



Psychological capital and work engagement: An investigation into the mediating effect of mindfulness

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Date: 2 May 2015

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Abstract

The importance of employee work engagement in modern organisations is evident in the global interest in human capital development. Positive outcomes associated with work engagement, such as job satisfaction and job performance, have been linked to constructs such as psychological capital. Mindfulness is a fairly new construct that has not been widely applied to work settings. Deriving from this lack of application of mindfulness to the work setting, this study sought to expand on the relationship between psychological capital and work engagement through the introduction of mindfulness as a mediator variable. A descriptive cross-sectional study of white-collar workers was conducted in South Africa and Zimbabwe. A survey was distributed to a sample of 203 participants, of which 52% were female and 47% were male. Consistent with previous research, the current study found that psychological capital was a predictor of work engagement, indicating a positive relationship between the constructs. Unique to this study was the result that psychological capital and work engagement both had positive relationships with mindfulness, and that mindfulness partially mediated the relationship between psychological capital and work engagement. This study also found that there were differences in the perceptions of psychological capital between South African and Zimbabwean employees in this sample. The findings of this study indicated the positive benefits that organisations can derive from developing psychological capital and mindfulness in their employees, such as improved work engagement, job satisfaction and organisational success. This study also provided unique contributions that can be investigated in future research.

CHAPTER 1

Introduction

Introduction

Human capital is arguably a vital resource to any organisation, and a major contributor to competitive advantage. With the war for talent on the rise, investment in human capital is important for organisational success in the competitive business environment (Youssef & Luthans, 2007). Organisations are anxious to attract and, more importantly, retain talented employees who will contribute to organisational success and excellence. Having attracted and retained talented employees, it is important for organisations to invest in the continuous development of their employees to ensure organisational success. Occupational health psychology is concerned with the application of psychology to work life with a focus on the promotion, improvement and protection of worker safety, health and well-being (Schaufeli, 2004). This includes interventions to provide optimum conditions for effective job performance, ultimately leading to organisational success (Avey, Luthans, & Jensen, 2009).

In an address to the American Psychological Association (APA) in 1998, Martin Seligman, as president of the APA, called for a focus on positivity and people's virtues and strengths (Seligman, 1999). This initiated a new movement of positive psychology which complements and extends psychology as we know it (Luthans & Youssef, 2004). Positive psychology is defined as the study of conditions and processes that contribute to individual, group and institutional functioning (Gable & Haidt, 2005). Luthans and Avolio (2009) note that pioneering psychologists such as William James and Allport wrote about the importance of healthy mindedness, courage and wisdom, which are all positive virtues and strengths, as far back as 100 years ago. Current leaders in this scholarly field (Diener, 2000; Luthans & Avolio, 2009; Peterson, 2000; Snyder et al., 2002) have done, on average, over 20 years of research on happiness, optimism and hope, highlighting an already existing focus on positivity in psychology literature (Luthans & Avolio, 2009). Seligman and Csikszentmihalyi (2000) recognised and acknowledged that positive psychology is not a new idea and made no claim to originality, but pointed out that all these researchers somehow failed to generate an empirical body of research to ground their ideas (Luthans & Avolio, 2009).

Positive psychology redirects focus from what is wrong with people and the healing of pathologies and mental illness to what is right with people, actualising human potential and making life more worthwhile and productive (Larson & Luthans, 2006; Luthans & Youssef, 2004). Mainstream psychology (clinical, social and health psychology) is concerned with diagnosing and treating personality disorders and mental illnesses, negative outcomes of prejudice and low self-esteem as well as the negative effects of environmental stressors on physiological wellbeing (Gable & Haidt, 2005). Though these are important findings in the field of psychology, corresponding research focused on people's virtues and strengths is limited (Gable & Haidt, 2005). The aim of positive psychology therefore is to initiate a change in focus, from treating pathologies to building positive qualities in people (Seligman & Csikszentmihalyi, 2000).

Positive psychology exists at the subjective, individual and group levels. At the subjective level, positive psychology is concerned with well-being, satisfaction in the past, hope and optimism for the future, as well as flow and happiness in the present which are all valued subjective experiences (Seligman & Csikszentmihalyi, 2000). At the individual level positive psychology is about positive individual traits, such as courage, perseverance, interpersonal skills and originality (Seligman & Csikszentmihalyi, 2000). At the group level positive psychology is about civic virtues, such as responsibility, civility, tolerance and work ethic (Seligman & Csikszentmihalyi, 2000).

Most criticisms of positive psychology arise from the assumption that if there is a positive psychology, then all other psychology is negative (Gable & Haidt, 2005; Luthans & Church, 2002). Positive psychology has been criticised for being too simplistic and illusive, and for not adding any new knowledge because many of its topics and focus areas, such as resilience and happiness, have been studied by psychologists (Lazarus, 2003; Luthans & Church, 2002). Despite these criticisms, the positive psychology movement has gained momentum and has influenced the work of organisational psychologists (Meyers, van Woerkom, & Bakker, 2013).

Two broad empirical research streams emerged from positive psychology aimed at producing positive individual and organisational outcomes (Meyers et al., 2013). The first stream, which is positive organisational scholarship (POS), focuses on what is positive, life-giving and flourishing in organisations, with a general emphasis on dynamics that make organisations and their members and units flourish and thrive (Meyers et al., 2013). The second stream, which is positive organisational behaviour (POB), has been defined as the study and application of human resource strengths that are positively oriented (Luthans, 2000). Positive organisational behaviour also focuses on measurable psychological capacities that can be developed and managed for performance improvement in the workplace (Luthans, 2002). The intent of POB is to draw attention to positive constructs that may otherwise not have been considered as a resource or strength worth developing (Luthans & Avolio, 2009). The most popular constructs in POB research include hope, optimism, self-efficacy and resilience (collectively known as psychological capital) and work engagement.

Studies from POB have shown that psychological capital (PsyCap) may contribute to reduced stress and turnover intention in employees as well as increasing work engagement (Görgens-Ekermans & Herbert, 2013; Luthans, 2002). Though there have been considerable amounts of research on PsyCap and work engagement, local studies on PsyCap are limited but very necessary in order to ensure that employees in the current turbulent and ever-changing work environment have adequate personal psychological resources to cope. It is therefore important to investigate how PsyCap relates to positive work-related outcomes to provide organisations with evidence-based findings of the benefits of developing positive constructs in their employees. Mindfulness, a fairly new construct in the field of positive psychology, has been shown to enhance a person's ability to engage their personal resources to engage more with work tasks. Individuals that are mindful have been found to cope better with workplace stress, and have better problem-solving abilities as well as judgment capacity and increased performance (Brown & Ryan, 2003). Literature shows that there are benefits to be derived from promoting PsyCap and mindfulness in employees. Since both constructs have positive effects on work engagement, it can be assumed that the combination of PsyCap and mindfulness will have a greater effect on work engagement than each construct on its own.

Purpose of this study

The purpose of this study is to investigate the respective relationships between PsyCap, work engagement and mindfulness within the context of this study. The focus will be on determining the relationships between the three constructs. A description of the relationship between PsyCap, work engagement and mindfulness would help determine whether or not employees high in (PsyCap) experience higher levels of work engagement and thus remain committed to their organisations in comparison to employees low in PsyCap. The mediating effect of mindfulness on these constructs has also not been investigated previously. It is the purpose of this study to provide descriptive information to address this gap in research.

This research is situated in the broader South African and Zimbabwean context and aims to add to the growing body of knowledge on PsyCap by examining the extent to which the constructs are applicable to this study's context. This study proposes that there is a bi-directional relationship between PsyCap and work engagement. Both PsyCap and work engagement are POB constructs with dimensions that can be developed through training. Literature shows that there is a relationship between the two constructs (De Waal & Pienaar, 2013; Herbert, 2011). It is therefore important to investigate the bi-directional relationship between the constructs as well as the predictive ability of one construct on the other in the context of this study. Development of either PsyCap or mindfulness is likely to lead to desirable benefits concerning work engagement which brings about the notion that mindfulness mediates the relationship between PsyCap and work engagement. Individuals that are mindful have been found to cope better with workplace stress, and have better problem-solving abilities as well as judgment capacity and increased performance.

This research aims to describe the relationship between PsyCap and work engagement in the selected study sample and to ascertain whether mindfulness mediates the relationship between PsyCap and work engagement. The benefits of such knowledge would help assist organisations in developing practices that ensure the development of PsyCap dimensions in employees through appropriate training programs.

Conclusion

An overview of this study was presented in this chapter. The main constructs, PsyCap, work engagement and mindfulness were introduced. The next chapter will provide a literature review of the constructs of interest, as well as a discussion on the relationship between the constructs. Specific reference will be made to important literature and previous research involving these constructs.

CHAPTER 2

Literature Review

Introduction

This chapter explores the constructs included in this study, which are psychological capital, work engagement and mindfulness. Definitions, theories and previous empirical research on each constructs are presented so as to build the theoretical framework for this study. The relationships between all constructs shall be discussed and the final sections of this chapter will state the research hypotheses.

Positive organisational behaviour

Positive organisational behaviour (POB) is a positive psychology stream that is gaining momentum in social science research (Seligman & Csikszentmihalyi, 2000). The criteria that qualifies constructs as part of POB differentiates POB from other positive constructs and approaches such as POS and organisational behaviour (Luthans & Avolio, 2009). The specific inclusion criteria for POB is that the construct: (1) must be based on theory, research and valid measurement, (2) must be "state-like" and as such be open to development, and (3) must have performance impact (Luthans & Avolio, 2009; Luthans & Church, 2002; Luthans, 2002). The first criteria for inclusion allows for POB to be sustainable and credible as an academic pursuit and for evidence-based practice (Luthans & Avolio, 2009). This dispels some of the criticisms that POB is illusive, and grounds it as a construct that can be scientifically researched. The second criterion of "state-like" development differentiates POB from research on fixed strengths and talents and traditional organisational behaviour positive constructs such as personality, affect and motives, which are trait-like and can therefore not be developed (Luthans & Avolio, 2009; Luthans & Church, 2002). The performance impact criterion differentiates POB from self-development literature and ensures that the outcome impacts performance and not self-development (Luthans & Avolio, 2009).

PsyCap and work engagement are two constructs that are rooted in POB discourse. The positive constructs of self-efficacy, hope, optimism and resilience, which are dimensions of PsyCap, were identified as best meeting the inclusion criteria (Avey, Luthans, Smith, & Palmer, 2010; Luthans & Avolio, 2009; Luthans, 2002; Youssef & Luthans, 2007). PsyCap and work engagement shall be discussed further as POB constructs.

Psychological capital.

Psychological capital has been defined as an individual's positive psychological state of development and is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals and, when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success (Luthans, Avolio, Avey, & Norman, 2007). The term psychological capital represents individual motivational predispositions that increase through positive psychological constructs, namely self-efficacy, hope, resilience and optimism, and is developed through investment in cognitive resources that enable one to experience rewards from the present moment while also increasing the likelihood of future benefits (Luthans et al., 2007).

Psychological capital lies beyond traditional, human and social capital. Traditional economic capital focuses on finances and tangible assets (what you have), while human capital focuses on experience, education, knowledge, ideas and skills (what you know), and social capital focuses on friends, relationships and contact networks (who you know). Psychological capital looks at who you are, and it is a core psychological factor focusing on self-efficacy, hope, optimism and resilience (Luthans, Luthans, & Luthans, 2004).

