job demands. Job demands are seen as the aspects of the job that require physical and psychological effort. This effort is

normally associated with some kind of physiological or psychological cost. Job demands may comprise physical, psychological, social, or organizational aspects of the job. Job demands are not explicitly negative, but may turn into stressors if meeting those demands requires a large amount of effort and is associated with high costs.

Job resources on the other hand are those elements that facilitate the process of meeting job demands. Again these are physical, psychological, social or organisational elements that either reduce job demands, or are instrumental in achieving work goals or facilitate the personal growth and learning of the individual (Schaufeli & Bakker, 2004). Demerouti, Bakker, Nachreiner, and Schaufeli (2001) found that a lack of job resources such as performance feedback, job control, and social support are positively related to disengagement. To summarise, the theoretical JD-R model is based on two components: Firstly, it proposes an energetic process that may overtax and wear out an employee and secondly, a motivational process through which a lack of resources leads to disengagement. Therefore, if a lack of resources can lead to disengagement, the common assumption of the JD-R model is that when resources are present, this may lead to engagement.

#### **2.4.2.3 Conservation of Resources (COR)**

Hobfoll (1989) states that job resources could be a motivator through creation, maintenance and accumulation of resources. According to Llorens, Schaufeli, Bakker, and Salanova (2007), job control and efficacy beliefs are seen as job resources. According to the COR theory, an employee or organisation may

experience resource gain spirals or resource loss spirals; thus, when an organisation loses resources, it may cause investment of prior resources which may lead to further loss. The contrary is also postulated, namely that the creation of resources may lead to the creation of even more resources, which is called gain spirals (Llorens et al., 2007). Luthans and Youssef (2007) labelled this phenomenon “resource caravans”. Individuals who experience resources at work will have a higher level of self-efficacy due to goal achievement, which will in turn lead to higher levels of performance and engagement (Luthans & Youssef, 2007).

## **2.5 PSYCHOLOGICAL CONDITIONS AND ENGAGEMENT**

With many of the abovementioned antecedents able to predict engagement there is an increasing school of thought that many of the so called antecedents of engagement actually have significant relationships with certain underlying psychological conditions, which then leads to engagement.

### **2.5.1 The role attachment theory conditions**

At the forefront of this thinking is the work of Kahn (1990) and May et al. (2004). The study conducted by May et al. (2004) researched the underlying psychological conditions that lead to engagement. These underlying conditions are labelled “psychological meaningfulness”, psychological availability” and “psychological safety”. According to Olivier and Rothmann (2007), psychological meaningfulness relates to the value individuals attach to a work goal compared to their own personal goals. Kahn (1990) describes psychological meaningfulness as the experience of

receiving something in return for the expending of one's personal energy into the role. The reward received is not measured in dollars and cents but rather on a cognitive, emotional and physical level. The degree of fit between employees and their role often leads to psychological meaningfulness. A high work role fit where the goals and values of the role are consistent with the goals and values of the individual often creates this experience of psychological meaningfulness (Olivier & Rothmann, 2007). Similarly, satisfying relations with co-workers that create a sense of belonging may lead to the psychological meaningfulness condition.

Psychological safety can be defined as the experience of being able to act in a way that is natural and to be able to use and employ all skills and knowledge in a role without having to be fearful about being ridiculed or without experiencing negative consequences (Kahn, 1990). The relationship between the supervisor and employee has been found to have the greatest impact on psychological safety. Experiencing psychological safety is often seen in relationships that are supporting and trusting (May et al., 2004). These findings have not found support by researchers in a Southern African context (Olivier & Rothmann, 2007).

The third psychological condition, psychological availability, is described by Kahn (1990) as having the ability to engage as a result of having the cognitive, emotional and physical resources. If employees are overly worrisome about what their co-worker may think or feel about them in a self-conscious way, they may struggle to be psychologically available to engage in their task. On the other hand, if they have the physical, emotional and cognitive resources to complete a task they will be more likely to engage in their roles (Olivier & Rothmann, 2007).

It is prudent to summarise the main concepts before moving on to other mediating conditions. In the available literature, two common threads have been found for conditions that mediate the relationship between antecedents and engagement (Rothmann & Rothmann, 2010). These two threads are psychological meaningfulness and psychological availability (May et al., 2004; Olivier & Rothmann, 2007). Resources are positively related to psychological availability, according to May et al. (2004), and psychological availability has a mediating effect on engagement. Therefore one can conclude that the greater availability of resources will lead to an increased likelihood that employees will engage in their roles.

May et al. (2004) found a further psychological condition labelled psychological safety which mediated the relationship. However, evidence for such a condition was not found by Olivier and Rothmann (2007) – at least not in a South African context.

### **2.5.2 Self-determination theory (SDT)**

The Self-determination theory proposed by Deci and Ryan (1985) could shed light on some underlying conditions that may lead to engagement. According to the SDT, competence, autonomy and relatedness are key to the autonomous regulation of the self. Deci, Ryan, Gagne, Leone, Usunov, and Karnazheva (2001) found support that these three needs are universal across cultures. Competence is described as succeeding at challenging tasks and achieving outcomes. Autonomy is described as being the initiator of one's own destiny and experiencing choice. Relatedness is described as mutual respect and caring between individuals (Deci et al., 2001). If these basic needs are not met or satisfied, it could lead to poor performance and

reduced well-being. The opposite could thus be inferred, namely that if these basic psychological needs are met, it could lead to enhanced performance and engagement. In addition to underlying psychological conditions as presented above, satisfaction of basic psychological needs could mediate the relationships between the antecedents and engagement. According to Rothmann and Rothmann (2010), the SDT is a potentially important framework which needs to be considered when investigating the underlying mediators of engagement. This is due to the relatively close relationship between the three needs associated with SDT and the three underlying psychological conditions associated with employee engagement. Relatedness is closely associated with psychological safety. This is because positive relationships with supervisors and co-workers allow a feeling of relatedness to develop. It also leads to an environment in which an employee feels safe, which in turn leads to the possibility of engagement. The autonomy need described by Deci et al. (2001) could be related to psychological meaningfulness. An employee could experience control over their own destiny which could allow the employee to derive psychological meaningfulness from their work. Lastly the need of competence could to a certain extent be related to psychological availability. Employees who have the needed resources to complete their duties would in theory experience psychological availability and by completing challenging tasks as part of their duties they may experience feelings of competence.

### **2.5.3 Psychological empowerment**

Stander and Rothmann (2010) set out to investigate the role of psychological empowerment as a mediator of engagement. They found statistically significant

relationships between the underlying constructs of psychological empowerment, namely competence, meaning and impact, and engagement. The concept “psychological empowerment” was originally postulated by Spreitzer (1995) and points to the experience of intrinsic motivation by an individual employee. This intrinsic motivation is a result of cognitions or thoughts individuals have about themselves in relation to their role at work. According to Spreitzer (2007), there are two main perspectives from which psychological empowerment can be investigated. It may be viewed from a macroperspective, which has its focus on the contextual conditions that enable empowerment, and a second perspective is a microperspective, which relates to the psychological experience of empowerment by the individual in the place of work. For purposes of this study, the focus is mainly on the microperspective relating to the psychological experience.

Stander and Rothmann (2010) found support that meaning, competence and impact, the three dimensions of psychological empowerment, were significantly related to engagement. Individuals who have a sense of purpose and appropriate skills and abilities in addition to a belief that they can influence the system they work in are more likely to be engaged at work. This means that these three dimensions, meaning, competence and impact, of empowerment may also have a mediating effect on engagement.

## **2.6 THEORETICAL INTEGRATION**

When considering the information above, one can loosely assimilate the various theories on engagement into an integrated model, which incorporates the various components of this complex concept.

In the first place there seems to be general consensus that engagement consists of three interrelated but distinctly observable components. Engagement can be observed on a physical, emotional and cognitive level. In this study the expectation is that engagement would be seen in these three dimensions.

Secondly there seems to be some consensus that engagement has underlying mediators that lead to and mediate the relationship between the antecedents of engagement and the three observable dimensions of engagement discussed in the section above. The Self-determination theory states that engagement consists of relatedness, autonomy and competence (Deci & Ryan, 1985). These three components are closely related to the three underlying psychological conditions which mediate the relationship between antecedents and engagement of the role attachment theory of Kahn (1990). The three underlying conditions of the role attachment theory are psychological meaningfulness, psychological safety and psychological availability. Although there seems to be some disagreement as to the existence of these three components (Olivier & Rothmann, 2007) this study still expects to find at least two of these three mediators.

Lastly, a variety of antecedents are presented by various sources related to engagement. The social exchange theories describe a relationship between supervisors, the organisation and the engagement of employees. The role attachment theory adds to the potential exchange between co-workers, supervisors and the engagement of individual employees. Job enrichment with its different components has also been proven to have strong correlations with engagement (May et al., 2004). In addition, the importance of having resources to complete a task has also been linked to engagement (Hobfoll, 1989). This study expects a number of these antecedents to be strongly correlated with engagement and for some to be mediated via underlying psychological conditions.

## **2.7 CHAPTER SUMMARY**

This chapter provided background to the concept “employee engagement” and clarified the definitions of engagement in the current literature. In addition, this chapter investigated the surrounding concepts of antecedents and the importance of engagement.

## **CHAPTER 3**

### **RESEARCH METHODS**

In this chapter the empirical aspects of the study are discussed. The objectives of the study are set out as well as the research design. Furthermore the data collection procedure is described and the participants are analysed. Lastly the various measuring instruments are discussed and the statistical analysis is explained.

#### **3.1 OBJECTIVES**

The specific study objectives are as follows:

- To study the antecedents of employee engagement in selected organisations within the Windhoek area in Namibia.
- To investigate the antecedents of psychological availability, safety and meaning in selected organisations within the Windhoek area in Namibia.
- To study whether psychological meaningfulness, availability, and safety mediate the relationships between employee engagement and its antecedents in selected organisations within the Windhoek area in Namibia?

#### **3.2 RESEARCH DESIGN**

A cross-sectional, correlational design with a survey as the data-collection technique was used. These types of designs are appropriate where groups of subjects at various stages of development are studied concurrently. The survey technique of data

collection uses questionnaires to gather information from the target population (Burns & Grove, 1993). The cross-sectional design is appropriate for this study in that it allows the measurement of different groups at one point in time based on pre-existing variables. This allows data to be collected in a shorter period of time.