PsyCap dimensions may have some stability over time but they are also state-like and open to development. This means that they are relatively malleable and open to development, unlike trait-like constructs such as the Big Five personality dimensions which are relatively stable and difficult to change (Luthans et al., 2007, 2004). Prior

research on self-efficacy, hope, optimism and resilience supports the notion that these constructs are open to development. Bandura (1997) demonstrated strategies to increase self-efficacy, while Snyder (2000 as cited in Luthans et al., 2007) published the state-hope scale and provided evidence that hope can be developed. Carver and Scheier (2005 as cited in Luthans et al., 2007) discussed strategies to develop optimism and Masten and Reed (2002 as cited in Luthans et al., 2007) discussed strategies for resilience-based developmental interventions. These contributions have provided support for the idea that the four constructs can be developed, and that, consequently, PsyCap as a higher-order construct can also be developed (Luthans et al., 2007, 2004).

As a higher-order construct, PsyCap has an underlying thread of shared characteristics through each of the four constructs of an intentional movement towards success and flourishing regardless of changes and challenges that may arise (Avey, Wernsing, & Luthans, 2008). PsyCap has also been found to be related to work outcomes such as job satisfaction and job performance (Avey, Patera, & West, 2006; Luthans et al., 2007; Luthans, Norman, Avolio, & Avey, 2008). Each of the four dimensions of PsyCap has also been shown to be related to the same outcomes. Table 1 below summarises the key findings on global PsyCap research indicating that it is a widely researched construct.

Table 1

Global Research on Psychological Capital

Author and year	Sample and sample size	Country	Aim	Method	Main findings
Luthans, Avolio, Walumbwa and Li (2005)	422 workers from three factories in China	China	To determine the relationship between PsyCap and performance	Pen and paper based survey	- PsyCap significantly correlated with performance
Larson and Luthans (2006)	74 employees in a small Midwestern medium-tech manufacturing company	United States of America	To determine the potential added value of PsyCap in predicting work attitudes	Self-report online survey	-Significant positive relationship between PsyCap, job satisfaction and organisational commitment -Employee PsyCap had a significant added impact over human and social capital on job satisfaction and organisational commitment
Avey, Patera and West (2006)	105 engineering managers from a large Fortune 100 firm	United States of America	To determine the implications of positive PsyCap on employee absenteeism	Self-report online survey	-PsyCap was related to employee absenteeism behaviours
Luthans, Avolio, Avey and Norman (2007)	Study 1: 167 management students from a large Midwestern university Study 2: 404 different management students from the same university and from a second Midwestern university	United States of America	To analyse how PsyCap predicts work performance and satisfaction	Self-report online survey	-Study 1 showed support for PsyCap as a higher-order construct -Study 2 showed that PsyCap significantly and positively related to work performance and satisfaction
Avey, Wernsing and Luthans (2008)	132 employees from a broad spectrum of organisations and jobs	United States of America	To investigate the impact of PsyCap and emotions on relevant work attitudes and behaviours	Self-report online survey	-PsyCap was related to positive emotions which was in turn related to work attitudes (engagement and cynicism) and behaviours (organisational citizenship behaviour and deviance) -mindfulness interacted with PsyCap to predict positive emotions
Avey, Luthans and Youssef (2009)	336 willing employees from various organisations	United States of America	To determine the additive value of PsyCap in predicting work attitudes and behaviours	Self-report online survey	-PsyCap was positively related to extra-role OCB and negatively related to organisational cynicism, intention to quit and counterproductive work behaviours
Avey, Luthans and Jensen (2009)	416 working adults across a variety of industries	United States of America	To determine the relationship between PsyCap, employee stress and turnover intention	Self-report online survey	-PsyCap and employee stress were negatively related -PsyCap and turnover intention were negatively related
Avey, Luthans, Smith and Palmer (2010)	280 participants from a Midwestern university	United States of America	To analyse the relationship between levels of PsyCap and two measures of psychological well-being	Self-report online survey	-PsyCap was related to both measure of well-being measurement, namely the Index of Psychological Well-Being and the General Health Questionnaire
Culbertson, Fullagar and Mills (2010)	102 county extension agents from a Midwestern state in the USA	United States of America	To determine the relationship between PsyCap and employees' endaimonic and hedonic well-being	Self-report online survey	-The relationship between PsyCap and hedonic well-being is mediated by endaimonic well-being
Herbert (2011)	209 employees at a Western Cape medium size construction company	South Africa	-To explore the relationship between burnout, employee engagement, occupational stress and PsyCap -To determine whether PsyCap plays a mediating role in the occupational stress-burnout relationship	-self-report online survey -pen and paper based survey	-PsyCap was negatively related to occupational stress and burnout -Occupational stress and burnout were negatively related to employee engagement -PsyCap was positively related to employee engagement -PsyCap moderated the relationship between occupational stress and burnout

Pillay (2012)	185 employees in a financial institution in Durban	South Africa	To determine whether a relationship exists between happiness, PsyCap and organisational citizenship behaviour	Self-report online survey	-There was a positive significant relationship between happiness, PsyCap and organisational citizenship behaviour -Happiness and PsyCap predicted OCB
Liu, Hu, Wang, Sui and Ma (2013)	1900 male correctional officers from 4 male prisons in a northeast province	China	To examine the association of perceived organisational support and PsyCap with depressive symptoms	Self-report online survey	-PsyCap and perceived organisational support were negatively associated with depressive symptoms -Perceived organisational support was positively associated with PsyCap
Naran (2013)	50 employees from a non-profit organisation in KwaZulu-Natal	South Africa	To investigate the relationship between PsyCap, job satisfaction, organisational commitment and supervisor support	Self-report online survey	-Moderate positive relationship between PsyCap and job satisfaction -No relationship between PsyCap and organisational commitment -Supervisor support was related to job satisfaction and organisational commitment -supervisor support moderated the relationship between PsyCap and job satisfaction
de Waal and Pienaar (2013)	163 employees in a chemical factory	South Africa	To conceptualise and investigate the causal relationship and temporal order in the relationship between PsyCap and engagement by means of longitudinal data	Self-report online survey	-PsyCap at time 1 did not significantly predict engagement at time 2 -Engagement at time 1 predicted PsyCap and time 2
Dollwet & Reichard (2013)	Study 1: 361 USA and non-USA citizens residing in the USA Study 2: 2 134 USA and non-USA citizens residing in the USA	United States of America	Study 1: To validate a new measure of cross-cultural PsyCap Study 2: To use the validated cross-cultural PsyCap scale to examine its convergent, discriminant and predictive validity	Self-report online survey	-The measure had construct validity in assessing cross-cultural skills in predicting cross-cultural effectiveness -Cross-cultural PsyCap was positively related to cultural intelligence and negatively related to ethnocentrism
Beal, Stavros and Cole (2013)	97 employees from governmental organisations that provide life-cycle career management support	South Africa	To examine the possible role of resistance to change as a moderator of the predictive relationship between PsyCap and organisational citizenship behaviour	Self-report online survey	-High levels of resistance to change moderated the positive effect of PsyCap on Organisational citizenship behaviour
Siu (2013)	287 health-care workers in Chinese societies	China	To investigate the relationship between PsyCap and outcomes of work well-being and work-life balance	2-wave self-report online survey	-PsyCap at time 1 had a significantly positive relationship with work well-being and more work-life balance at time 2
Liu (2013)	370 employees in Taiwan's life insurance industry	Taiwan	To identify the relationship among perceived supervisor support, PsyCap and job performance	Self-report online survey	-PsyCap mediated the relationship between perceived supervisor support and job performance -PsyCap positively related to job performance -Perceived supervisor support positively related to job performance and to PsyCap
Simons and Buitendach (2013)	106 call centre employees from a South African organisation	South Africa	To determine the relationship between PsyCap, work engagement and	Self-report online survey	-A positive relationship was found between PsyCap, work engagement and organisational commitment

			organisational commitment		-Work engagement was found to be a predictor of organisational commitment
Gorgens-Ekermans and Herbert (2013)	209 employees at a Western Cape medium size construction company	South Africa	To investigate the internal validity, reliability and external validity of the PsyCap measure (PCQ-24)	-self-report online survey -pen and paper based survey	-The measure showed evidence on construct and discriminant validity, reliability and significant relations with external theoretically relevant variables
Li, Ma, Guo, Xu, Yu and Zhou (2014)	381 psychology students at a university in Wulan	China	To investigate the role that PsyCap plays in the relationship between social support and subjective well-being	Self-report online survey	-PsyCap, social support and subjective wellbeing were positively related -PsyCap mediated the relationship between social support and subjective well-being

The four dimensions of PsyCap shall now be discussed in detail.

Self-efficacy. This is the most widely recognised POB concept and has the most research support (Luthans & Church, 2002; Luthans, 2002). It is also the construct in PsyCap that best fits the inclusion criteria (Luthans & Youssef, 2007). The widely used definition of self-efficacy originates from Bandura (1982 as cited in Luthans, 2002) and concerns an individual's belief about how well they can execute courses of action that are required to deal with prospective situations. Luthans (2002) proposed a more applicable definition of self-efficacy as a person's conviction about their abilities to mobilise the cognitive resources, motivation and courses of action that are needed in order to execute a specific task successfully within a specific context (Luthans & Church, 2002). According to this definition, self-efficacy relates to the completion of a specific task and is context specific, to the extent that an employee might have a high sense of self-efficacy about solving a particular problem, but a low sense of self-efficacy about writing a report for management on how the problem was solved (Luthans & Church, 2002; Luthans, 2002). The goal of a POB approach to this example would be to develop the employee's self-efficacy in report writing and sharing the solutions to problems. The development of writing skills demonstrates the state-like properties of self-efficacy.

Self-efficacious individuals continuously challenge themselves by setting higher goals and generally opt for difficult tasks in the workplace (Youssef & Luthans, 2007). Research indicates that the more self-efficacy an individual has, the more likely they are to make choices to engage with a task and welcome the challenge, the more effort and motivation they will exert to accomplish the task successfully, and the more persistent they will be when they encounter obstacles or fail initially (Luthans et al.,

2007; Luthans, 2002). In other words, high self-efficacy leads to positive choices, motivational effort, perseverance, positive thought patterns and resistance to stress (Luthans & Church, 2002). These characteristics allow individuals with high self-efficacy to perform effectively and develop independently in the workplace with little input from external parties.

According to the findings of a study conducted by Luthans (2002), an individual's self-efficacy can be developed through (1) performance attainments or mastery; (2) vicarious learning; (3) feedback on progress; and (4) psychological or physiological arousal. For mastery and performance attainment to be an effective training tool, Luthans (2002) suggests that it is best if the success is accomplished through hard work rather than through easy tasks. The more similar the model used in vicarious learning, the better one builds self-efficacy in the specific task (Luthans & Church, 2002). Feedback on progress is important when employees begin to doubt themselves or struggle with a task. Thus positive psychological or physiological arousal serves as a good point of departure for the other sources of self-efficacy development (Luthans & Church, 2002). This identification of ways in which self-efficacy can be trained and developed supports the closeness in fit of self-efficacy as a POB concept (Luthans, 2002). Therefore, being a state-like trait, self-efficacy can be enhanced for managers and employees through training and development programs targeted at the four sources above.

In addition to meeting the POB criteria for inclusion, self-efficacy has a significant impact on work-related performance. Luthans (2002) found a greater average gain in performance due to self-efficacy than to other OB interventions such as goal setting and organisational behaviour modification, as measured by the effect size estimate. This further supports the benefits of self-efficacy training and development, as this may have direct implications for employee performance.

There are three main training modalities that can be adopted to enhance employee self-efficacy. The first training modality of guided mastery involves helping employees become successful at their tasks. Instructive modelling can be incorporated to help employees perfect the skills that they need, which they can then transfer back to their jobs (Luthans & Church, 2002; Luthans et al., 2004). The second

training modality of cognitive mastery modelling enhances self-efficacy for complex decision-making and problem-solving. This is done by teaching trainees thinking skills and application through observing decision rules and reasoning strategies used by successful models when they are faced with problems and decisions to be made (Luthans & Church, 2002; Luthans et al., 2004). Self-regulatory competencies, the third training modality, involves self-referent processes such as personal goal setting, self-motivating incentives and self-monitoring (Luthans & Church, 2002; Luthans et al., 2004). These are theory- and research-based techniques that have been found to increase levels of self-efficacy.