### **3.3 PARTICIPANTS**

A convenience sample ( $n = 309$ ) was taken from all organisations from whom the researcher received permission. This sampling method selects participants at the convenience of the researcher and the availability of the participants (Shaughnessy, Zechmeister, & Zechmeister, 2003). The findings can be generalised to the larger population and a thorough understanding of the relationship between the relevant variables can be garnered, since the sample size is large enough (Shaughnessy et al., 2003).

### **3.4 MEASURING INSTRUMENTS**

A total of four instruments were used to gather data. In addition to a biographical questionnaire, a battery of three questionnaires was used. The biographical questionnaire was compiled to gather information regarding the demographic characteristics of the participants such as gender, marital status, language, age, educational level, years of employment at the company, and employment type. To simplify the completion of the questionnaire it consisted of multiple-choice questions. Participants had to tick appropriate blocks, and spaces were provided for answers not included in the list.

### **3.4.1 Antecedents Questionnaire**

#### **3.4.1.1 Rationale**

The Antecedents Questionnaire is designed to measure the aspects of individuals' work experiences that impacts on their levels of engagement. Olivier and Rothmann (2007) found that co-worker relations and work role fit predicted employee engagement. Cognitive, emotional and physical resources also predicted engagement accurately.

#### **3.4.1.2 Description**

The Antecedents Questionnaire, based on the Work Experiences Scale (WES; May et al., 2004) and adapted by Olivier and Rothmann (2007), was used to measure work role fit, job enrichment, co-worker relations, supervisor relations, resources, and self-consciousness. Work role fit can be defined as the subjectively observable fit between the self-concept of an individual and the inherent characteristics of the role. Job enrichment is defined in terms of the five dimensions of the Job Characteristics Model of Hackman and Oldham (1980). Co-worker relations can be defined as the interpersonal interactions between workers employed at the same organisation or work team. Supervisor relations are the interpersonal interactions between employees and their immediate superiors. Resources are defined as the physical, emotional and cognitive resources possessed by the employee to complete their tasks. Self-consciousness is defined as the preoccupation with how co-workers or superiors perceive and judge the individual employee (May et al., 2004).

### **3.4.1.3 Administration and scoring**

The Antecedents Questionnaire was administered in a pen and paper format. Respondents were instructed to mark their answers on the questionnaire itself. All areas were measured by 3-10 items. A 7-point agreement-disagreement Likert format varying from 1 (*strongly disagree*) to 7 (*strongly agree*) was used for all items.

### **3.4.1.4 Interpretation**

The items on this questionnaire are designed to measure a variety of predictors of engagement. Factors investigated include supervisor relations, co-worker relations, resources, work role fit, and self-consciousness. On the individual scales higher scores would indicate agreement with the stated items and lower scores would indicate disagreement with that item. All the items on a specific scale combined would then illustrate the respondents' confirmation of the presence of those items in their working environment. For example, many higher scores on the resources items would indicate that individuals feel they have adequate resources in their organisation to be able to complete their duties. Similarly, if there are many lower scores on the rewards and recognitions items, it would indicate that the individuals believe they do not receive the necessary rewards and recognition at their place of work.

#### **3.4.1.5 Reliability and validity**

The most relevant source of the adapted questionnaire used, which demonstrates the validity of this questionnaire, is that of Olivier and Rothmann (2007). Their results in each of the subsequent factors showed the following: work role fit ( $\alpha = 0.90$ ), co-worker relations ( $\alpha = 0.95$ ), supervisor relations ( $\alpha = 0.96$ ), resources ( $\alpha = 0.91$ ), and self-consciousness ( $\alpha = 0.86$ )

#### **3.4.1.6 Motivation for the inclusion of this instrument**

The objectives of this study include the study of antecedents of employee engagement in selected organisations in Namibia. This instrument has been recognized not only to accurately identify antecedents to engagement, but also to shed light on possible mediating effects that underlying conditions may have on engagement (Olivier & Rothmann, 2007). The instrument was tested in a South African context which allows confidence in using this instrument in Namibia due to the similarities in the demographics of both countries.

### **3.4.2 Psychological Conditions Questionnaire**

#### **3.4.2.1 Rationale**

Certain underlying psychological conditions have been identified that may mediate the relationship between the antecedents to engagement and engagement (Olivier & Rothmann, 2007). These underlying conditions are psychological meaningfulness,

psychological availability and psychological safety. Olivier and Rothmann (2007) found that psychological meaningfulness displayed a significantly positive relationship with engagement and that the psychological condition of availability mediated the relationship between resources and employee engagement.

#### **3.4.2.2 Description**

The Psychological Conditions Questionnaire was designed to measure three distinct psychological conditions, namely psychological meaningfulness, psychological availability, and psychological safety.

*Psychological meaningfulness* was measured by averaging six items ( $\alpha = 0.90$ ) drawn from the research of Spreitzer (1995) and May et al. (2004). For all the items, a 7-point agreement/disagreement Likert format from 1 (*disagree strongly*) to 7 (*agree strongly*) was used. These items measure the degree of meaning individuals discovered in their work-related activities.

*Psychological availability* was measured by averaging six items ( $\alpha = 0.90$ ) drawn from the research of May et al. (2004). For all the items, a 7-point agreement/disagreement Likert format from 1 (*strongly disagree*) to 7 (*strongly agree*) was used. These items measure the degree of availability (cognitive, emotional, and physical) that individuals discovered in their work-related activities.

*Psychological safety* was measured by averaging six items ( $\alpha = 0.90$ ) drawn from the research of May et al. (2004). For all the items, a 7-point agreement/disagreement

Likert format from 1 (*strongly disagree*) to 7 (*strongly agree*) was used. These items assess whether individuals feel comfortable to be themselves and express their opinions at work or whether there is a threatening environment at work.

#### **3.4.2.3 Administration and scoring**

The Psychological Conditions Questionnaire was administered in a pen and paper format. Respondents were instructed to mark their answers on the questionnaire itself. The answers to the questions were manually entered into a spread sheet at the completion of the data gathering exercise.

#### **3.4.2.4 Interpretation**

The items on this questionnaire are designed to measure a variety of underlying psychological conditions, which are said to mediate between the antecedents of engagement and the outward display of engagement. Factors investigated include psychological availability, psychological safety and psychological meaningfulness. On the individual scales, higher scores will indicate agreement with the stated items and lower scores will indicate disagreement with that item. All the items on a specific scale combined would then illustrate the respondents' confirmation of the presence of those items in themselves when displaying the characteristics associated with being engaged. For example, many higher scores on the Psychological Meaningfulness items would indicate that individuals feel they find meaning in their roles. Similarly, if there are many lower scores on the Psychological Safety items it

would indicate that individuals do not feel safe at work which could impede engagement.

#### **3.4.2.5 Reliability and validity**

The most relevant source of the adapted questionnaire used, which indicates the validity of this questionnaire, is that of Olivier and Rothmann (2007). Their results in each of the subsequent factors showed the following: Psychological Meaningfulness ( $\alpha = 0.92$ ), Psychological Availability ( $\alpha = 0.86$ ) and Psychological Safety ( $\alpha = 0.41$ ).

#### **3.4.2.6 Motivation for the inclusion of this instrument**

The relationship between the mediating conditions, namely psychological meaningfulness, psychological availability and psychological safety, is not yet fully understood. Some authors have suggested that psychological safety mediates the relationship between the antecedents of engagement and employee engagement (May et al., 2004), but this has not yet been demonstrated in a Southern African context. Studies have been completed using the Work Experiences Scale developed by May et al. (2004), but the same results have not yet been confirmed. Some objectives of this study include the identification and measurement of the mediating factors underlying engagement. This tool serves this mentioned purpose.

### **3.4.3 Engagement Questionnaire**

#### **3.4.3.1 Rationale**

One of the main objectives of this study was to measure the levels of engagement in selected Namibian organisations. It was also to investigate whether the experience of engagement in Namibia is similar to that experienced in other countries. This instrument has been shown to be effective to measure engagement in several studies in South Africa and abroad (May et al., 2004; Van Zyl, et al., 2010).

#### **3.4.3.2 Description**

The *Engagement Questionnaire* (EQ) was used to measure employee engagement. Employee engagement can be defined as the binding of the individual employees to their respective roles which allows them to manifest themselves in their roles on a physical, emotional and cognitive level. This scale was originally developed by May et al. (2004) and adapted by Van Zyl et al. (2010). These items reflect each of the three components of Kahn's (1990) conceptualisation of employee engagement, namely emotional ("I am passionate about my job"), which can be defined as being emotionally connected to their roles; Cognitive ("I get so into my job that I lose track of time"), which can be defined as being alert and mentally involved in their roles; and physical engagement ("I am full of energy in my work"), which can be defined as being physically present and involved in their roles.

### **3.4.3.3 Administration and scoring**

All items were measured on a 7-point agreement-disagreement Likert Scale. The format was from 1 (*never*) to 7 (*always*). The Engagement Questionnaire was administered in a pen and paper format. Respondents were instructed to mark their answers on the questionnaire itself. The answers to the questions were manually entered into a spread sheet at completion of the data gathering exercise.

### **3.4.3.4 Interpretation**

The items on this questionnaire are designed to measure the level of engagement present in an individual. On the individual items higher, scores would indicate agreement with the stated items and lower scores would indicate disagreement with that item. All the items on the questionnaire would then illustrate the employee's level of engagement at work.

### **3.4.3.5 Reliability and validity**

The most relevant source of the adapted questionnaire that was used, which indicates the validity of this questionnaire, is that of Van Zyl et al. (2010). Their results showed the following: Employee engagement ( $\alpha = 0.93$ ).

### **3.4.3.6 Motivation for the inclusion of this instrument**

This instrument has been demonstrated to be effective in the measurement of engagement in other countries that share similar characteristics in their demographics similar to those of Namibia (Van Zyl et al., 2010). In order to achieve the objectives set for this study an effective instrument is needed to measure engagement.

## **3.5 RESEARCH PROCEDURES**

Written consent was gained from various organisations by the researcher. A letter was sent to the various organisations detailing the nature and intent of the study. Once consent was obtained from the organisations, the questionnaires were distributed to employees at various levels in different organisations. The questionnaires were handed out in person by the researcher and, where allowed, the researcher supervised the completion of the questionnaires. A total of 417 questionnaires were distributed of which 309 were returned. This is equal to a 74.10% response rate. Organisations were selected at random with various invitations sent to a number of organisations. Due to time constraints the organisations that responded first were selected to participate. These organisations include two financial services organisations, of which one was in the private sector and one organisation which conducts its business in the state-owned or parastatal area. Two private schools participated with teachers in primary and secondary level. Lastly an organisation that sells consumer goods participated in the study.

### **3.6 STATISTICAL ANALYSIS**

The analysis was carried out with the SPSS 17.0 program (SPSS, 2009). Descriptive statistics (e.g. means and standard deviations), alpha coefficients, correlations, and hierarchical multiple regression analyses were used to analyse the data. Cronbach alpha coefficients ( $\alpha$ ) were used to assess the internal consistency of the measuring instruments (Clark & Watson, 1995). Pearson correlation coefficients were used to specify the relationships between variables. The level of statistical significance was set at  $p \leq 0.05$ . A cut-off point of 0.30 (medium effect, Cohen, 1988; Steyn, 2002) was set for the practical significance of correlation coefficients. Canonical correlation analysis will be used to determine the relationships between the constructs. The goal of canonical correlation is to analyse the relationship between two sets of variables (Tabachnick & Fidell, 2001).

Hierarchical multiple regression analyses were used to assess the amount of variance in the dependent variables that are explained by the independent variables. Mediation effects were assessed by following the procedure recommended by Baron and Kenny (1986). First, the relationship between the independent and dependent variables was assessed. Second, the relationship between the independent variable and mediator was assessed. Third, the relationship between the mediator and the dependent variable was computed. The relationship between the independent variable (entered in the first step of a regression analysis), mediator (entered in the second step of the regression analysis) and dependent variable was finally studied. The procedure to determine mediation effects, as explained by Preacher and Hayes (2008), was followed to compute the bootstrap estimated indirect effects of antecedents on

employee engagement. Two-sided 95% bias corrected confidence intervals (5000 trials), and the statistical significance of indirect effects was computed. The significance of the indirect effects was assessed in terms of zero versus non-zero coefficients rather than in terms of statistical significance only (Preacher & Hayes, 2004).

### **3.7 HYPOTHESES**

The following hypotheses are formulated for this study:

H<sub>1</sub>: Psychological conditions (psychological meaningfulness, psychological availability and psychological safety) are related to employee engagement.

H<sub>2</sub>: Work role fit, job enrichment and co-worker relations are related to psychological meaningfulness.

H<sub>3</sub>: Work role fit, job enrichment and co-worker relations are related to employee engagement.

H<sub>4</sub>: Availability of cognitive, emotional and physical resources is related to psychological availability.

H<sub>5</sub>: Relations with co-workers and supervisors are related to psychological safety.

H<sub>6</sub>: Psychological meaningfulness mediates the relationship between antecedents (work role fit, job enrichment and co-worker relations) and employee engagement.

H<sub>7</sub>: Psychological safety mediates the relationship between antecedents (co-worker relations, supervisor relations and self-consciousness) and employee engagement.

H<sub>8</sub>: Psychological availability mediates the relationship between resources and employee engagement.

H<sub>9</sub>: Antecedents (of employee engagement) interact with organisational support to affect employee engagement.

### **3.8 CHAPTER SUMMARY**

In this chapter, the empirical aspects of the study were discussed. The objectives of the study were set out as well as the research design. Furthermore, the data collection procedure was described and the participants were analysed. Lastly, the various measuring instruments were discussed and the statistical analysis was explained.

## **CHAPTER 4**

### **RESULTS**

In this chapter, the results of the empirical study will be reported and discussed. The reporting of the results consists of the measurement model and the structural model.

#### **4.1 RESULTS**

Next, the results of the study will be reported. First, the results relating to the test of the measurement model will be reported. Second, the results regarding the structural model of employee engagement will be given.

#### 4.1.1. Demographic data

Table 4.1

*Characteristics of the Participants*

Item		Frequency	Percentage
Gender	Male	157	50.8
	Female	152	49.2
	Missing Values	0	0
Age	<25	54	17.5
	25 – 29	80	25.9
	30 – 34	61	19.8
	35 – 39	37	11.9
	40 – 44	25	8.2
	45 – 49	14	4.4
	≥50	32	10
	Missing Values	6	1.9
Race	African	134	43.4
	Coloured	37	12.0
	White	125	40.5
	Other	11	3.5
	Missing Values	2	0.6
Language	Afrikaans	145	46.9
	English	21	6.8
	Oshiwambo	57	18.4
	German	10	3.2
	Otjiherero	13	4.2
	Setswana	26	8.4
	Nama/Damara	3	1.0
	Portuguese	14	4.5
	Other	15	4.7
	Missing Values	5	1.6
	Marital Status	Single	166
Married		128	41.4
Separated		1	0.3
Divorced		8	2.6
Widowed		3	1.0
Missing Values		3	1.0
Education		Grade 10 and below	27
Grade 12	109	35.3	
Tertiary Education	170	54.9	
Missing Values	3	1.0	
Years in Current Job	Less than 1 year	53	17.1
	1 to < 5 years	171	55
	5 to < 10 years	52	16.8
	10 and more years	26	7.9
	Missing Values	7	2.3
Years in Service	Less than 1 year	24	7.5
	1 to < 5 years	103	33
	5 to < 10 years	52	16.8
	10 to < 15 years	33	10.6
	15 to < 20 years	21	6.9
	20 to < 25 years	16	5.2
	25 and more years	36	11.4
	Missing Values	24	7.8

The demographic composition of the participants includes a balance between male and female, with almost similar numbers participating in the study. There is also an evenly spread age, with a greater group in the under 35 bracket. In addition there is an equal balance between single and married participants and highlights that most participants have been in their current positions under 5 years. Language is predominantly Afrikaans and the ethnic group is predominantly African.

#### **4.1.2 Testing the measurement model**

Exploratory factor analyses were carried out to investigate the factor structure of the measuring instruments. First, principal component analyses were used to assess the factorability of the items of the various scales and to determine the number of components in each scale. Eigenvalues ( $> 1$ ) and the scree plot were used to determine the number of components in each scale. Second, a principal axis factor analysis with a direct oblimin rotation was used to extract the factors in cases where scales had two factors or more.

##### **4.1.2.1 Antecedents Questionnaire (AQ)**

A principle component analysis was carried out on the 59 items of the AQ. The results showed that the data was factorable (KMO Measure = 0.87; Bartlett's Tests  $p < 0.01$ ). Thirteen factors had eigenvalues higher than 1. These factors explain 69.35% of the total variance. The scree plot showed that eight factors could be extracted.

Table 4.2 shows the pattern matrix that was obtained after a principal axis factor analysis with a direct oblimin rotation was conducted on the AQ.

Table 4.2

*Pattern Matrix of the AQ*

Item	1	2	3	4	5	6	7	8	$h^2$
My supervisor praises good work.	<b>0.79</b>	0.02	-0.11	0.18	-0.05	-0.04	-0.08	0.01	0.81
My supervisor is committed to protecting my interests.	<b>0.78</b>	0.00	-0.09	-0.01	-0.08	0.03	0.10	-0.31	0.80
I trust my supervisor.	<b>0.74</b>	0.11	0.03	0.06	0.02	0.05	0.04	-0.02	0.75
My supervisor encourages me to develop new skills.	<b>0.74</b>	-0.02	0.10	0.03	0.23	0.04	-0.11	0.20	0.79
Employees are treated fairly by my supervisor.	<b>0.70</b>	-0.04	-0.21	0.01	-0.02	-0.08	0.15	-0.25	0.78
My supervisor encourages employees to speak up when they disagree with a decision.	<b>0.64</b>	0.02	0.02	0.09	0.10	0.07	0.05	0.07	0.64
My supervisor encourages employees to participate in important decisions.	<b>0.62</b>	-0.00	0.10	0.08	0.17	0.07	0.02	0.14	0.68
My supervisor keeps informed about how employees think and feel about things.	<b>0.60</b>	0.03	0.06	0.08	0.33	0.14	-0.04	0.07	0.76
My supervisor does what he/she says he/she will do.	<b>0.59</b>	0.12	-0.02	0.10	-0.02	0.01	-0.03	-0.23	0.66
My supervisor helps me solve work-related problems.	<b>0.58</b>	0.11	-0.04	0.20	0.19	0.01	-0.19	0.17	0.75
To what extent do managers or co-workers let you know how well you are doing on your job?	0.40	0.14	-0.00	0.08	0.00	-0.03	0.28	0.12	0.56
To what extent does doing the job itself provide you with information about your work performance?	0.39	0.03	-0.07	0.14	-0.10	-0.10	0.36	0.08	0.55
I feel a real 'kinship' with my co-workers.	0.00	<b>0.90</b>	0.03	0.07	-0.10	-0.03	-0.10	0.04	0.80
My co-workers and I have mutual respect for one another.	0.05	<b>0.85</b>	-0.06	0.04	-0.14	-0.06	-0.11	-0.11	0.75
I sense a real connection with my co-workers.	-0.04	<b>0.85</b>	0.04	-0.08	0.10	-0.00	-0.05	-0.01	0.79
I believe that my co-workers appreciate who I am.	0.09	<b>0.81</b>	0.16	-0.13	0.01	0.05	0.05	0.09	0.80
I feel worthwhile when I am around my co-workers.	0.01	<b>0.81</b>	0.05	-0.00	0.06	-0.02	-0.05	0.06	0.76
My co-workers value my input.	-0.09	<b>0.72</b>	-0.11	0.07	0.17	0.03	-0.05	-0.12	0.69
My co-workers listen to what I have to say.	0.11	<b>0.68</b>	0.04	-0.17	-0.01	0.02	0.16	0.15	0.67
My co-workers really know who I am.	-0.08	<b>0.64</b>	0.12	-0.05	0.13	0.07	0.14	0.03	0.63
I trust my co-workers.	0.18	<b>0.59</b>	-0.01	-0.11	0.04	-0.05	0.15	0.05	0.64
My interactions with my co-workers are rewarding.	0.04	<b>0.36</b>	-0.12	0.15	0.21	0.05	0.15	-0.00	0.65
I feel physically used up at the end of the workday.	-0.06	0.06	<b>0.76</b>	-0.06	-0.05	-0.01	0.06	0.02	0.69
I feel tired before my workday is over.	0.11	0.10	<b>0.72</b>	-0.01	-0.11	0.01	-0.06	0.01	0.73
I feel emotionally drained from my work.	-0.01	-0.02	<b>0.70</b>	-0.02	0.03	-0.04	0.01	-0.03	0.74
I feel like I'm at the end of my rope emotionally	-0.04	0.00	<b>0.67</b>	0.06	-0.09	-0.07	-0.01	-0.07	0.74
I have problems remembering all the things I need to do at work	-0.11	-0.01	<b>0.39</b>	0.00	0.03	-0.21	0.07	-0.37	0.67
A promotion.	-0.01	-0.04	0.04	<b>0.85</b>	0.02	0.04	-0.03	-0.02	0.74
More freedom and opportunities.	0.07	0.01	-0.02	<b>0.74</b>	0.06	0.02	0.09	-0.04	0.73
A reward or token of appreciation (e.g. lunch).	0.03	0.04	0.09	<b>0.71</b>	0.03	0.02	-0.08	0.14	0.67
Training and development opportunities.	0.11	-0.07	-0.03	<b>0.69</b>	0.00	0.06	0.04	-0.12	0.66
Public recognition (e.g. employee of the month).	0.00	-0.08	-0.08	<b>0.68</b>	-0.01	-0.07	-0.01	-0.01	0.61
A pay raise.	0.10	-0.07	0.02	<b>0.62</b>	0.04	-0.08	0.11	-0.02	0.65
Job security.	-0.02	-0.01	-0.11	<b>0.57</b>	0.13	0.03	0.03	-0.04	0.62
Praise from your supervisor.	0.41	0.02	-0.03	<b>0.54</b>	-0.09	-0.01	0.10	0.04	0.73
More challenging work assignments.	0.19	-0.08	-0.03	<b>0.44</b>	0.03	-0.09	0.22	-0.05	0.55
Respect from the people you work with.	-0.08	0.29	0.05	<b>0.41</b>	0.04	-0.04	0.24	0.03	0.70