Optimism. As a construct, optimism is more closely associated with positive psychology in general than the other constructs of self-efficacy, hope and resilience (Luthans et al., 2004). Optimism is regarded as a cognitive characteristic or an expectation about future events which the individual has strong feelings about, and goes beyond the bounds of positive thinking (Luthans & Church, 2002; Peterson, 2000). Optimism has been proposed to be an inherent characteristic of human nature, but also a characteristic that people possess to varying degrees (Peterson, 2000). These two approaches are compatible since human nature provides a baseline optimism upon which individual experiences build, and which influences the degree to which we are optimistic or pessimistic (Peterson, 2000).

There are fundamental attribution differences between optimistic and pessimistic individuals. Optimists make external, unstable and specific attributions about bad events while pessimists make internal, stable and global attributions about bad events. Where optimists regard failure, misfortune or bad events as not their fault, short-lived and a context-specific problem, pessimists regard the same failure, misfortune or bad event as their own fault, long-lasting and undermining of all that they will do (Luthans & Church, 2002). Optimists generally have high morale, are easily motivated to work harder in the workplace, persevere in the face of adversities and are more satisfied with their work outcomes (Luthans & Church, 2002; Peterson, 2000). These optimism characteristics are highly desirable in managers and employees.

However, optimism can also have dysfunctions, drawbacks and costs in the workplace. Physically healthy employees may tend to be optimistic about their health in the future and might neglect physical and nutritional maintenance in the present. Optimistic managers may become distracted and neglect important work processes, such as making necessary action plans to achieve goals (Luthans & Church, 2002). Optimistic behaviour may also be directed at pointless pursuits such as winning the company golf outing or striving to achieve unrealistically high sales goals which could ultimately result in stress and failure (Luthans & Church, 2002). To address these dysfunctions, drawbacks and costs, POB calls for realistic optimism (which involves objective assessments of what one can accomplish within a specific context considering the resources and time available) and flexible optimism that changes with circumstances and which is more functional in the workspace (Peterson, 2000).

Research on optimism conducted by Luthans and Church (2002) found that direct applications of optimism in the workplace produced significantly positive results. In Seligman's book, *Learned Optimism* (1998 as cited in Luthans & Church, 2002), he presented the findings of his pioneering work at Metropolitan Life Assurance, where he administered a shortened version of the Attributional Style Questionnaire (ASQ) to determine the explanatory style of experienced Met Life sales agents. His results showed that optimistic agents sold more than pessimistic agents in the first two years of employment at Met Life and were less likely to quit. Other studies that tested the impact of optimism in the workplace found significantly positive results in leadership as optimistic leaders were found to be more effective in initiating change. A positive relationship was also established between the optimism levels of a leader and the optimism levels of their workforce (Luthans & Church, 2002). Seligman (2002) provided empirical evidence to show that pessimists and neutrals can turn into optimists, albeit with the opposite holding true as well. This brings to light the value of training and development in nurturing optimism.

Optimism training can involve equipping trainees with the skills to: (1) identify self-defeating beliefs when faced with challenges, (2) evaluate the accuracy of the beliefs, (3) dispute the beliefs by proving them untrue, (4) be realistic about implications, and (5) replace dysfunctional beliefs with more accurate and constructive beliefs (Luthans & Church, 2002; Luthans et al., 2004; Peterson, 2000; Youssef &

Luthans, 2007). Training in optimism and developing it in employees can result in better workplace performance, better employee retention and less stress. These are all highly desirable outcomes for organisations, highlighting the value of developing realistic optimism in employees.

Hope. This construct has been described as entailing the perception that one's goals can be met (Luthans et al., 2007; Snyder et al., 1994). As a positive psychology construct, hope has a precise, operational definition: it is the perceived capability to derive pathways that lead to desired goals and self-motivate through agency thinking to use those pathways (Snyder, 2002). Hope reflects an individual's determination to achieve goals and a personal belief that successful plans can be formulated and that pathways can be identified to achieve goals (Luthans & Church, 2002).

The duality of both agency (willpower) and pathways (way power) sets hope apart from other positive psychology constructs such as optimism or self-efficacy. Hope is developed and initiated through the self, unlike other constructs like optimism where expectancies are formed through others and through forces outside the self (Luthans & Church, 2002; Snyder, 2002). Optimism does not imply pathways, which are the vital part of hope and embody the notion that separates hope from other constructs such as goal setting (Luthans & Church, 2002). The willpower component of hope can be likened to self-efficacy expectancies, while the hope pathways are similar to self-efficacy outcome expectancies. However, within the context of the hope construct, willpower and way power operate in a dual, iterative manner (Luthans & Church, 2002).

Hope has been found to have a positive impact on emotional health, academic achievement and the ability to cope with hardships and illness (Luthans & Church, 2002). Individuals with high levels of hope tend to be more certain of goals, are challenged by them and value progress towards achieving goals. They are less anxious and enjoy interacting with people. They also readily adapt to situational, relationship and environmental changes (Luthans, 2002). Such a profile is highly favourable for organisations. Employees with high hope levels are less emotionally exhausted and are more likely to stay in their jobs, even in stressful professions such as human services (Luthans & Church, 2002). Some research studies have found that

managerial levels of hope are significantly related to their units' profitability and staff retention (Luthans, 2002; Luthans & Church, 2002; Snyder, 2002; Youssef & Luthans, 2007). This has important implications for informing training and development needs for employees at all levels of the organisation.

Hope can be developed and managed. It has been proposed that hope is both a trait-like and state-like construct, as it is stable over time, but also open to development and change (Luthans & Church, 2002; Snyder et al., 1994; Youssef & Luthans, 2007). Strategies that would be applicable to developing and managing hope include determining specific stretch goals and obtaining goal acceptance and commitment through employee participation and involvement (Luthans & Church, 2002). Clarifying goals and using a stepping method to break down complex strategies into sub-steps (Luthans & Church, 2002) would help employees process the goals better and assist them to begin to envision pathways that would lead to the attainment of those goals. Developing specific and contingency pathways to goals, developing the skills of re-goaling, and mental rehearsals of important upcoming events are all strategies to develop hope in employees (Luthans & Church, 2002).

Relative to other POB constructs, hope has been given the least attention (Snyder, 2002; Snyder et al., 2002). Hope has evidence of being related to employee performance and leadership effectiveness, and is the type of construct that needs to be further explored for the added benefits of its application to workplace situations.

Resilience. Rooted in clinical work, and more specifically child psychopathology, resilience was earlier thought to be an extraordinary gift possessed by very few people (Luthans et al., 2004; Luthans, 2002). Defined as the ever-changing capacity to cope successfully when faced with significant change, risk or adversity, enhanced by individual and environmental protective factors, resilience goes beyond simple adaptation (Luthans, 2002). Though it makes use of basic human adaptation systems such as self-regulation and motivation to be effective in the environment, resilience is the psychological capacity to "bounce back" from negative aspects such as failure and conflict as well as positive aspects such as change and increased responsibility (Luthans, 2002). The main difference between resilience and self-efficacy is the smaller domain that resilience operates in, and its reactive rather

than proactive nature (Luthans, 2002). Quite similar to hope with regards to the pathways component, resilience differs from hope in that it does not include the agency aspect of hope (Luthans, 2002; Snyder, 2002).

With the evidence that individuals with high levels of resilience tend to be more effective in life, the same effect in the workplace can be reasonably expected. Resilience recognises the need for flexibility, improvisation and adaptation in uncertain situations (Youssef & Luthans, 2007). In a study of manufacturing engineers, resilient employees were reported to be (1) staunchly accepting of reality, (2) strongly invested in values that bring about a deep belief that life is meaningful, and (3) capable of improvising and adapting to significant change (Luthans et al., 2004). Resilient employees are focused, they take action when processes do not go according to plan, and they are more accepting of changes in the workplace (Youssef & Luthans, 2007). They are also socially competent, good problem-solvers, and possess a sense of purpose with regards to their work tasks (Luthans et al., 2004). The capacity of resilience to enable one to bounce back from adversity and eustressful events makes it a characteristic worth developing in employees, especially in the current ever-changing world of work.

There are specific resilience development programs that are available for organisations and individuals to boost attributes of resilient individuals. Such programs develop trainees' resilience skills through activities that provide them with the necessary skills to (1) avoid negative thoughts when things do not go according to plan or the norm, (2) test the accuracy of beliefs about how to solve problems and finding solutions that work, and (3) remain calm and focused in stressful environments.

Work engagement.

The momentum that positive psychology gained in social science research brought about the popularity of the positive organisational behaviour construct of work engagement (Demerouti, Mostert, & Bakker, 2010; Simpson, 2009). Work engagement is defined as "a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption" (Schaufeli, Salanova, Bakker, & Alez-rom, 2002, p. 74). Work engagement is a state-like construct that qualifies as a

POB construct and as such can be developed in individuals. Engagement has the quality of being a persistent and pervasive affective-cognitive state not focused on any particular object, individual, behavior or event (Schaufeli et al., 2002). Work engagement is a broad, multidimensional construct that focuses on the individual's relationship with their work roles, and involves investing cognitive, physical and emotional energy simultaneously in work roles (Brown, 1996; Hallberg & Schaufeli, 2006; Maslach, Schaufeli, & Leiter, 2001; Rich, Lepine, & Crawford, 2010).

Work engagement consists of three dimensions, which shall be defined below.

Vigour. Characterised by high levels of mental resilience, vigour represents the willingness to exert effort and persevere in the face of adversity whilst working, persistence in the face of difficulties, and the willingness to invest effort in one's work (Schaufeli et al., 2002).

Dedication. This dimension refers to being strongly involved in one's work and experiencing a sense of importance, pride, significance, challenge, inspiration and enthusiasm from engaging with it (Schaufeli et al., 2002).

Absorption. The third dimension, absorption, is characterised by being fully concentrated and engrossed in one's work to the extent that time passes quickly and one finds it difficult to detach oneself from one's work (Schaufeli et al., 2002)

Work engagement has received a great deal of attention, as it has been shown to be the key driver of individual attitudes, behaviours and performance, organisational productivity, commitment and employee retention (Bakker, Albrecht, & Leiter, 2011; Bakker, 2009; Saks, 2006; Simpson, 2009). Positive organisational outcomes, such as job performance, organisational commitment, low turnover intention, good health and positive affect, have been found to have relationships with work engagement (Bakker & Demerouti, 2008; Du Plooy & Roodt, 2010; Luthans, Avey, Avolio, & Peterson, 2010).

Engaged employees are involved, feel happily engrossed in their work, and work hard because they like it and find work fun (de Waal & Pienaar, 2013). This is

unlike workaholics who are compulsive workers who feel an exaggerated compulsion to work, which at times endangers their health and happiness and reduces their social functioning (Schaufeli, Taris, & van Rhenen, 2008). Even when given the discretion to choose not to engage in work activities, workaholics spend a great deal of time on work activities, are reluctant to disengage from work, and persistently and frequently think about work when they are not at work (de Waal & Pienaar, 2013; Schaufeli et al., 2008). This suggests that workaholics are obsessed with their work and are compulsive workers, which is unlike engaged employees who do not display the typical compulsive drive (Bakker, Schaufeli, Leiter, & Taris, 2008).

Bakker (2009) stated that engaged employees perform better than non-engaged employees. He proposed that engaged employees often experience positive emotions (such as joy and happiness), experience better physical and psychological help, create their own job and personal resources (such as support from others) and transfer their engagement to other workers (Bakker, 2009). Bakker and Demerouti (2007) noted that employees who create their own job resources are better at handling their job demands and achieving work goals. Seeing that performance in most organisations is the result of the combined effort of individual employees, it is conceivable that the crossover of engagement among team members increases performance.

It has been suggested that there is substantive overlap between work engagement and other constructs, such as job involvement (Hallberg & Schaufeli, 2006; Macey & Schneider, 2008). Both constructs refer to positive attachments to work and contain theoretical references to each other (Hallberg & Schaufeli, 2006). Concepts of engagement and involvement as well as commitment are constantly interchanged in literature, which brings about confusion in the terminology (Du Plooy & Roodt, 2010; Hallberg & Schaufeli, 2006; Kanungo, 1982; Rich, 2006; Roberts & Davenport, 2002). Though the constructs share variance, they do not overlap to the point of redundancy and as such remain distinct constructs (Hallberg & Schaufeli, 2006). Macey and Schneider (2008) noted that job involvement is seen in contemporary definitions of work engagement, but only forms a part of engagement and is not equivalent to it. Although there might be some discrepancy with regards to the distinct nature of engagement, it is still a construct which impacts employees and

organisations and, as such, organisations would benefit from interventions aimed at increasing work engagement.

The most common instrument used to measure engagement is the Utrecht Work Engagement Scale (UWES), which includes three subscales for vigour, dedication and absorption (Schaufeli et al., 2002). This scale has been validated for use in South Africa and shall be used in this study (Storm & Rothmann, 2003).

Mindfulness.

Mindfulness is commonly defined as a psychological state in which one is attentive to and aware of what is happening in the present moment and the development of one's own memory (Brown & Ryan, 2003; Chiesa, 2012; Dane & Brummel, 2013). Though attention and awareness are relatively constant features of normal functioning, mindfulness can be considered to be a heightened attention to and awareness of current experiences and present reality (Brown & Ryan, 2003). Awareness and attention can be divided, such as when people are occupied with multiple tasks or preoccupied with concerns that take away from the quality of engagement with what is focally present. Mindfulness is also compromised when individuals behave automatically or compulsively without awareness of or attention to one's behaviour (Brown & Ryan, 2003).

A surge of interest has been directed towards empirical research of the mindfulness concept and its application, mainly to different fields of psychology (Baer, Carmody, & Hunsinger, 2012; Brown & Ryan, 2003; Chiesa, 2012; Dane & Brummel, 2013; Williams, 2011). Mindfulness has gained increased attention in both scientific and lay communities as a way to cope with physical and psychological disorders and as a way to reduce stress levels in healthy subjects (Chiesa, 2012). Mindfulness has been studied in different disciplines as a means to experience life in a way that is mindful (Elliot, 2011). Mindful practice involves deconstructing any given task to its individual components so as to determine where alternative responses or interpretations may lie (Langer & Moldoveanu, 2000).

Mindfulness can be viewed as a state-like construct involving cognitive awareness to monitor the content of consciousness while reflecting on the process of consciousness itself (Garland, 2013). All individuals have a naturalistic and inherent capacity for mindfulness, although people differ in their ability and willingness to actualise this state (Brown & Ryan, 2003; Garland, 2013). Mindfulness is a trait or disposition that can be developed over time through practices of engaging in the state of mindfulness. People vary in the extent to which they exhibit mindful dispositions, and this dispositionality can be strengthened through training (Garland, 2013). The classifications of mindfulness as a state-like and trait-like construct are not mutually exclusive, but integral to mindfulness is the notion of state by trait interaction (Chiesa, 2012; Garland, 2013). The practice of mindfulness can bring about recurrent activation of a state of mindfulness which could leave lasting traces that may accumulate into durable changes in trait mindfulness (Garland, 2013).

Mindfulness has been found to relate positively to constructs such as insight-related problem solving, judgement accuracy and academic performance (Garland, 2013; Hart, Ivztan, & Hart, 2013; Langer & Moldoveanu, 2000; Leroy, Anseel, Dimitrova, & Sels, 2013). Mindfulness practice also improves creativity and productivity and may be important in disengaging individuals from automatic thoughts, habits and behaviours and thus could play a key role in fostering informed and self-endorsed behavioural regulation (Williams, 2011). Such findings indicate that mindfulness enhances cognitive flexibility, promotes executive functioning and promotes wellbeing, which are qualities that are important for performance across a range of tasks (Dane & Brummel, 2013). One can therefore assume that mindfulness is beneficial within workplace settings. However, Dane and Brummel (2013) cautioned that empirical research examining mindfulness and its promotion of key work outcomes is only just beginning to emerge. Dane and Brummel (2013) indicated that people differ in the degree to which they are mindful in their work settings, a concept they termed workplace mindfulness. This concept of workplace mindfulness is thought to be tied to one's dispositional tendencies towards mindfulness as well as other factors, such as personal experiences and features of the work environment (Dane & Brummel, 2013). Mindfulness influences performance through cognitive pathways that allow individuals to attend to a wide range of stimuli in the work environment and guard against performance-related errors (Dane & Brummel, 2013).

The definitions, theories and previous empirical research on each construct were presented in this section. The following section will present the theoretic relationships between the variables of interest.

Relationship between the variables

Having presented the operational definitions of each variable as well as the findings from previous empirical studies, the following section highlights the relationships between the variables.

Psychological capital and work engagement.

Research has shown that work engagement does not only stem from job resources but from personal resources as well (Bakker & Demerouti, 2008). Personal resources are state-like positive self-evaluations that refer to one's sense of one's ability to impact successfully upon and control one's environment (Hobfoll, Johnson, Ennis, & Jackson, 2003). It has been shown that such positive self-evaluations predict goal-setting, performance, motivation, engagement as well as job and life satisfaction (Bakker et al., 2008). In their study of call centre employees in a Kwazulu-Natal, South Africa call centre, Simons and Buitendach (2013) found that personal resources such as self-efficacy and optimism (which are dimensions of PsyCap) had a positive relationship with work engagement. This was supported by studies that established that self-efficacy and optimism were personal resources that predicted work engagement in South African organisations (Bakker & Demerouti, 2008; Simons & Buitendach, 2013). In a study among highly skilled Dutch technicians, it was found that engaged employees had high self-efficacy, were able to meet the demands they faced and believed they would generally experience good outcomes in life (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). These findings represent the PsyCap dimensions of self-efficacy, hope and optimism which Xanthopoulou et al. (2007) found as contributors in explaining variance in work engagement over time.

A study by Bakker (2009) found that female school principals with the most personal resources scored highest on work engagement. In addition to social support

from colleagues, resilience, self-efficacy and optimism were found to contribute to work engagement and explain unique variance in engagement scores (Bakker, 2009). Resilience as a personal resource facilitating work engagement indicates that engaged workers effectively adapt to changing environments (Herbert, 2011). Avey et al. (2008) found that employees with higher levels of PsyCap were likely to have more positive emotions and were more engaged in their work. In short, engaged employees possess personal resources such as self-efficacy, optimism, resilience (dimensions of PsyCap) and self-esteem that help them control and impact upon their environment successfully (Bakker & Demerouti, 2008; Luthans et al., 2008). This positive relationship between PsyCap and work engagement is expected to be confirmed in this study.

Psychological capital and mindfulness.

The potential benefits of mindfulness to organisational settings needs to be investigated, as suggested by Dane and Brummel (2013). A study by Avey, Wernsing and Luthans (2008), to investigate whether employee positivity impacted on relevant attitudes and behaviours, found that mindfulness moderated the effect of PsyCap on positive emotions which subsequently had an effect on the relevant attitudes and behaviours. They also found that mindfulness, as a form of heightened awareness and attention, was related to PsyCap dimensions but mostly to resilience (Avey et al., 2008). When PsyCap was low, Avey et al. (2008) found that high mindfulness compensated for this and that individuals still experienced more positive emotions. This suggests that when PsyCap is low, mindful employees have a greater ability to become aware of thinking patterns that challenge their abilities to be hopeful, self-efficacious, optimistic and resilient at work (Avey et al., 2008). Such awareness may lead employees intentionally to choose more hopeful, efficacious, optimistic and resilient ways to deal with job demands and occupational stress.

Mindfulness and work engagement.

Mindfulness has been found to enhance work engagement through direct and indirect pathways. Mindfulness may make people more attentive and focused, and may directly support work engagement through a sharpened attention to activities (Brown & Ryan, 2003). Indirectly, mindfulness enhances people's quality of internal

awareness, which supports being aware of and acting in accordance with one's true self (Brown & Ryan, 2003). Being true to oneself has been found to foster more autonomous motivation which supports engagement in one's work (Brown & Ryan, 2003). Mindfulness has also been found to foster engagement by helping individuals see activities in novel and more interesting ways, thereby promoting heightened involvement and ultimately engagement with the activities (Brown & Ryan, 2003).

Psychological capital, mindfulness and work engagement.

Though there is limited research specifically linking mindfulness to the current study constructs, inferences can be made based on a review of mindfulness literature. Employees that are mindful tend to be more aware of their thought and emotional response patterns and, as such, mindfulness becomes an important key in altering their thoughts and emotional response patterns. For example, an employee that becomes aware of their pessimistic thinking patterns can use self-monitoring to identify unproductive thinking habits, thus reducing negative emotions at work (Avey et al., 2008). Literature shows that there are benefits to be derived from promoting PsyCap and mindfulness in employees. Since both constructs have been shown to have positive effects on work engagement, it can be assumed that the combination of PsyCap and mindfulness will have a greater effect on work engagement than each construct on its own. Therefore, it can be expected that mindfulness will have a mediating effect on the relationship between PsyCap and work engagement.

Research Hypotheses

In light of the theoretical relationships proposed between PsyCap, work engagement, and mindfulness, the following research hypotheses were formulated.

Hypothesis 1: PsyCap is a predictor of work engagement

Hypothesis 2: PsyCap is a predictor of mindfulness

Hypothesis 3: Mindfulness is a predictor of work engagement

Hypothesis 4: Mindfulness mediates the relationship between PsyCap and work engagement

Figure 1 below depicts the mediation relationship hypothesised between PsyCap, mindfulness and work engagement

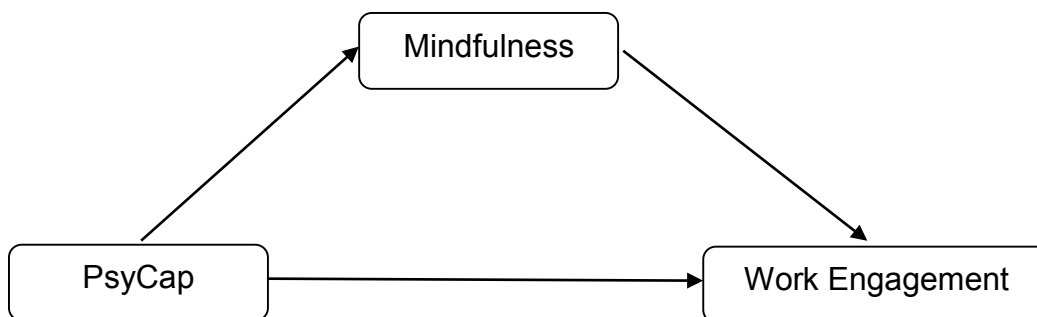


Figure 1. Model of the mediation effect of mindfulness

Conclusion

In this chapter, the nature and definitions of PsyCap, work engagement and mindfulness were discussed in detail, with the aim to provide a theoretical foundation to the constructs. The relationship between the constructs was also discussed and the research hypotheses were established. The next chapter will focus on the methodology that was used to conduct the research.

CHAPTER 3

Method

Introduction

Following the discussion of the theory that applies to this study, this chapter will discuss the research methodology used to conduct this study. The research design, including the sampling method, measurements instruments used and procedure followed will be outlined.