Table 4.2

*Pattern Matrix of the AQ (continued)*

Item	1	2	3	4	5	6	7	8	$h^2$
My job 'fits' how I see myself.	0.03	0.14	-0.08	0.05	<b>0.75</b>	-0.04	0.05	-0.05	0.79
The work I do on this job helps me satisfy who I am.	0.19	0.05	-0.12	-0.01	<b>0.74</b>	-0.07	0.09	0.11	0.80
My job 'fits' how I see myself in the future.	0.03	0.03	-0.09	0.15	<b>0.69</b>	-0.00	0.05	-0.10	0.75
I am afraid my failings will be noticed by others.	0.01	-0.08	-0.03	0.02	-0.04	<b>-0.90</b>	0.00	0.13	0.78
I worry about being judged by others at work.	-0.07	0.04	0.03	0.09	-0.01	<b>-0.75</b>	-0.08	0.04	0.78
I worry about how others perceive me at work.	-0.01	0.08	0.04	-0.13	0.12	<b>-0.57</b>	0.02	-0.11	0.65
In general, how significant or important in your job?	0.02	-0.03	-0.07	-0.03	0.06	0.04	<b>0.57</b>	-0.13	0.56
How much autonomy is there in your job?	0.09	0.04	-0.02	0.04	0.02	-0.00	<b>0.51</b>	-0.02	0.52
To what extent does your job involve doing a "whole" and identifiable piece of work?	-0.09	-0.05	0.10	0.07	0.09	-0.02	<b>0.47</b>	0.04	0.61
How much variety is there in your job?	0.25	-0.00	0.05	0.02	0.20	-0.01	<b>0.45</b>	-0.02	0.62
I feel emotionally healthy at the end of the workday	-0.11	0.06	-0.06	0.09	-0.04	0.07	<b>0.38</b>	0.11	0.59
I can't think straight by the end of my workday	0.17	-0.05	0.35	-0.02	0.04	-0.06	-0.01	<b>-0.53</b>	0.65
I find it difficult to focus my attention while at work	-0.05	-0.15	0.29	0.10	0.06	-0.05	-0.10	<b>-0.42</b>	0.64
Eigenvalue	14.59	6.43	3.97	2.67	2.08	1.89	1.84	1.53	
Percentage of variance	24.73	10.90	6.73	4.53	3.52	3.20	3.12	2.59	

Table 4.2 shows that seven interpretable factors were extracted after rotation. Factor 1 is labelled *Supervisor Relations*. This factor is about the relationship between the supervisor and the employee. This includes the care the supervisor shows towards the employee as well as the feedback the employee receives from the supervisor. The general relationship including trust and participation is described by this factor. Two items which loaded on supervisory relations also loaded on Job Enrichment and were rather considered under the Job Enrichment Factor. Factor 2 is labelled *Co-worker Relations*. This factor is about the relationship between the employee and his co-workers. It includes the sense of connection or kinship between workers. The relationship between workers relating to mutual trust and being valued as part of the group is described by this factor. Factor 3 is labelled *Resources*. This factor

describes the physical, emotional and cognitive resources of employees in the place of work.

Factor 4 is labelled *Rewards and Recognition*. This factor involves the various rewards an employee may receive for doing their job well, as well as the various forms of recognition that can be received. Items forming part of this factor asked employees to: “Indicate the extent to which you receive the following outcomes for performing your job well:” with items reflecting various possible rewards and recognition an employee may receive at work for performing well. Factor 5 is labelled *Work Role Fit*. This factor describes the extent to which an employee sees his role as fitting his personality and vice versa. A sample question of this factor is: “My job ‘fits’ how I see myself.”

Factor 6 is labelled *Self-consciousness*. The extent to which the employee feels self-conscious at work is described by this factor. It describes whether employees worry about how others see them at work and whether they will be judged by co-workers. Factor 7 is labelled *Job Enrichment* and describes various components of Job Enrichment, including autonomy in the job, significance of the job and variety. An item measuring Emotional Resources, which can be defined as the resources possessed by the employee to be emotionally connected to their roles (“I feel emotionally healthy at the end of the workday”) also loaded on this factor, but was excluded in the final analysis. Factor 8 is labelled *Cognitive Resources*. This factor describes the cognitive aspect of the employee and relates to attention and focus at the end of the workday. As it was expected that these items would load on Factor 3, Resources, this item was also excluded from the final analysis.

The communalities ( $h^2$ ) were acceptable, varying from 0.52 to 0.81. This indicates that the extracted factors sufficiently represent the items.

#### **4.1.2.2 Psychological Conditions Questionnaire (PCQ)**

A principle component analysis was carried out on the 21 items of the psychological conditions questionnaire. The results showed that the data was factorable (KMO Measure = 0.83; Bartlett's Tests  $p < 0.01$ ). Six factors had eigenvalues higher than 1. These factors explain 65.84% of the total variance. The scree plot showed that between three and six factors can be extracted.

Table 4.3 shows the pattern matrix that was obtained after a principal axis factor analysis with a direct oblimin rotation was conducted on the PCQ.

Table 4.3

*Pattern Matrix of the PCQ*

Item	1	2	3	$h^2$
I feel that the work I do on my job is valuable.	<b>0.83</b>	-0.01	0.02	0.72
The work I do is very important to me.	<b>0.81</b>	0.03	0.08	0.76
My job activities are significant to me.	<b>0.81</b>	-0.02	-0.10	0.74
My job activities are personally meaningful to me.	<b>0.78</b>	0.11	0.14	0.68
The work that I do on this job is worthwhile.	<b>0.73</b>	-0.06	-0.13	0.62
The work I do is meaningful to me.	<b>0.71</b>	0.01	-0.10	0.67
It is safe to take a risk in my section.	0.34	-0.09	-0.02	0.58
Working with colleagues in my section, my unique skills and talents are valued and utilised.	0.24	0.20	-0.04	0.62
No one in my section would deliberately act in a way that undermines my efforts.	0.19	0.08	0.04	0.63
Individuals in my section are able to bring up problems and tough issues.	0.10	0.05	0.00	0.67
I am confident in my ability to deal with problems that come up at work.	0.01	<b>0.75</b>	-0.14	0.70
I am confident in my ability to handle competing demands at work.	0.01	<b>0.75</b>	-0.16	0.68
I am self-assured about my capabilities to perform my work activities.	-0.10	<b>0.74</b>	0.09	0.74
I am confident about my ability to do my job.	0.12	<b>0.73</b>	0.05	0.66
I am confident in my ability to think clearly at work.	0.21	<b>0.68</b>	0.05	0.68
I am confident that I can handle the physical demands at work.	-0.03	<b>0.59</b>	-0.08	0.65
I have mastered the skills necessary for my job.	-0.02	<b>0.53</b>	0.15	0.71
I am confident in my ability to display the appropriate emotions at work.	0.04	<b>0.42</b>	-0.18	0.39
People in my section sometimes reject others for being different.	0.09	-0.08	<b>0.53</b>	0.72
It is difficult to ask colleagues at work for help.	-0.04	-0.01	<b>0.40</b>	0.69
If you make a mistake at work, it is often held against you.	-0.07	0.04	<b>0.40</b>	0.51
Eigenvalues	6.03	2.66	1.47	
Percentage of variance	28.73	12.65	6.99	

Table 4.3 shows that three interpretable factors were extracted after rotation. Factor 1 is labelled *Psychological Meaningfulness*. This factor is about the meaning a person experiences within his job. It includes worth, value and significance that a person connects to his job. Factor 2 is labelled *Psychological Availability*. This factor is about the availability of a person in his role to take on difficult tasks and to meet the requirements of the position. It includes confidence in their ability to complete tasks and handle problems that may arise. Factor 3 is labelled *Psychological Safety*. This factor describes how safe an employee feels at work. This includes them being able to voice an opinion or to make a mistake without facing excessive retribution.

The communalities of the items varied from 0.39 to 0.76 and were acceptable. This indicated that the extracted factors of the PCQ represented the items well.

#### **4.1.2.3 Engagement Questionnaire (EQ)**

A principle component analysis was carried out on the 13 items of the Engagement Questionnaire. The results showed that the data was factorable (KMO Measure = 0.85; Bartlett's Tests  $p < 0.01$ ). One factor had an eigenvalue higher than 1. This factor explains 61.41% of the total variance.