Research Design

A non-experimental descriptive research design was used to explore the relationship between PsyCap, work engagement and mindfulness. The aim of this study was to describe the relationship between variables based on ex post facto data (Elmes, Kantowitz, & Roediger, 2003). This required that the study use a cross-sectional self-report questionnaire. The survey was used to measure the variables of interest and hypotheses testing.

Sample

Non-probability convenience sampling with snowball effect (Burns & Burns, 2008) was used in order to obtain a large sample. Participants consisted of full-time South African and Zimbabwean white-collar workers from various organisations that were willing to participate. Participants were chosen from these two countries due to ease of availability. The study presents a cross-sectional study of 239 participants. 85% of the participants that started the survey completed it in full ($N=203$). Thirty-six participants accessed the survey but did not respond to all survey items, rendering their forms unusable, and their data was removed from any further analysis. The final sample consisted of 203 participants that completed the survey in full. There were no participants younger than 20 years or older than 63 years ($M=33.92$, $SD=11.62$). Participants had been employed in their current position for between 1 and 39 years ($M=5.56$, $SD=7.59$). Further participant demographics are presented in Table 2.

Table 2

Demographic Characteristics of Participants

Variable	Level	n	%
Race	White	73	35.9
	Black	101	49.8
	Asian	1	0.5
	Coloured	20	9.9
	Prefer not to answer	8	3.9
Gender	Female	105	51.7
	Male	95	46.8
	Prefer not to answer	3	1.5
Nationality	South African	117	57.6
	Zimbabwean	86	42.4

Measures

After a review of relevant literature pertaining to the variables of interest, the researcher identified previously validated scales. All items from the Psychological Capital Questionnaire (PCQ-24), Utrecht Work Engagement Scale (UWES-9) and the Mindfulness Attention Awareness Scale (MAAS-15), together with demographics questions, were compiled into a questionnaire of 53 items. The pre-existing measures were selected based on a high Cronbach's Alpha (α) of above $\alpha=0.70$ (Pallant, 2011). Responses were selected from Likert-type scales with varying response categories depending on the scale. The complete questionnaire that was distributed can be seen in Appendix C. Detailed descriptions of the scales are presented below.

Psychological capital.

PsyCap was measured with the Psychological Capital Questionnaire (Luthans et al., 2007). The PCQ-24 comprises of four subscales with equal weight, namely (1) Hope, (2) Optimism, (3) Self-efficacy and (4) Resilience, with each subscale consisting of six items. The internal consistency of the PsyCap subscales was reported in Avey et al. (2010) as follows: Hope: $\alpha = .87$; Optimism: $\alpha = .78$; Self efficacy: $\alpha = .87$; and Resilience: $\alpha = .72$. The internal consistency of the complete PsyCap questionnaire was

found to be high with $\alpha = .91$. (Luthans et al., 2010). The hope subscale is characterised by items such as "At the present time, I am energetically pursuing my work goals", while optimism is characterised by items such as "When things are uncertain for me at work I usually expect the best". The self-efficacy subscale has items such as "I feel confident in representing my work area in meetings with management", and resilience is characterised by items such as "I usually manage difficulties one way or another at work". The PsyCap scale was rated on a 6 point scale ranging from 1-6. A high score represents high levels of positive PsyCap while a low score represents low levels of positive PsyCap.

Work engagement.

Employee Engagement was measured with the 9-item Utrecht Work Engagement Scale (UWES-9) with a previously established Cronbach's Alpha of $\alpha = .86$ (Schaufeli et al., 2002). This self-report questionnaire consists of 3 subscales, namely vigour, dedication and absorption, with each subscale comprising three items. Vigour was assessed by items that refer to high levels of energy, zest and stamina when working. An example of a vigour item includes "At my work, I feel bursting with energy". Dedication was assessed by items that refer to deriving a sense of significance from work, feeling enthusiastic and proud about one's job, as well as feeling inspired and challenged by it, such as "I am proud of the work that I do". Absorption was measured by items that refer to being totally and happily immersed in work, and having difficulties detaching from it so that time passes quickly, such as "I get carried away when I am working". Participants responded to items by making use of a 7-point Likert scale with the categories: 1=never; 2=almost never (a few times a year or less); 3=rarely (once a month or less); 4=sometimes (a few times a month); 5=often (once a week); 6= very often (a few times a week); 7=always (every day). A high score on the scale represents high levels of work engagement while a low score represents low levels of work engagement

Mindfulness

The 15-item Mindfulness Attention Awareness Scale (Brown & Ryan, 2003) was used to measure mindfulness. Previous research established a good level of internal consistency with a Cronbach's alpha coefficient of .87 (Brown & Ryan, 2003).

Examples of scale items include "I find myself doing things without paying attention", "I find it difficult to stay focused on what's happening in the present", and "I rush through activities without being really attentive to them". Participants indicated their responses on a 6-point Likert scale with the categories: 1=almost always; 2=very frequently; 3=somewhat frequently; 4=somewhat infrequently; 5=very infrequently; 6=almost never. A high score on the scale represents high levels of mindfulness while a low score represents low levels of mindfulness.

The demographic section of the questionnaire collected information pertaining to gender, age, race, tenure and nationality. These variables were included to get a clear description of the sample to be able to contextualise the findings of this study.

Procedure

After completion of the literature review and questionnaire compilation, the researcher obtained ethical clearance from the Ethics in Research committee of the Commerce Faculty at the University of Cape Town. Once permission was obtained, (see Appendix A), the questionnaire was compiled using Qualtrics, an online survey generating tool which guarantees anonymity and confidentiality. An email with a short explanation of the study, an invitation to participate in the study and a link to the online questionnaire was sent to prospective participants. Interested participants were instructed to click on the link which gave them access to the online questionnaire. Instructions for questionnaire completion were included in a cover letter for the survey (see Appendix B). Participants were asked to forward the link to colleagues, family and friends that would be willing to participate. The invitation specified a four week timeframe to complete the questionnaire before the link expired. Two weeks after the questionnaire was released, reminder emails were sent out. After a period of 14 days, the survey was closed and data was exported into an IBM SPSS version 22 file for analysis.

Data analysis

Descriptive statistics using IBM SPSS version 22 research software were conducted to describe the variables under investigation. Multivariate statistics were used to determine the strength and direction of the relationships between variables. Simple regression was used to test hypotheses 1, 2 and 3, while hierarchical multiple regression was used to test hypothesis 4. Lisrel 9.1 student version was used for confirmatory factor analysis.

Conclusion

This chapter outlined the research methodology adopted in this study, detailing how the participants were samples, how data was collected and the types of measurement instruments used to assess the identified constructs. The next chapter will set out in detail the results obtained in this research.

CHAPTER 4

Results

Introduction

This section presents the findings from statistical analyses on data gathered using techniques as described in the previous chapter. The chapter begins by reporting the statistics on the reliability and validity of each construct and descriptive statistics. Regression analyses were used to test the hypothesis formulated and presented in Chapter 2. This chapter presented the findings for each hypothesis testing analysis.

Measurement reliability

The following section will discuss the reliability of the scales used to measure the constructs in this study. The internal consistency of each scale was established by calculating Cronbach's alpha coefficient (α) to establish reliability. Scales with an alpha value of at least .70 were considered reliable and items with an item-total correlation of .30 or greater were retained (Cortina, 1993).

Psychological capital.

The Psychological Capital Questionnaire consisted of 24 items. The scale was broken down into four subscales with six items each, representing the four dimensions of PsyCap, namely self-efficacy, hope, resilience and optimism. All four PsyCap subscales and the composite scale revealed acceptable levels of reliability. Cronbach's alpha coefficients ranged from .74 to .88, indicating good internal consistency. All item-total correlations were above .30 with a range of $.31 < r < .70$ ($n=203$). Cronbach's alpha coefficients, item-total correlations and total number of items in each scale are reported in Table 3.

Table 3

Internal Consistency of the PCQ-24

Scale	Cronbach's Alpha Coefficient	Item-total Correlations	Total Number of Items in scale
Self-efficacy	0.80	.42 < r < .70	6
Hope	0.80	.46 < r < .63	6
Resilience	0.78	.45 < r < .62	5
Optimism	0.74	.42 < r < .56	4
PsyCap	0.88	.31 < r < .59	21

Note. N=203

Having established the reliability of the PsyCap dimensions and the composite scale, the six items in each PsyCap dimension were collected into average scores for each subscale. An average score for the composite PsyCap construct was also created. The average scores created were then used in further analyses.

Work engagement.

Work engagement was measured using the 9-item Utrecht Work Engagement Scale. The scale was broken down into 3 subscales with 3 items in each subscale. Each subscale represented a dimension of work engagement. These three dimensions were vigour, dedication and absorption.

The internal consistency, as measured by Cronbach's alpha, was assessed for the work engagement scale. The vigour subscale had Cronbach's alpha coefficient of ($\alpha=.86$) with item-total correlations ranging from .68 to .81. Removing item 3 would have increased alpha to .90. However, this item was not removed as the subscale showed an adequate level of internal consistency. Removing one item would have left the scale with only two items, which is below the minimum number of items expected in a scale (Field, 2013). The dedication subscale showed a fairly high level of construct validity ($\alpha=.87$). Item-total correlations ranged from .71 to .79. The absorption subscale showed adequate levels of construct validity ($\alpha=.69$), with item-total correlations ranging from .45 to .55. The composite work engagement scale had a Cronbach's alpha of .92, indicating high levels of construct validity, and item-total correlations ranging from .46 to .80. Removing item 3 from the absorption subscale would have

increased alpha to .93. However, this item was not removed as the scale already showed a high level of construct validity.

Mindfulness

Mindfulness was measured using the Mindfulness Attention Awareness Scale (MAAS-15). The scale was found to have high internal consistency represented by $\alpha=.90$, with item-total correlations of $.34 < r < .78$ ($n=203$).

Measurement validity

The construct validity of each scale was assessed through Principal Axis Factoring (PAF) with an orthogonal rotation method. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity were used to assess sampling adequacy for PAF (Burns & Burns, 2008). The common rule of sample adequacy suggests that a researcher should have at least 10-15 participants per variable (Field, 2013). Data is considered adequate for PAF if the KMO statistic is greater than .50, and Bartlett's test of sphericity is significant ($p < .05$) as this indicates sample adequacy. An iterative process of factor analysis was conducted on each scale until a clear factor structure emerged. Factors with eigenvalues greater than 1 were retained, as prescribed by Kaiser's rule for determining the factor structure of scales (Kaiser, 1970). Items that cross-loaded significantly were removed one by one, as well as those items with a factor loading of less than .30 (Field, 2013). Components with a factor loading greater than .30 were considered significant and were retained (Hair, Black, Babin, Anderson, & Tatham, 2006). Confirmatory factor analysis in Lisrel 9.1 student version was conducted to assess the goodness of fit of the measurement model for PsyCap.

Initial factor analysis.

An initial EFA with all 48 scale items used in this study was conducted. This analysis was conducted in order to determine the factor structure of all scale items used in this study in one pool. The results revealed that PsyCap had a two-factor structure which was inconsistent with the findings of Luthans et al. (2007). Work engagement was found to be uni-dimensional, which was inconsistent with the factor structure of the original scale (Schaufeli et al., 2002). Mindfulness was found to be a uni-dimensional

scale, which was consistent with the findings of Brown and Ryan (2003). The factor matrix of the initial EFA is presented in Appendix D, Table 8. To further investigate the factor structures of the scales, each measurement scale was then investigated for measurement validity in isolation from other study variables. The findings are presented below.

Discriminant validity.

To determine discriminant validity, structural equations modelling (SEM) was run in Lisrel. The model did not converge, as Lisrel experienced a fatal error in running the analysis. Therefore, discriminant validity could not be established.