Table 4.4

*Component Matrix of the EQ*

Item	1	$h^2$
I am passionate about my job	0.76	0.57
I feel energised when I work	0.77	0.59
I am enthusiastic about my job	0.78	0.60
I get excited when I perform well on my job	0.55	0.31
I feel a lot of energy when I am performing my job	0.79	0.63
I am full of energy in my work	0.87	0.76
I feel alive and vital at work	0.85	0.73
I feel physical strong at work	0.85	0.72
Eigenvalue	4.91	
Percentage of variance	61.41	

Table 4.4 shows one interpretable factor. This factor is labelled *Employee Engagement*. This factor is about how engaged an employee is at work. This includes the amount of energy and physical well-being an employee experiences at work. This factor also includes getting excited about performing well and being enthusiastic while on the job.

The communalities of the items varied from 0.31 to 0.76 and were acceptable. This indicated that the extracted factors of the EQ represented the items well.

#### 4.1.3 Testing the structural model

Next, the statistics were computed to test the structural model of employee engagement in this study. First, the descriptive statistics and product-moment correlations were computed. Second, hierarchical regression analyses were used to

assess the percentage of variance of the dependent variables explained by independent variables.

#### **4.1.3.1 Descriptive statistics and correlations**

Table 4.5 shows the descriptive statistics, Cronbach alpha coefficients and product-moment correlation coefficients of the measuring instruments, namely the AQ, the PCQ and the EQ.

Table 4.5

*Descriptive Statistics, Alpha Coefficients and Product-moment Correlation Coefficients of the Scales*

Scale	Mean	SD	A	1	2	3	4	5	6	7	8	9	10	11
1. Engagement	5.50	1.29	0.79											
2. Rewards	3.95	1.51	0.90	0.30 <sup>+</sup>										
3. Co-worker Relations	5.23	1.24	0.93	0.30 <sup>+</sup>	0.88 <sup>++</sup>									
4. Resources	3.32	1.41	0.82	-0.24 <sup>*</sup>	-0.10 <sup>*</sup>	-0.06 <sup>*</sup>								
5. Supervisor Relations	4.59	1.60	0.94	0.26 <sup>*</sup>	0.60 <sup>++</sup>	0.29 <sup>*</sup>	-0.13 <sup>*</sup>							
6. Job Enrichment	4.60	1.28	0.73	0.41 <sup>++</sup>	0.55 <sup>++</sup>	0.24 <sup>*</sup>	-0.12 <sup>*</sup>	0.50 <sup>++</sup>						
7. Self-consciousness	3.83	1.66	0.74	-0.05 <sup>*</sup>	0.04	0.02	0.29 <sup>*</sup>	-0.06 <sup>*</sup>	-0.04					
8. Work Role Fit	4.66	1.78	0.88	0.48 <sup>++</sup>	0.47 <sup>++</sup>	0.32 <sup>++</sup>	-0.21 <sup>*</sup>	0.55 <sup>++</sup>	0.50 <sup>++</sup>	-0.04				
9. Organisational Support	3.98	1.56	0.85	0.33 <sup>++</sup>	0.70 <sup>++</sup>	0.20 <sup>*</sup>	-0.06 <sup>*</sup>	0.59 <sup>++</sup>	0.59 <sup>++</sup>	-0.04	0.52 <sup>++</sup>			
10. Psychological Meaningfulness	3.97	1.56	0.92	0.62 <sup>++</sup>	0.39 <sup>++</sup>	0.19 <sup>*</sup>	-0.27 <sup>*</sup>	0.34 <sup>++</sup>	0.56 <sup>++</sup>	-0.05 <sup>*</sup>	0.36 <sup>++</sup>	0.44 <sup>++</sup>		
11. Psychological Availability	5.57	1.45	0.87	0.37 <sup>++</sup>	0.09 <sup>*</sup>	0.27 <sup>*</sup>	-0.27 <sup>*</sup>	0.19 <sup>*</sup>	0.47 <sup>++</sup>	0.04	0.21 <sup>*</sup>	0.11 <sup>*</sup>	0.40 <sup>++</sup>	
12. Psychological Safety	5.89	1.00	0.44	0.35 <sup>++</sup>	0.34 <sup>++</sup>	0.30 <sup>++</sup>	0.06 <sup>*</sup>	0.38 <sup>++</sup>	0.21 <sup>*</sup>	-0.15 <sup>*</sup>	0.62 <sup>++</sup>	0.44 <sup>++</sup>	0.37 <sup>++</sup>	0.26 <sup>*</sup>

\* Statistically significant:  $p \leq 0.05$

+ Practically significant correlation (medium effect):  $0.30 \leq r \leq 0.49$

++ Practically significant correlation (large effect):  $r > 0.50$

Compared to the guideline of 0.70 provided by Nunnally and Bernstein (1994) for Cronbach coefficient alpha levels, Table 4.5 shows acceptable Cronbach alpha coefficients varying from 0.73 to 0.94 for all the scales with the exception of Psychological Safety ( $\alpha = 0.44$ ). Therefore all (except one) of the scales showed sufficient reliability to be used for the subsequent analysis.

From Table 4.5 one can derive that the construct of Employee Engagement is positively correlated with the psychological conditions, Psychological Meaningfulness (large effect), Psychological Availability and Psychological Safety (both medium effects). Employee Engagement is also positively significantly related to various antecedents, namely Rewards, Co-worker Relations, Job Enrichment, Work Role Fit and Organisational Support (all medium effects). It is also statistically significantly and positively correlated with Supervisor Relations and statistically significantly and negatively correlated with Resources and Self-consciousness.

Therefore hypothesis 1 ( $H_1$ ): Psychological conditions (psychological meaningfulness, psychological availability and psychological safety) are related to employee engagement, and hypothesis 3 ( $H_3$ ): Work role fit, job enrichment and co-worker relations are related to engagement, can both be accepted.

Considering the psychological conditions, one can derive that psychological meaningfulness is positively correlated to the following antecedents, namely job enrichment (large effect), rewards, supervisor relations and organisational support (all medium effects). It is also positively significantly correlated to co-worker relations and negatively significantly correlated to resources and self-consciousness.

Psychological availability is positively correlated to job enrichment (medium effect). It is also positively significantly correlated to rewards, co-worker relations, supervisor relations, work role fit and organisational support. It is also negatively statistically significantly correlated to resources. Psychological safety is positively correlated to the following antecedents: work role fit (large effect), rewards, co-worker relations, supervisor relations and organisational support (all medium effects). It is also positively statistically significantly correlated to resources and job enrichment and negatively statistically significantly correlated to self-consciousness.

Therefore hypothesis 2 (H<sub>2</sub>): Work role fit, job enrichment and co-worker relations are related to psychological meaningfulness, and hypothesis 4 (H<sub>4</sub>): Availability of cognitive, emotional and physical resources is related to psychological availability can both be accepted. In addition, hypothesis 5 (H<sub>5</sub>): Relations with co-workers and supervisors are related to psychological safety, can also be accepted.

#### **4.1.3.3 Multiple regression analyses**

Multiple regression analyses were used to assess the relationships between the independent and dependent variables. To test for mediation, I used the procedures described by Baron and Kenny (1986) to determine whether the conditions for mediation enumerated by would be met. First, the independent variable (IV) must significantly covary with the presumed mediator. This first condition is met when the regression coefficient between an IV and its mediator is significant. Second, the mediator must significantly covary with the dependent variable (DV). This second condition is met when the path coefficient between the mediator and the DV is

significant. Third, when the relationships between the mediator and the IV and DV are controlled, the relationship between the IV and DV becomes non-significant for fully mediated relations. If the relation is still significant, but reduced in magnitude, partial mediation is indicated (Baron & Kenny, 1986).

Table 4.6 shows the results of multiple regression analyses with co-worker relations, job enrichment, work role fit and psychological meaningfulness as independent variables and employee engagement as dependent variable.

Table 4.6

*Multiple Regression Analyses with Co-worker Relations, Job Enrichment, Work Role Fit and Psychological Meaningfulness as Independent Variables and Employee Engagement as Dependent Variable*

	Unstandardized Coefficients		Standardised Coefficients		<i>t</i>	<i>p</i>	<i>F</i>	$\Delta R^2$
	B	SE	B					
Step 1							32.51*	0.28*
(Constant)	20.67	2.83			7.29	0.00*		
Co-worker relations	0.12	0.05	0.14		2.43	0.02		
Job enrichment	0.31	0.08	0.22		3.71	0.00*		
Work role fit	0.63	0.12	0.32		5.16	0.00*		
Step 2							49.74*	0.16*
(Constant)	11.01	2.74			4.02	0.00*		
Co-worker relations	0.14	0.04	0.17		3.29	0.00*		
Job enrichment	0.05	0.08	0.03		0.56	0.57		
Work role fit	0.15	0.12	0.08		1.23	0.22		
Meaningfulness	0.67	0.08	0.54		8.58	0.00*		

\*  $p \leq 0.01$

The results in Table 4.6 show that co-worker relations, job enrichment and work role fit predicted 28% of the variance in employee engagement ( $F = 32.51, p \leq 0.01$ ). The regression coefficients of job enrichment ( $\beta = 0.22, p \leq 0.01$ ) and work role fit ( $\beta = 0.31, p \leq 0.01$ ) were statistically significant. Adding psychological meaningfulness to the regression equation in the second step resulted in the explanation of an additional 16% of the variance in employee engagement ( $F = 49.74, p \leq 0.01$ ). The regression coefficients of co-worker relations ( $\beta = 0.17, p \leq 0.01$ ) and psychological meaningfulness ( $\beta = 0.54, p \leq 0.01$ ) were statistically significant.

A multiple regression analysis was conducted with psychological meaningfulness as dependent variable, and co-worker relations, job enrichment and work role fit as independent variables. The results showed that the three independent variables predicted 44.7% of the variance in psychological meaningfulness ( $F = 68.44, p \leq 0.01$ ). The beta coefficients of job enrichment ( $\beta = 0.35, p \leq 0.01$ ) and work role fit ( $\beta = 0.45, p \leq 0.01$ ) were statistically significant.

The abovementioned results support the full mediation effects of psychological meaningfulness on the relationships between work role fit and job enrichment on the one hand and employee engagement on the other.

Therefore hypothesis 6 ( $H_6$ ): Psychological meaningfulness mediates the relationship between antecedents (work role fit, job enrichment and co-worker relations) and engagement is partially accepted, as psychological meaningfulness only mediated the relationship between work role fit and job enrichment on the one hand and engagement on the other.

Table 4.7 shows the results of multiple regression analyses with resources and psychological availability as independent variables and employee engagement as dependent variable.

Table 4.7

*Multiple Regression Analyses with Resources and Psychological Availability and Employee Engagement as Dependent Variable*

	Unstandardized Coefficients		Standardised Coefficients		<i>t</i>	<i>p</i>	<i>F</i>	$\Delta R^2$
	B	SE	B					
Step 1							20.22*	0.07*
(Constant)	50.18	1.52			33.10	0.00*		
Resources	-0.27	0.06	-0.26		-4.50	0.00*		
Step 2							27.18*	0.10*
(Constant)	28.44	4.11			6.92	0.00*		
Resources	-0.18	0.06	-0.17		-3.05	0.00*		
Psychological Availability	0.42	0.07	0.32		5.65	0.00*		

\*  $p \leq 0.01$

The results in Table 4.7 show that resources predicted 7% of the variance in employee engagement ( $F = 20.22, p \leq 0.01$ ). The regression coefficient of resources ( $\beta = -0.26, p \leq 0.01$ ) is statistically significant. Adding psychological availability to the regression equation in the second step resulted in the explanation of an additional 10% of the variance in employee engagement. The regression coefficients of resources ( $\beta = -0.17, p \leq 0.01$ ) and psychological availability ( $\beta = 0.32, p \leq 0.01$ ) were statistically significant.

A regression analysis, with psychological availability as dependent variable and resources as independent variable, was conducted. The results showed that the independent variable predicted 7.2% of the variance in psychological availability ( $F = 21.44, p \leq 0.01$ ). The regression coefficients of resources ( $\beta = 0.27, p \leq 0.01$ ) was statistically significant.

The abovementioned results support the partial mediation effects of psychological availability on the relationships between resources and employee engagement.

Therefore hypothesis 8 ( $H_8$ ), which states that psychological availability mediates the relationship between resources and engagement, is accepted.

Table 4.8 shows the results of multiple regression analyses with co-worker relations, supervisor relations, self-consciousness and psychological safety as independent variables and employee engagement as dependent variable.

Table 4.8

*Multiple Regression Analyses with Co-worker Relations, Supervisor relations, Self-consciousness and Psychological Safety as Independent Variables and Employee Engagement as Dependent Variable*

	Unstandardized Coefficients		Standardised Coefficients		<i>t</i>	<i>p</i>	<i>F</i>	$\Delta R^2$
	B	SE	B					
Step 1							12.61*	0.12*
(Constant)	28.79	3.07			9.39	0.00*		
Co-worker relations	0.21	0.05	0.25		4.28	0.00*		
Supervisor relations	0.11	0.04	0.17		2.97	0.00*		
Self-consciousness	-0.09	0.12	-0.04		-0.79	0.43		
Step 2							14.99*	0.06*
(Constant)	25.42	3.07			8.29	0.00*		
Co-worker relations	0.17	0.05	0.19		3.38	0.00*		
Supervisor relations	0.06	0.04	0.09		1.50	0.13		
Self-consciousness	-0.12	0.11	-0.06		-1.04	0.30		
Psychological safety	0.67	0.15	0.26		4.44	0.00*		

\*  $p \leq 0.01$

d

The results in Table 4.8 show that co-worker relations, supervisor relations and self-consciousness explained 12% of the variance in employee engagement ( $F = 12.61$ ,  $p \leq 0.01$ ). The regression coefficient of co-worker relations ( $\beta = 0.25$ ,  $p \leq 0.01$ ) and supervisor relations ( $\beta = 0.17$ ,  $p \leq 0.01$ ) was statistically significant. Adding psychological safety to the regression equation in the second step resulted in the explanation of an additional 6% of the variance in employee engagement. The

regression coefficients of co-worker relations ( $\beta = 0.19, p \leq 0.01$ ) and psychological safety ( $\beta = 0.26, p \leq 0.01$ ) were statistically significant.

A multiple regression analysis was conducted with psychological safety as dependent variable and co-worker relations, supervisor relations and self-consciousness as independent variables. The results showed that the three independent variables predicted 17.8% of the variance in psychological safety ( $F = 20.62, p \leq 0.01$ ). The regression coefficients of co-worker relations ( $\beta = 0.20, p \leq 0.01$ ) and supervisor relations ( $\beta = 0.32, p \leq 0.01$ ) were statistically significant. The abovementioned results support the full mediation effect of psychological safety on the relationship between supervisor relations and employee engagement, and the partial mediation effect of psychological safety on the relationship between co-worker relations and employee engagement.

Therefore hypothesis 7 ( $H_7$ ), which states that psychological safety mediates the relationship between antecedents (co-worker relations, supervisor relations and self-consciousness) and engagement, is partially accepted.

Multiple regression analyses were conducted to investigate the moderating effects of organisational support on the relationship between antecedents and employee engagement. To prepare the data for moderated regression analysis the values of the independent variables and the moderator were centred. This was done by subtracting the mean score for each variable from the scale scores. Next, the interaction terms were calculated (co-worker relations  $\times$  organisational support). The results of the moderated regression analysis are displayed in Table 4.9.

Table 4.9

*Multiple Regression Analyses with Co-worker Relations, Job Enrichment, Work Role Fit and Psychological Meaningfulness as Independent Variables and Employee Engagement as Dependent Variable*

	Unstandardized Coefficients		Standardised Coefficients		<i>t</i>	<i>p</i>	<i>F</i>	$\Delta R^2$
	B	SE	B					
Step 1							170.30*	0.40*
(Constant)	17.56	2.09			8.41	0.00*		
Psychological meaningfulness	0.79	0.06	0.63		13.05	0.00*		
Step 2							39.09*	0.04*
(Constant)	21.25	2.69			7.90	0.00*		
Psychological meaningfulness	0.68	0.08	0.55		8.57	0.00*		
Co-worker relations	0.14	0.04	0.16		3.25	0.00*		
Job enrichment	0.04	0.09	0.03		0.45	0.65		
Work role fit	0.14	0.13	0.07		1.10	0.27		
Step 3							25.74	0.02*
(Constant)	21.98	2.72			8.07	0.00*		
Psychological meaningfulness	0.67	0.08	0.54		8.51	0.00*		
Co-worker relations	0.19	0.05	0.23		4.08	0.00*		
Job enrichment	0.03	0.09	0.02		0.28	0.78		
Work role fit	0.03	0.14	0.02		0.24	0.81		
Organisational support	-0.02	0.08	-0.01		-0.18	0.86		
Organisational support × Job enrichment	-0.00	0.01	-0.03		-0.47	0.64		
Organisational support × Work role fit	-0.03	0.01	-0.11		-1.88	0.06		
Organisational support × Co-worker relations	0.01	0.01	0.13		2.33	0.02*		

\*  $p \leq 0.01$

The results in Table 4.9 show that psychological meaningfulness explained 40% of the variance in employee engagement ( $F = 170.30, p \leq 0.01$ ). The regression coefficient of psychological meaningfulness ( $\beta = 0.63, p \leq 0.01$ ) was statistically significant. Adding co-worker relations, job enrichment and work role fit to the regression equation in the second step resulted in the explanation of an additional 4% of the variance in employee engagement ( $F = 39.09, p \leq 0.01$ ). The regression coefficients of psychological meaningfulness ( $\beta = 0.55, p \leq 0.01$ ) and co-worker relations ( $\beta = 0.16, p \leq 0.01$ ) were statistically significant. Adding organisational support, the interaction between organisational support and work role fit, job enrichment and co-worker relations explained an additional 2% of the variance in employee engagement ( $F = 39.09, p \leq 0.01$ ). The regression coefficients of psychological meaningfulness ( $\beta = 0.54, p \leq 0.01$ ) and co-worker relations ( $\beta = 0.23, p \leq 0.01$ ) were statistically significant. Furthermore, the interaction between organisational support and co-worker relations in predicting employee engagement was statistically significant.

The interaction effect between organisational support and co-worker relations is illustrated in Figure 1.

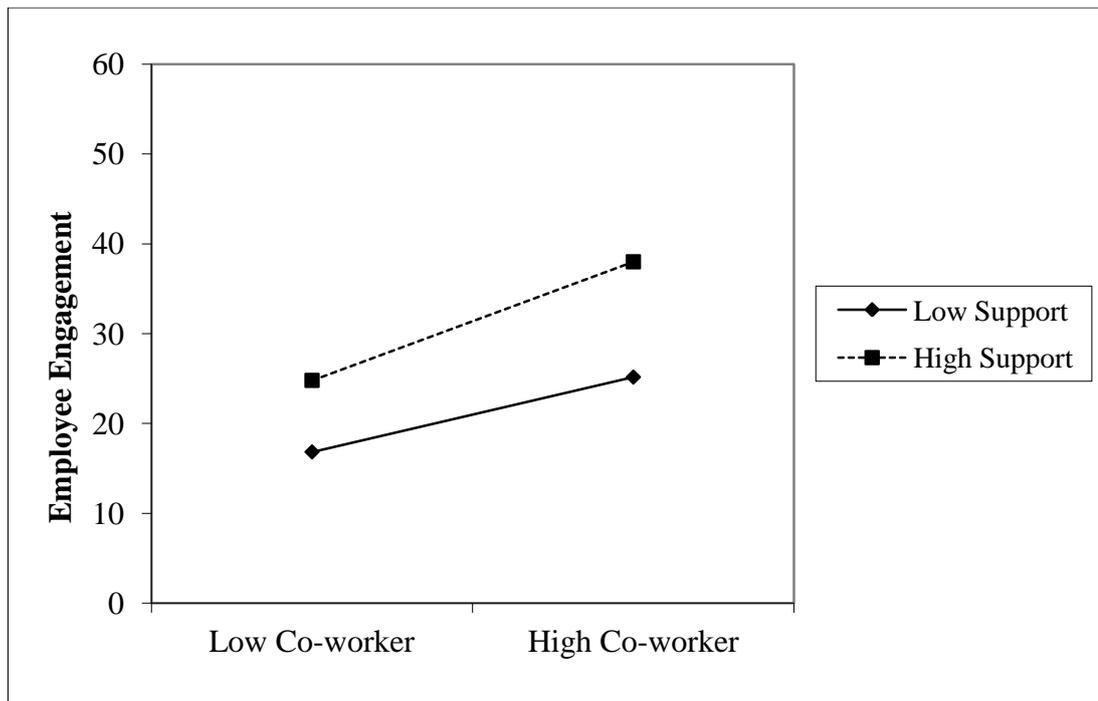


Figure 1. Interaction between organisational support and co-worker relations in predicting employee engagement

The results in Figure 1 show that high co-worker support contributes more to employee engagement under conditions of high organisational support (compared with low organisational support).