Psychological capital.

In order to examine the psychometric properties of the PCQ scale, confirmatory factor analysis (CFA) was conducted using Lisrel. It was deemed appropriate to first conduct a CFA on the PCQ rather than an EFA, as the PCQ's four factor structure is supported by literature (Luthans et al., 2007). Before the CFA was conducted, resilience item one and optimism items one and five were reverse scored in SPSS. Data was then imported into Lisrel and specified as continuous. A test of the multivariate normality of the scale revealed that the scale had non-normally distributed data with a significant multivariate skewness and kurtosis score of $\chi^2 = 131.36$, $p < .001$. As a result of the data being continuous and non-normally distributed, a robust estimation technique was deemed appropriate for the CFA (Field, 2013). In order to run the CFA, the four composite scores for the subscales were used as observed variables. All four composite scores were assumed to load onto one latent variable of PsyCap.

The goodness of fit for the measurement model was assessed using four fit statistics. These fit statistics included the chi-square statistic, the root mean square of error approximation (RMSEA), the comparative fit index (CFI) and the normed fit index (NFI). The Sattora-Bentler chi-square score was significant ($\chi^2_2=5.11$, $p<.05$), indicating a good fit. This good fit was confirmed by an RMSEA score of .07. Support for the model's goodness of fit was provided by the RMSEA parameter estimates (0.0; 0.07), which were both below the cut-off score of .08 and therefore within acceptable

range, with a 90% confidence interval. The CFI and NFI values were at the cut-off point of .95, further supporting the goodness of fit of the measurement model. The findings indicated that the factor structure of the PCQ was consistent with the findings on the original scale (Luthans et al., 2007).

To gain a greater understanding of the factor structure of the PCQ in this study's context, and to assess the degree of independence between the four PCQ dimensions, exploratory factor analysis was conducted using principal axis factoring (PAF). Due to the assumption that the PCQ subscales are correlated, direct oblimin rotation (DOR) was performed in order to refine the factor structure (Pallant, 2011). It was deemed appropriate to conduct an EFA, as the KMO measure of sampling adequacy was .85 and the Bartlett's test of sphericity was significant ($\chi^2_{276} = 1636.02$, $p < .001$). EFA results revealed seven factors with eigenvalue greater than 1, explaining 62.87% of the total variance. After an examination of the factor loadings, item one from the hope scale and item one from the resilience scale as well as items two and five from the optimism scale were removed from the analysis. These items that were removed either presented cross-loadings or did not load significantly on the extracted factors (Burns & Burns, 2008; Field, 2013). A second EFA was conducted revealing five factors with eigenvalue greater than 1 and total explained variance of 60.44%. An examination of the factor loadings led to the removal of item one for the self-efficacy scale, as it presented cross-loadings. A third EFA was then conducted and four factors with eigenvalue greater than one emerged. Results from the four-factor EFA are shown in Table 4, revealing four clean factors that present eigenvalues of 6.02, 2.00, 1.51 and 1.30 respectively, and explain a total variance of 57%. The four-factor PCQ scale pattern matrix is shown in Appendix D, Table 9.

Table 4

Four-Factor EFA for the PCQ Scale

Item no.	Statement	H	R	O	SE
H2	At the present moment, I am energetically pursuing my work goals.	.72			
H4	Right now, I see myself as being pretty successful at work.	.70			
H6	At this time, I am meeting the work goals that I have set for myself.	.57			
H5	I can think of many ways to reach my current work goals.	.53			
H3	There are lots of ways around any problem.	.36			
R4	I usually take stressful things at work in stride.		.75		
R5	I can get through difficult times at work because I've experienced difficulty before.		.72		
R6	I feel I can handle many tasks at a time at this job.		.63		
R2	I usually manage difficulties one way or another at work.		.59		
R3	I can be "on my own" so to speak at work if I have to.		.45		
O3	I always look on the bright side of things regarding my job.			.77	
O1	When things are uncertain for me at work I usually expect the best.			.59	
O4	I'm optimistic about what will happen to me in the future as it pertains to work.			.52	
O6	I approach this job as if "every cloud has a silver lining"			.49	
SE2	I feel confident in representing my work area in meetings with management				.73
SE5	I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems				.69
SE3	I feel confident contributing to discussions about the company's strategy				.61
SE6	I feel confident presenting information to a group of colleagues				.49
SE4	I feel confident helping to set targets/goals in my work area				.45
Eigenvalues		6.02	2.00	1.51	1.30
Individual total variance (percent)		31.68%	10.51%	7.97%	6.85%
Cumulative total variance (percent)		31.68%	42.18%	50.15%	57%

Note. Principal axis factoring. Item-to-factor loadings below .30 were suppressed. Each item's significant loadings are presented in boldface. H=hope, N=5; R=resilience, N=5; O=optimism, N=4, SE=self-efficacy, N=5.

Based on the data presented in Table 4, it can be concluded that the EFA results support the construct validity of the hope scale (factor 1), the resilience scale (factor 2), the optimism scale (factor 3) and the self-efficacy scale (factor 4).

Work engagement.

Principal axis factoring was conducted on the UWES-9 in order to assess construct validity in this study's context. KMO statistics ranged from .66 to .91, and Bartlett's test was significant for all analyses ($p < .001$) indicating that the data was suitable for PAF. EFA results revealed one factor with eigenvalue greater than one, explaining 60.34% of the total variance. This result was unexpected, as the UWES-9

is a global scale known to have three factors. A second EFA was conducted with a forced extraction for three factors and direct oblimin rotation. The extraction was terminated, since an attempt to extract three factors failed. The initial EFA results indicating one factor for UWES-9 were then accepted as the findings for this particular study. Therefore, the UWES-9 was deemed to be a uni-dimensional scale. A composite score for the measure was then computed by calculating the average scores for each participant. This composite score was then used in all further analyses.

Mindfulness

A KMO statistic of .92 and a significant Bartlett's test of sphericity ($X^2_{105} = 1316.24, p < .001$) showed that data from the MAAS-15 was suitable for principal axis factoring. One factor with an eigenvalue of 6.58 and associated explained variance of 43.9% emerged (factor loadings: $.34 < r < .84$). The scale was considered uni-dimensional and a composite score was computed for use in further analyses.

Descriptive statistics

The mean scores from the scales indicated that participants had high levels of composite PsyCap ($M=4.75$), mindfulness ($M=4.35$) and composite work engagement ($M=5.34$), as shown by the means which were above the scale midpoints of 3 and 3.5 on the 6-point and 7-point Likert-type scales used in this study. Table 5 shows the descriptive statistics for the scales used in the study.

Table 5

Descriptive Statistics for the Scales

Scales	M	SD	Skewness	Kurtosis
Self-efficacy	4.91	0.74	-0.95	1.36
Hope	4.73	0.74	-1.09	2.30
Resilience	4.74	0.75	-1.05	1.84
Optimism	4.54	0.80	-0.52	0.28
PCQ	4.75	0.60	-0.97	2.62
Vigour	5.11	1.10	-0.45	-0.14
Dedication	5.58	1.11	-0.96	1.00
Absorption	5.34	1.01	-0.39	-0.06
UWES	5.34	0.98	-0.63	0.08
MAAS	4.35	0.86	-0.37	0.10

Note. N=203, PCQ= Psychological capital Questionnaire; UWES= Utrecht Work Engagement Scale; MAAS=Mindfulness Attention Awareness Scale

Hypotheses testing

To test the hypotheses formulated in this study, regression analyses were conducted.

Regression analyses.

Regression analyses were conducted to test hypotheses 1, 2 and 3. The correlation results, as depicted in Table 6, illustrated that (1) PsyCap was positively related to work engagement; (2) PsyCap was positively related to mindfulness; and (3) mindfulness was positively related to work engagement.

Table 6

Pearson Correlation Matrix for All Variables

Measure	1	2	3
1. PsyCap	(.88)		
2. Work engagement	.55***	(.92)	
3. Mindfulness	.38***	.40***	(.90)

Note. N=203. Cronbach alpha for each scale is shown in parenthesis
 ***p<.001. **p<.01. *p<.05

The results of the regression analysis revealed that PsyCap is a predictor of work engagement ($F_{1, 201}=85.53, p<.001$), PsyCap is a predictor of mindfulness ($F_{1, 201}=34.16, p<.001$), and mindfulness is a predictor of work engagement ($F_{1, 201}=37.36, p<.001$). Therefore all null hypotheses for hypotheses 1, 2 and 3 were rejected, as the results showed support for predictive ability between variables. One's levels of PsyCap can predict one's levels of mindfulness and work engagement respectively; and one's levels of mindfulness can predict one's levels of work engagement. It was found that PsyCap explained 29.5% of the variance in work engagement and 14.1% of the variance in mindfulness, while mindfulness explained 15.7% of the variance in work engagement.

Mediation analysis.

In order to test the mediation hypothesis in this study, a linear bivariate four-step multiple regression was conducted (Baron & Kenny, 1986). In order for mediation to be established, there are a number of conditions that had to be fulfilled. In the first regression analysis, PsyCap (IV) must be significantly associated with work engagement (DV). In the second regression analysis, PsyCap (IV) must be significantly associated with mindfulness (mediator). In the third regression, mindfulness (mediator) must be significantly associated with work engagement (DV). In the fourth regression, both PsyCap (IV) and mindfulness (mediator) are regressed onto work engagement (DV) and a mediating effect is observed when a smaller or insignificant association is established between PsyCap and work engagement. For mediation to be established, the relationship between PsyCap and work engagement must be less in the fourth regression than in the first regression (Baron & Kenny, 1986). Having established the significant associations between PsyCap, mindfulness and work engagement through correlation analyses, PsyCap and mindfulness were regressed onto work engagement. The results of the regression analysis showed partial support for hypothesis 4, and revealed that mindfulness partially mediated the relationship between PsyCap and work engagement, as shown in Figure 2.

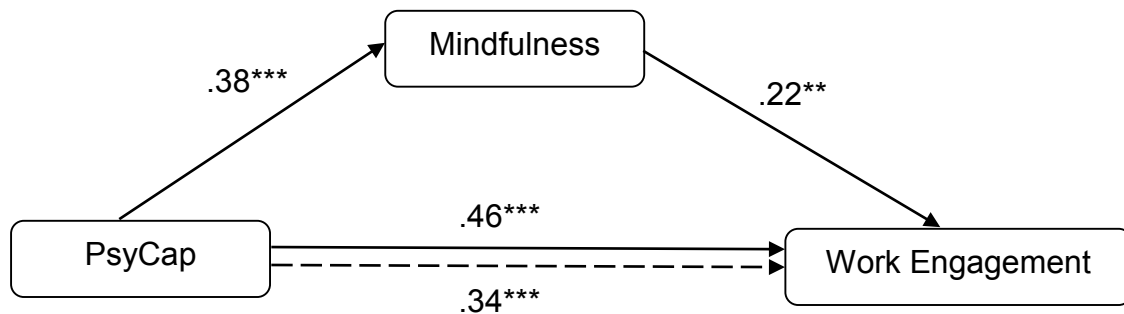


Figure 2. Mediation analysis results

Solid lines between variables denote direct paths. Dotted lines denote the beta coefficient in the equation that included both PsyCap and mindfulness as predictors of work engagement. Values denote the standard beta weights (β). *** $p < .001$. ** $p < .01$. * $p < .05$.

In order to establish whether the reduction in the beta coefficient for PsyCap depicted in Figure 3 is statistically significant, the Sobel test was conducted (Field, 2013). The results confirmed that the reduction in the beta coefficient was statistically significant ($p=.06$). Therefore, mindfulness partially mediates the relationship between PsyCap and work engagement.

Differences between groups.