Therefore hypothesis 9 (H<sub>9</sub>), which states that antecedents (of employee engagement) interact with organisational support, is partially accepted.

#### 4.1.3.4 Indirect effects

Bootstrapping, a procedure explained by Hayes (2009), was used to construct two-sided bias-corrected confidence intervals so as to evaluate indirect effects. Table 4.9

shows the bootstrap estimated indirect effects of job enrichment and work role fit on psychological meaningfulness.

Table 4.10

*Indirect Effects of Job Enrichment and Work Role Fit on Employee Engagement*

	Job Enrichment				Work Role Fit			
	Estimate	SE	90% CI	<i>p</i>	Estimate	SE	90% CI	<i>p</i>
Psychological Meaningfulness	0.36	0.06	0.16 to 0.40	0.00	0.48	0.10	0.31 to 0.70	0.00

Table 4.10 shows that the bootstrap estimated indirect effects of job enrichment and work role fit on employee engagement are statistically significant ( $p < 0.01$ ). Table 4.9 further shows that 90 percent bootstrap confidence intervals (5000 trials) for all indirect effects do not include zeros. The conclusion is therefore that the indirect effects are different from zero. This provides support for indirect effects of job enrichment and work role fit (via psychological meaningfulness) on employee engagement.

Table 4.11 shows the bootstrap estimated indirect effects of resources on psychological availability.

Table 4.11

*Indirect Effects of Resources on Employee Engagement*

	Estimate	SE	90% CI	<i>P</i>
Psychological Availability	-0.09	-0.03	-0.16 to -0.05	0.00

Table 4.11 shows that the bootstrap estimated indirect effects of resources on psychological availability are statistically significant ( $p < 0.01$ ). Table 4.10 further shows that 90 percent bootstrap confidence intervals (5000 trials) for all indirect effects do not include zeros. The conclusion is therefore that the indirect effects are different from zero. These results provide support for the indirect effects of resources (via psychological availability) on employee engagement.

Table 4.12 shows the bootstrap estimated indirect effects of resources on psychological availability.

Table 4.12

*Indirect Effects of Supervisor Relations and Co-worker Relations on Employee Engagement*

	<i>Supervisor Relations</i>				<i>Co-worker Relations</i>			
	Estimate	SE	90% CI	<i>p</i>	Estimate	SE	90% CI	<i>P</i>
Psychological Safety	0.06	0.02	0.02 to 0.11	0.00	0.05	0.02	0.02 to 0.10	0.00

Table 4.12 shows that the bootstrap estimated indirect effects of supervisor relations and co-worker relations on psychological safety are statistically significant ( $p < 0.01$ ). Table 4.11 further shows that 90 percent bootstrap confidence intervals (5000 trials) for all indirect effects do not include zeros. The conclusion is therefore that the indirect effects are different from zero. This provides support for the indirect effects of supervisor and co-worker relations (via psychological safety) on employee engagement.

## **4.2 CHAPTER SUMMARY**

In this chapter, the results of the empirical study were reported and discussed. The reporting of the results consisted of the measurement model and the structural model.

In Chapter 5 the results will be interpreted and discussed. Thereafter the conclusions, limitations and recommendations will be discussed.

## **CHAPTER 5**

### **DISCUSSION, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

In this chapter the results are discussed, conclusions of the research are made based on the specific objectives. Limitations of the study are discussed. Finally, recommendations are made for solving the research problem, as well as for future research.

#### **5.1 DISCUSSION**

The aim of this study was to determine what the levels and antecedents are of employee engagement within the Windhoek area in Namibia. In addition the study was aimed at investigating whether psychological conditions predicted employee engagement and whether psychological conditions mediated the relationship between employee engagement and its antecedents in Namibia. Exploratory factor analyses and alpha coefficients indicated that all the constructs used in this study were valid and reliable.

The results of the study show that of the sample population in this study the respondents showed an above average level of engagement with the mean score on the engagement questionnaire being 5.5 on a 7 point scale. Compared to the study conducted by May et al. (2004) (mean engagement score of 3.4 on a 5 point scale) and by Olivier and Rothmann (2007) (engagement score of 31.40 on a 5 point scale

for 13 items) this shows that Namibian employees in general are more engaged in their roles than their counterparts elsewhere.

During the initial analysis, three components were found in the engagement questionnaire. This indicated potential support for the conceptualisation of Kahn (1990) that engagement at work consists of three components, namely a physical, a cognitive and an emotional component. The reliability of the three components was not at a sufficient level to allow for further analysis, so a combined scale was used that demonstrated good reliability and balance across the three components of engagement. This could be because employees in Namibia have a holistic experience of employee engagement and not as separate parts contributing to a whole. This could imply that if individuals are cognitively disengaged from their work, they would naturally disengage physically and emotionally as well. The reverse could also be true, namely that if employees are cognitively engaged, they would display behaviours consistent with emotional and physical engagement, as postulated by Kahn (1990).

With regard to the antecedents of employee engagement the results of the study are largely consistent with those of studies undertaken elsewhere. Simple correlation analysis shows that engagement is positively significantly related to various antecedents, namely rewards, co-worker relations, job enrichment, work role fit, organisational support and supervisor relations and negatively correlated with resources and self-consciousness. This infers that if organisations aim to establish the right balance and stability between rewards and resources, their workforce would become more engaged than is the case currently. The result of the correlation

between job enrichment and engagement further underline and enhance the importance of classic theories on job design (Renn & Vanderberg, 1995). By implication jobs, that are designed to include more of the skill variety, task identity, task significance, autonomy and feedback components of the job enrichment model, should result in higher levels of engagement.

These findings again support those undertaken elsewhere (May et al., 2004; Olivier & Rothmann, 2007) regarding the antecedents of engagement. Correlations between psychological conditions and engagement showed that psychological availability and psychological meaningfulness had positive correlations with employee engagement. This is important in the context of understanding the concept of engagement in Namibia. By having similarities in the underlying psychological conditions of engagement in Namibia that are consistent with the underlying psychological conditions in other parts of Africa and Europe (May et al., 2004; Olivier & Rothmann, 2007) allows future researchers to target interventions aimed at improving and changing these conditions in an effort to increase the level of engagement in Namibian organisations.

This study found partial support for the findings of May et al. (2004) and Olivier and Rothmann (2007) concerning the mediating effect of psychological meaningfulness on employee engagement. The relationship between job enrichment and work role fit on the one hand and employee engagement on the other is mediated by psychological meaningfulness. However, no support was found for the mediating effect of psychological meaningfulness between co-worker relations and employee engagement. This implies that the match between the inherent characteristics of the

job and the perceived fit between an individual and his or her job creates meaning for the individual. According to these findings the support and relationships with colleagues do not contribute significantly to the individual meaning found in the job role of the employee. Olivier and Rothmann (2007) and May et al. (2004) found that psychological meaningfulness is the most significant predictor of engagement. This is compared to the other mediating conditions of psychological safety and psychological availability that are conceptualised in the theoretical base on engagement (e.g. Kahn, 1990). The result of the impact psychological meaningfulness has on engagement will allow organisations to focus their efforts to designed interventions aimed at improving engagement among employees.

This study confirmed the findings of May et al. (2004) where it was found that psychological meaningfulness was the strongest predictor of employee engagement. This provides support for previous studies on engagement and the mediating effect displayed by meaningfulness (May et al., 2004; Schaufeli et al., 2000). Psychological meaningfulness was the strongest predictor of employee engagement and the strongest predictor of meaningfulness was job enrichment. These results contrast with the results found by May et al. (2004) and Strümpfer (2003) where it was found that work role fit was the strongest predictor of psychological meaningfulness. This could mean that in the Namibian situation individuals value the inherent characteristics of a job as more meaningful than their perceived fit with the role as was found elsewhere (May et al., 2004; Olivier & Rothmann, 2007). The Pearson correlations also showed a link between work role fit and rewards on the one hand and psychological meaningfulness on the other. The implication here is that if Namibian employees are carefully selected to ensure a high level of work role fit and

then sufficiently rewarded, they would find more meaning in their roles and would engage more in their roles.

The availability of resources is positively linked to psychological availability. Job enrichment again had a strong positive link with psychological availability. In contrast to other studies (Olivier & Rothmann, 2007) self-consciousness did not have a statistically significant correlation with psychological availability. Namibian employees seem to display psychological availability as a result of the task variety and scope of the role in addition to having the resources to complete their role. Psychological availability was highlighted as an important predictor of engagement, but in contrast to the findings of Olivier and Rothmann (2007), psychological availability did not mediate the relationship between resources and engagement. The study still showed a positive correlation between resources and psychological availability. Psychological availability, according to Kahn (1990), is the sense of having the right resources (i.e. cognitive, emotional and psychical resources) to personally engage at a particular moment.

This study showed that psychological safety predicts engagement and it mediated the relationship between supervisor relations and engagement. In this study psychological safety did not mediate the relationship between co-worker relations and engagement. These findings partially support those of May et al. (2004) where it was found that supportive supervisor and co-worker relations were positively related to feelings of psychological safety. The implication here is that positive supportive relationships with supervisors allow Namibian employees to feel psychologically safe at work, which leads to engagement. While positive relations with co-workers

lead employees to engage, it does not necessarily make them feel psychologically safe in their place of work. Psychological safety as a predictor of engagement is therefore an element that is created “top-down”, rather the “bottom-up” or horizontally. These findings could be useful when organisations have merged, restructured or downsized, as employees often feel unsafe after such an exercise. These feelings of psychological safety could be recovered through positive encouraging relations with supervisors. When interpreting the results of psychological safety, it is important to take note that the reliability of the scale which measures psychological safety was problematic in this study.

The fact that the underlying psychological conditions of psychological meaningfulness, and psychological availability mediated the relationship between antecedents and employee engagement implies that these psychological conditions transfer the effects of antecedents such as job enrichment, supervisor relations and resources are present to employee engagement. Organisations should therefore consider not only the antecedents, but also the psychological conditions when trying to affect employee engagement. Instead of focussing their interventions on the antecedents, organisations should aim at improving and ensuring the presence of the underlying conditions of psychological safety and psychological availability to allow employees to engage with their work.

In addition to the underlying psychological conditions, organisations and future researchers should also pay attention to the interaction effect between organisational support and co-worker support and engagement. The results found in this study showed that the reported level of engagement in employees was higher when co-

worker support and organisational support were both at a high level. When organisations displayed lower levels of perceived support, the correlation of co-worker support and engagement was moderated. Similarly if the perceived support of organisations is at a higher level, the effect of co-worker support on engagement was increased. This means that the effect of interventions to improve the levels of engagement in organisations specifically aimed at the relationships between co-workers, such as team building exercises, will be even further enhanced if the organisation manages to improve the levels of perceived support from the organisation to their employees.

## **5.2 CONCLUSIONS**

Next, the conclusions of the research are made based on the research objectives.

With regard to the first objective on the levels of engagement it was found that the general level of engagement of employees in Namibia was higher than that of a study conducted at an oil firm in South Africa (Olivier & Rothmann, 2007) and higher than engagement levels found in a study at a Midwestern insurance firm in the United States. Compared to these studies, the mean score on the engagement questionnaire in Namibia was slightly more than average whilst in both of the studies mentioned the mean scores were below average. After the initial analysis which revealed a potential three-factor model of engagement, a one-factor model of engagement was extracted from the results due to the low reliability of the three-factor model.

According to Kahn (1990), employee engagement occurs when employees attach themselves to their roles on a physical, emotional and cognitive level. Rothman and Rothman (2010) suggest that as a result of having the resources to be able to attach themselves to the role on these three levels they reward the organisation with their engagement. Further research showed that certain psychological conditions mediate the outcome of engagement with its antecedents (May et al., 2004; Olivier & Rothmann, 2007). The results of this study showed the presence of three psychological conditions, namely Psychological Meaningfulness, Psychological Availability and Psychological Safety. The three factors confirmed the role attachment theory of Kahn (1990). Psychological Meaningfulness and Psychological Availability had high Cronbach alpha values of 0.92 and 0.87 respectively, which showed high reliability. The Cronbach alpha value of Psychological Safety was 0.44, which was not ideal for further investigation. However, this component was included in further analysis to aid in the understanding of employee engagement.

The antecedents of employee engagement in Namibia were similar to those in other studies (May et al, 2004; Olivier & Rothmann, 2007). In total, eight antecedents were extracted from the data set, namely rewards, co-worker relations, resources, supervisor relations, job enrichment, self-consciousness, work role fit and organisational support. They all showed high reliability with Cronbach alpha values ranging from 0.73 to 0.94. Initial analysis showed a separate factor for emotional resources but due to reliability issues this item was excluded from the final analysis.

With regard to the second objective, statistical analysis of the results revealed that all three psychological conditions listed above predicted engagement. As expected and

as was found elsewhere (May et al., 2004; Olivier & Rothmann, 2007), psychological meaningfulness had the strongest impact on engagement with a correlation of 0.62, which was statistically significant and had a large effect. Psychological availability and psychological safety were both positively statistically significantly related to engagement with correlations of 0.37 and 0.35 respectively. Both these were medium effects and were consistent with findings in other studies (May et al., 2004; Olivier & Rothmann, 2007). With these correlations it can be deduced that all three these psychological conditions predicted engagement.

Several regression analyses were conducted to investigate the third objective to determine whether the psychological conditions mediated the relationship between antecedents and engagement. It was found that psychological meaningfulness mediated the relationship between job enrichment and work role fit on the one hand and engagement on the other. However, the relationship between co-worker relations and engagement was not mediated by psychological meaningfulness. The relationship between resources and engagement was not mediated by psychological availability as suggested by Kahn (1990). However, the findings of this study are consistent with those of May et al. (2004). In this study psychological safety did not mediate the relationship between co-worker relations and engagement. However, psychological safety did mediate the relationship between supervisor relations and self-consciousness on the one hand and engagement on the other.

### 5.3 LIMITATIONS

A limitation of this study was that no previous research could be traced regarding employee engagement in Namibia. The diversity of the sample population terms of ethnicity makes it difficult, if not impossible, to conclude any cultural parallels. This study was limited to only a few selected organisations in the Windhoek area in Namibia. No information was available regarding the engagement of employees in other areas in Namibia, which hampers adequate comparisons to other organisations with similar characteristics.

As this study was cross-sectional in nature, a major limitation exists in identifying causal relationships with absolute certainty. According to Maxwell (2007), the risk of biased findings is relative and depends on whether the predictor ( $X$ ) is more stable than the mediator ( $M$ ) which can only be assessed with certainty through longitudinal studies. In addition to this, cross-sectional designs tend to overlook other influencing variables as they are primarily influenced by mean population trends. Applying a more analytic approach possibly will bring deeper insight into the particular organisational environment of Namibia regarding employee engagement.

Common method variance may potentially have impacted the results and should not be ignored. Social desirability tendencies and issues such as ambiguous words together with length of the assessment tools may lead to unauthentic responses by the participants. This study used questionnaires with items ranging from 13 to 59. Even though care has been taken to ensure that the constructs do not overlap explicitly, the individual subjective interpretation of the item by the participant may confound their

response to items that are very similar. Similarly, the range of languages and cultural groups in Namibia of the participating employees may affect the ability to grasp some of the words or phrases correctly, possibly leading to mistakenly falsified answers.

The relatively small sample size is another limitation to the study. Although effort was made to ensure a diverse sample, statistical analysis becomes challenging in terms of limited variability in the sample population. Kareev (2005) claims that it is easier to see stronger correlations in smaller sample sizes, whereas it becomes easier to see weaker correlations in larger sample sizes.

## **5.4 RECOMMENDATIONS**

### **5.4.1 Recommendations to solve the research problem**

The research problems in this study were summarised as follows: Firstly, it is unclear what the levels of employee engagement in Namibian organisations are. This research problem has been partially solved in this study and a benchmark indication of the levels of engagement in various organisations has been attained. These results showed that the participants in this study are slightly more engaged than have been found elsewhere. This is encouraging, and this problem can be solved by increasing sample sizes and ensuring that the samples are representative.

A second research problem was suggested: It is also unclear what the psychological conditions and antecedents of engagement are in Namibian organisations. The results

of this study showed that, to a certain extent, the antecedents and underlying psychological conditions of engagement are similar in Namibia to what has been found in other parts of Africa and in Europe. However, to solve this problem it could be insightful to conduct qualitative interviews with individuals to investigate the possibility of additional antecedents to engagement.

An additional research problem was stated as: It is also unclear what the effects of the psychological conditions, and antecedents thereof, are on employee engagement in Namibian organisations. This study managed to shed some light on the effects of psychological conditions and antecedents on engagement in Namibia. However, to solve this research problem, longitudinal studies should be conducted to study the interaction effects between these variables. The outcomes of engagement could also be included in these studies to provide evidence for the positive and desirable outcomes associated with engagement.

More research is needed into the reliability and validity of the tools used, namely the Engagement Questionnaire, the Psychological Questionnaire and the Antecedents Questionnaire, in other samples in Namibia. Even though the questionnaires were adapted from the work of Olivier and Rothmann (2007) the findings of this study suggest the need for further improvement of item content of the measuring instruments. By implication the wording of certain items could be modified in order to make it more appropriate for the Namibian context.

Lastly, when approaching decision makers to gain permission to conduct the research, the concept of engagement, its antecedents and its outcomes does not seem

to be well understood in the Namibian context. Interventions can be conducted on a general level with key decision makers and human resource practitioners to raise awareness of what engagement is and how to recognise it. Secondly, specific interventions can be conducted to address certain antecedents and mediators, for example work role fit and psychological meaningfulness, which has been proven to have a strong positive relationship with engagement. Other interventions, such as teambuilding exercises to improve co-worker relations and psychological safety can also be conducted.

#### **5.4.2 Recommendations for future research**

The optimal and complete understanding of engagement will potentially only be reached by conducting longitudinal studies to determine the effects of individual and/or organisational interventions on psychological conditions such as meaningfulness, safety and availability. The results in the Namibian context almost revert back to classical research and theories on motivation at work such as Herzberg's (1976) two-factor satisfaction-motivation model. The individual aspects of job enrichment should be investigated to determine what specific aspects lead to psychological meaningfulness for Namibian employees. Since work role fit and the mediating condition of psychological meaningfulness seem to consistently affect engagement in organisations longitudinal studies should be conducted, for example by selecting employees based on their fit with their role and measuring their level of engagement over time. Alternatively, one could conduct a cross-sectional study by completing personality assessments on employees and measuring their levels of engagement. Employees with a greater fit between their personality and their role can

be expected to have higher levels of engagement. This could also be conducted in a longitudinal study where students are assessed before they enter tertiary institutions to conduct studies in preparation for their careers.

Future researchers may also wish to focus their studies on the role of co-worker relationships in the Namibian context. According to these results, co-worker relationships had a direct positive relationship with engagement. This could have an implication for the composition and recruitment of teams and work groups. Experimental research in the form of teambuilding interventions aimed at improving co-worker relations can be conducted to be able to make accurate correlations between engagement and co-worker relations. Research of this nature should include research on the interaction effect between organisational support, co-worker support and engagement. For organisations to maximise the improvement in the levels of engagement of employees by the suggested methods above they should aim to improve the perceived level of support from the organisation to the employees. Future research studies could aim at studying the effect the establishment of corporate wellness programmes have on the perception of organisational support employees hold.

Further, longitudinal intervention research is needed to determine whether one could create or select employees that are more prone to being engaged, for example by using selection tools to screen individuals with a low job role fit or to foster communication between supervisors and subordinates to facilitate the formation of psychological safety.

Lastly, it is important in future research studies to make use of large samples and to ensure that the samples are representative. Only through using large samples will one be able to gain richer details in the understanding of engagement. Also having demographically representative samples will allow researchers to generalise their results to the larger Namibian population as a whole.

## **5.5 CHAPTER SUMMARY**

In this chapter the results, research objectives and research findings were discussed and concluded. The limitations of the study pertaining to the cross-sectional design, small sample size and consequential shortcomings were discussed. Recommendations were provided concerning how to solve the research problem, and also for further research.

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