The differences between groups was not hypothesised in Chapter 2, as this study did not intend to investigate differences. Having collected data from South Africa and Zimbabwe, it was deemed appropriate to investigate the difference in levels of PsyCap, mindfulness and work engagement between employees from the two countries. Three independent samples t-tests were conducted to assess the differences between groups. To test the assumption of homogeneity of variance which underlies the independent samples t-test, Levene's test was conducted. The results revealed that there was no difference in the variance of PsyCap ($F=1.29$, $p=.2$), mindfulness ($F=.49$, $p=.48$) and work engagement ($F=3.16$, $p=.07$) between South African and Zimbabwean employees in this sample. Therefore, the data was appropriate for t-test analysis.

The first t-test revealed that South African and Zimbabwean employees differed in their levels of PsyCap ($t_{201}=-2.32$, $p<.05$). Therefore, the PsyCap levels of South African employees ($M=4.71$, $SD=.50$, $n=119$) was statistically significantly different from the PsyCap levels of Zimbabwean employees ($M=4.88$, $SD=.56$, $n=84$).

Zimbabwean employees displayed higher levels of PsyCap than South African employees. The second t-test showed that the work engagement levels of South African employees ($M=5.43$, $SD=.87$, $n=119$) were not statistically significantly different ($t_{201}=1.01$, $p=0.08$) from the work engagement levels of Zimbabwean employees ($M=5.29$, $SD=1.02$, $n=84$). The results of the third t-test revealed that there was no statistically significant difference ($t_{201}=-3.43$, $p=.48$) in the mindfulness levels of South African employees ($M=4.22$, $SD=.77$, $n=119$) and Zimbabwean employees ($M=4.62$, $SD=.83$, $n=84$).

A summary of all hypotheses that were tested in this study, as well as the findings, can be found in Table 7.

Table 7

Summary Table for Hypothesis Testing

Hypothesis	Outcome
H1. PsyCap is a predictor of work engagement	Supported
H2. PsyCap is a predictor of mindfulness	Supported
H3. Mindfulness is a predictor of work engagement	Supported
H4. Mindfulness mediates the relationship between PsyCap and work engagement	Partially supported

Conclusion

In this chapter, the research results obtained through data analysis were reported and interpreted. In the discussion chapter which follows, these findings and their significance will be discussed in greater detail, with reference to relevant literature. Limitations of this study will also be noted and recommendations for future research will be proposed.

CHAPTER 5

Discussion

Introduction

Having conducted statistical analyses of the data in this study, this chapter discusses the findings, as well as general conclusions related to the empirical evidence obtained in this research. References to, and comparisons with the relevant literature and previous research will be presented. The chapter concludes with limitations of this study and recommendations for future research.

The purpose of this study

The objective of this study was to conduct quantitative research within a partial Southern African context. The study was guided by positive organisational behaviour literature. A brief overview of the POB stream was presented in Chapter One. POB was described as a positive psychology stream that is focused on the study and application of human resource strengths that are positively oriented. Positive organisational behaviour was found to be a stream focused on measurable psychological capacities that can be developed and managed for performance improvement in the workplace (Luthans, 2002). The intent of POB is to draw attention to positive constructs that may otherwise not have been considered as a resource or strength worth developing (Luthans & Avolio, 2009). This study is consistent with the objectives of POB research, and investigated positive constructs that are applicable to performance improvement in a work setting. Within the broad occupational health psychology (OHP) stream, the current study was aligned with OHP objectives, which include the application of psychology to work life with a focus on the promotion, improvement and protection of worker safety, health and well-being (Schaufeli, 2004). The focus of this study was on the promotion of worker wellbeing through the improvement of personal resources.

To gain insight into POB constructs that are applicable to the workplace, the researcher conducted a literature review on PsyCap and work engagement, which are both well-known POB constructs. The literature review was presented in Chapter Two.

Research revealed that a relationship between PsyCap and work engagement had been established in previous empirical research studies. The researcher was interested in investigating whether mindfulness, a cognitive state of heightened attention and awareness, had a mediating effect on the relationship between PsyCap and work engagement. This proposition came about as a result of the literature review, which revealed the possibility of mindfulness mediating the PsyCap-work engagement relationship. To this end, four research hypotheses were proposed at the end of Chapter Two. The data collection method used in this study was outlined in Chapter Three. The research hypotheses developed for this study were subjected to empirical analysis, and the results were presented in Chapter Four.

This chapter discusses the findings presented in Chapter Four. The theoretical and practical implications of this study's findings are also discussed. The limitations of this study are presented with recommendations for future research.

The key findings from the current study revealed that:

- Work engagement was a one dimensional scale;
- Mindfulness partially mediated the relationship between psychological capital and work engagement; and
- There was a difference in the PsyCap levels of South African and Zimbabwean employees

The following section presents a discussion and interpretation of the findings reported in the results chapter.

Measurement reliability and validity

Psychological capital.

The current study conducted a confirmatory factor analysis to determine fit between the proposed model and the data. The findings that the four-factor structure of the PCQ is consistent with findings from Luthans et al. (2007) established the validity of this measure in the local context. To investigate further the structure of the PCQ, an

EFA was conducted. The current study's EFA findings were consistent with the original scale factor structure (Luthans et al., 2007). The current study's EFA findings also supported findings from a South African study on a sample of construction workers (Herbert, 2011). Having validated the scale locally, it can be determined that the conceptualisation of the PCQ scale is universal. However, two South African studies were unable to replicate Luthans et al.'s (2010) findings. In a sample of South African HR Managers, Du Plessis and Barkhuizen (2012) found three factors for PsyCap, while Pillay (2012) found a two-factor structure in a sample of managers and non-managers in a financial services company. The difference in PCQ factor structures found in South African studies indicates that more studies within the local context are necessary in order to determine the factor structure of PCQ within the local context.

Work engagement.

Having subjected the UWES-9 scale to an EFA, the current study was unable to establish the structure obtained in previous studies (Demerouti, Mostert & Bakker, 2010; Herbert, 2011; Schaufeli et al., 2002, Simons & Buitendach, 2013). The scale properties of the UWES-9 were not consistent with studies which validated the three dimension factor structure for the scale. The findings of this current study revealed that work engagement was a uni-dimensional scale. Rothmann (2003) suggested that when measures of work engagement are applied to different cultural groups, issues of measurement bias and equivalence become important. Rothmann (2003) found that, although a three-factor model of work engagement was supported in some studies (Bakker & Demerouti, 2008; Bakker, 2011; Hallberg & Schaufeli, 2006; Leroy et al., 2013), multicultural studies in South Africa yielded different results. Naude (2003) studied the internal consistency, factorial validity, structural equivalence and bias of the UWES in South Africa, and found that the UWES did not show structural equivalence for some language groups. Based on these results, Naude (2003) recommended that the wording of the items in the UWES should be simplified and that the UWES should be translated to the languages that are used in South Africa (Naude, 2003; Rothmann, 2003). An EFA in a study of South African Police Service employees by Storm & Rothmann, (2003) yielded factors that could not be interpreted meaningfully. The findings of their study led them to conclude that a one-factor model

of the UWES was a better fit for their data. It can therefore be suggested that the multicultural context of the current study led to a one-factor model of the UWES being the best fit for the data.

Mindfulness.

The finding of the Mindfulness Attention Awareness Scale as uni-dimensional was consistent with previous studies that validated the scale in the USA (Brown & Ryan, 2003; MacKillop & Anderson, 2007). This finding established the universality of the mindfulness scale in this study's context.

Relationship between variables

Psychological capital and work engagement.

The current study's results found support for the notion that those who possess PsyCap will have higher levels of work engagement. Correlational analysis proved that a positive relationship does exist between the two variables. This result is consistent with the results of previous studies that investigated PsyCap and work engagement (de Waal & Pienaar, 2013; Herbert, 2011; Mills, Fleck, & Kozikowski, 2013; Simons & Buitendach, 2013). Engaged employees use personal resources, such as optimism, self-efficacy and resilience, to assist them in managing and influencing their work environments with more success (Bakker & Demerouti, 2008; Luthans et al., 2008). These researchers concluded that employees who used their personal resources scored highest in engagement, hence the positive relationship between work engagement and PsyCap. They (Bakker & Demerouti, 2008; Luthans et al., 2008) also concluded that optimism, self-efficacy, resilience and hope contribute specifically and significantly to work engagement.

The findings of this study confirmed the predictive ability of PsyCap on work engagement. This result was consistent with the findings of local and international studies (Bakker & Demerouti, 2008; Herbert, 2011; Luthans et al., 2008; Mills, Fleck, & Kozikowski, 2013; Simons & Buitendach, 2013). However, in a study by De Waal & Pienaar (2013), the opposite was found to be true, with work engagement being a predictor of PsyCap. Their findings were consistent with suggestions that work

engagement can facilitate the mobilisation of personal resources, indicating that work engagement facilitates the building of PsyCap. Bakker (2009) suggested that there is a crossover effect between PsyCap and work engagement. He put forward the notion that work-related resources, such as work engagement, affect an individual's life to the point where it has an impact on their personal resources and vice versa (Bakker, 2009; de Waal & Pienaar, 2013). Based on these findings, Bakker (2009) made the assumption that the predictive ability of PsyCap on work engagement is valid, though the predictive ability might be stronger in the direction from work engagement to PsyCap. The current study, however, established work engagement as the dependent variable of this study, and therefore the findings of this study, according to Bakker (2003), are also valid.

The findings of this study, which are consistent with the findings of previous research, indicate the important role that PsyCap plays in enhancing work engagement, which also enhances job satisfaction and employee well-being. The positive relationship between PsyCap and work engagement shows the value of developing personal resources in employees. Confirmation of the predictive ability of PsyCap on work engagement further highlights the benefits to be gained from developing personal resources in employees. Given the research evidence that PsyCap dimensions are malleable (Luthans et al., 2008), organisations are likely to benefit from designing and implementing training programs tailor-made for developing PsyCap in employees to increase their work engagement. Research has shown that individuals who hold positive expectations about the future and high levels of motivation are willing to persevere and exert the necessary effort to accomplish goals, even when problems arise (Luthans et al., 2008; Xanthopoulou et al., 2007). People who have positive expectations and remain confident about the future, as well as those who believe in their abilities to mobilise cognitive resources even in the face of adversity and find courses of action necessary to fulfil goals, are likely to engage in their work (Xanthopoulou et al., 2007).

Psychological capital and mindfulness.

A positive correlation between PsyCap and mindfulness was established in this study. This result was consistent with the findings of Avey et al. (2008), who found that

mindfulness, as a form of heightened awareness and attention, was related to PsyCap. When PsyCap was low, Avey et al. (2008) found that high mindfulness compensated for low PsyCap, and individuals still experienced more positive emotions and better work-related outcomes. This indicates that when PsyCap is low, mindful employees have a greater ability to become consciously aware of negative thought patterns that might be challenging their abilities to make use of personal resources in the workplace (Avey et al., 2008). The results of this study also showed that PsyCap was a predictor of mindfulness. The predictive ability of PsyCap on mindfulness has not been reported in other studies, as no known studies have tested this hypothesis. However, the findings of this study show that the development of personal resources in employees has a positive effect on mindfulness. Improving mindfulness in employees is beneficial for greater attention and awareness when performing work tasks. This heightened awareness and attention results in fewer errors in the workplace and an efficient use of time while in the workplace (Brown & Ryan, 2013). These are all beneficial outcomes that increase individual, and ultimately organisational, productivity (Baer et al., 2012; Dane & Brummel, 2013).

Mindfulness and work engagement.

This study found that mindfulness has a positive relationship with work engagement. This finding indicates that employees become more engaged with their work as they become more mindful. This finding has not been reported in previous studies, as no known studies have investigated the relationship between mindfulness and work engagement. However, inferences can be made based on literature reviews. As individuals become increasingly aware and conscious of pessimistic thinking patterns in the workplace, they can make a conscious effort to engage in more positive thinking in order to engage more with their work. It can be assumed that, since mindfulness accounts for 72% of the variance in work engagement within the sample used in this study, a predictive relationship is also possible. Testing this hypothesis, mindfulness was found to be a predictor of work engagement in the current study. This finding is a unique contribution made by this study. This therefore brings about the notion that activities that increase mindfulness in the workplace are likely to increase levels of work engagement.

In clinical settings, mindfulness practices such as mindfulness-based stress-reduction programs use techniques which include body scan, mindful yoga and meditation to reduce tension and stress (Baer et al., 2012). Contemporary writings in the Buddhist meditation tradition state that regular practice of mindfulness should cultivate the ability to respond mindfully to the experiences of daily life (Carmody & Baer, 2008). The positive relationship established between mindfulness and work engagement in this study indicates that there are benefits to be gained from implementing mindfulness-based practices in the workplace. Through increasing awareness and attention, employees will be better equipped to cope with daily experiences and be able to exert effort and resources towards work engagement.

Psychological capital, mindfulness and work engagement.

To investigate the mediating effect of mindfulness on the relationship between PsyCap and work engagement, a hierarchical multiple regression was conducted. The results showed that mindfulness partially mediated the relationship between PsyCap and work engagement. This is also a new contribution that this study brings to research on the PsyCap-work engagement relationship. The findings of this research indicate that psychological capital and mindfulness together make a difference in the level of work engagement among employees. The combination of PsyCap and mindfulness accounts for more variance in work engagement than the two variables separately. Organisations can derive value from implementing strategies that promote either PsyCap or mindfulness in the workplace. However, they are likely to derive greater value if they implement programs that bring about improvements in both psychological capital and mindfulness. Promoting both personal resources and a heightened sense of awareness and attention is likely to result in increased employee work engagement. As employees become aware of their thinking patterns and current cognitive states, they are more able to actively engage personal resources in order to perform better in the workplace and improve work engagement.

Theoretical contributions

The current study makes a contribution to the literature on positive organisational behaviour constructs. The results of this study provide confirmation of

the relationship between PsyCap and work engagement within the South African and Zimbabwean context. The fact that PsyCap yielded a four-factor structure indicates that the measure is valid within the local context. However, the difference in findings in the studies that have investigated PsyCap within the South African context shows that the structure of PCQ within the local context has not been concretely established (Du Plessis & Barkhuizen, 2012; Herbert, 2011; Pillay, 2012). PsyCap has not been investigated in the Zimbabwean context. However, the results of this study seem to suggest that the PCQ can be applied to other African contexts beyond South Africa to measure PsyCap. The positive findings of this study suggest that there is need to investigate the construct further with a larger sample of employees from Zimbabwe and other regional countries, in order to validate the use of the construct within the Sub-Saharan context.

The UWES-9 which was used to measure work engagement in this study revealed that the construct was one-dimensional as opposed to three-dimensional. This finding was different to the multiple studies that found work engagement to be a three-dimensional construct (Bakker & Schaufeli, 2008; Demerouti et al., 2010; Herbert, 2011; Rothmann, Jorgensen, & Hill, 2011). This difference in the factor structure of the UWES, depending on the context of the study, provides support for the continued need to validate scales in multicultural contexts. This will add to the theory on cross-cultural test validation, and also add to knowledge on the UWES in different contexts.

Mindfulness is a construct that has mainly been applied in clinical settings. The findings of this study add to the growing body of knowledge on the construct and suggest that there are benefits from its application to the work context. Its mediating effect on the relationship between PsyCap and work engagement suggests that mindfulness is a construct that can be included in POB construct research, as mindfulness seems to enhance factors that contribute to positive organisational behaviour. Outcomes that are consistent with the objectives of OHP and POB of promoting health and well-being have been derived from the application of mindfulness in non-work settings. In the clinical field, mindfulness has been found to reduce stress and enhance the ability to cope with chronic illnesses (Brown & Ryan, 2003; Chiesa, 2012; Dane & Brummel, 2013). Similar positive benefits can be derived

from applying mindfulness to work situations. The results of this study, indicating that mindfulness is a positive construct that seeks to promote the well-being of individuals, shows the importance of continued research into the positive benefits of mindfulness in POB discourse.

Practical implications

Findings from this study provide an understanding of the factors that influence employee work engagement. The knowledge generated is based on a sample of South African and Zimbabwean employees, providing suggestions on ways in which to enhance work engagement in these employees. As both PsyCap and mindfulness contribute to work engagement, results highlight the importance for organisations to promote mindfulness-building activities and consider the development of PsyCap as a personal resource. Interventions aimed at improving personal resources in employees involve training programs that focus on helping employees become successful in executing work tasks through (a) teaching trainees thinking skills and reasoning strategies; (b) teaching trainees to identify self-defeating thinking patterns and replacing them with constructive beliefs; (c) helping trainees use a stepping method to break down and clarify goals; and (d) teaching trainees how to avoid negative thoughts and remain calm and focused in stressful environments (Youssef & Luthans, 2007; Luthans et al., 2004). Most common PsyCap interventions involve training activities that take place outside the workplace and require employees to take time off work (Luthans & Church, 2002; Luthans et al., 2004; Peterson, 2000; Snyder et al., 1994; Youssef & Luthans, 2007). However, the benefits to be gained from allowing employees to attend training programs will provide organisations with long-term benefits compared to the possible short-term loss in productivity while employees attend training programs (Luthans & Church, 2002).

According to previous studies (Brown & Ryan, 2003; Dane and Brummel, 2013), mindfulness-based stress reduction (MBSR) programs will enable individuals to focus on work tasks and therefore improve performance. MBSR programs focus on teaching trainees how to do a body scan, which is a process of becoming aware of one's current physical state (Brown & Ryan, 2003). MBSR programs also teach

meditation techniques such as yoga. All MBSR program activities are designed to enhance one's ability to become attentive and aware in the present moment. Studies have shown that individuals who practice mindfulness-based activities for at least 30 minutes a day are more attentive in their day-to-day activities and experience less stress and anxiety (Brown & Ryan, 2003). In the workplace, regular activities to improve mindfulness can include yoga and meditation. Such programs can be offered before or after working hours or during lunch hour, so that employees can have access to these programs without disrupting their work schedules. It has been found that employees who make use of mindfulness-based practices begin to identify the benefits and usually promote the programs to other employees within an organisation (Abdool Karrim Ismail, Coetzee, du Toit, Rudolph, & Joubert, 2013; Elliot, 2011; Leroy et al., 2013). It is therefore recommended that organisations implement regular mindfulness-based practices in the workplace for the improved wellbeing of employees and to improve employee work engagement and, ultimately, workplace productivity.

Limitations of this study

This study identified some limitations that are discussed below.

The cross-sectional design adopted in this study does not allow causality between variables to be determined. Further studies would benefit from longitudinal studies in order to study the variables over a long period of time, to be able to make inferences about cause and effect. In addition, the sampling technique used in this study means that the findings of this study cannot be generalised to the population group. The results are based on a sample that was not obtained through a random sampling method. The sample therefore is not representative of the entire population of employees in South Africa or Zimbabwe. Stratified random sampling could be used as a sampling method in future studies to obtain a sample that is representative of the population.

The self-report method of data collection is criticized for various reasons, though it is widely used in social science research. Self-report measures are prone to social desirability bias. This happens when respondents over-report admirable traits

and under-report socially unacceptable attitudes and behaviours in an attempt to create a more favourable impression of themselves (Avey et al., 2008; Luthans & Church, 2002; Salanova, Lorente, Chambel, & Martínez, 2011). A social desirability measure should be included in future studies.

All data from the measures used in this study originated from the same source, resulting in possible contamination from common method variance (Vakola & Nikolaou, 2005). The same participants completed all the measures using the same online questionnaire. The correlations between the variables may be artificially inflated, as respondents might have applied the same biases to all measures (Burns & Burns, 2008).

The use of the UWES-9 to measure work engagement meant that the factor structure of the scale using confirmatory factor analysis could not be conducted. There were three items in each work engagement subscale. Muliak & Millsap, (2000) suggest that a minimum of four items per construct is required in order to conduct structural equations modelling research, since fewer items per subscale increase the likelihood of estimation problems. Future studies would benefit from making use of the UWES-17, as there would be enough scale items to run a CFA.

Recommendations for future research

This study reported findings that were unique to the given contexts and therefore require further recommendations which shall be discussed below.

South African studies that have used PsyCap as a measure have found inconsistent results concerning the structure of PsyCap. Work engagement has also shown different structural results in various South African studies. Hence, future research should focus on examining the psychometric properties of the PCQ and UWES measurement models in South Africa. The interaction between PsyCap, work engagement and mindfulness should also be investigated to explore why PsyCap presented a 2-factor structure when entered into an EFA together with work engagement and mindfulness.

The fact that the study was conducted in 2 countries represents a unique study that has drawn on 2 samples establishing differences. The findings of this study showed that there were differences in levels of PsyCap between South African and Zimbabwean employees. This was a unique finding of this study that should be investigated further. Future research can focus on investigating the difference in PsyCap levels between employees from multiple countries in the region to determine the universality of the scale used.

It is recommended that future studies could focus on validating the measures used in this study in a multi-country context. The measures in this study were also administered to Zimbabwean participants, where none of the measures have been validated for use in that context. Validation of these measures across other multi-cultural contexts could help establish the viability of using American and European measures in multi-cultural contexts such as Sub-Saharan Africa. Further statistical analysis is also required in order to establish discriminant validity between the measures of interest, as the SEM model did not converge in this study.

Conclusion

The aim of this study was to empirically examine the relationships between PsyCap, mindfulness and work engagement. The results of this study provide evidence that increased PsyCap and increased mindfulness are associated with increased work engagement. Literature suggests that work engagement is an antecedent of job performance and job satisfaction. The benefits of increased PsyCap and mindfulness, and as a result, increased work engagement, have been highlighted in the discussion section of this study. The main contribution of this study adds to the literature on mindfulness in the work context and its potential towards promoting work engagement in employees. The results of this study also provide a view of the contribution that personal resources (PsyCap) as well as psychological states (mindfulness) can make on increased work engagement. Research findings from this study also raise issues around validation of measures in multi-cultural contexts. This is an important area of research that should be carried forward in future studies to

improve the use of measurements. It is hoped that future studies will consider the current study's limitations as a foundation for further research. It is also hoped that organisations looking to improve work engagement among their employees will take into account the findings of this study and attempt to address issues of work engagement through developing personal resources in their employees and providing activities that improve attention and awareness.

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Appendices

Appendix A

Ethical Clearance letter

UNIVERSITY OF CAPE TOWN



Faculty of Commerce
Ethics in Research Committee

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June 24, 2014

Kudzai Tabaziba
Management Studies

Project title:

The relationship between psychological capital, work engagement and the mediating effect of mindfulness

Dear Researcher,

This letter serves to confirm that this project as described in your submitted protocol has been approved.

Please note that if you make any substantial change in your research procedure that could affect the experiences of the participants, you must submit a revised protocol to the Committee for approval.

Regards,

Harold Kincaid

Professor Harold Kincaid
Commerce Faculty Ethics in Research Committee

Appendix B

Cover letter

Dear respondent,

ORGANISATIONAL PSYCHOLOGY 2014 MASTERS PROGRAMME RESEARCH PROJECT

You are invited to participate in the Organisational Psychology Masters research project. This research focuses on factors that contribute to increased work engagement.

A short questionnaire consisting of 53 items that ask you a variety of questions constitutes the contents of this questionnaire. You are kindly requested to complete this questionnaire if you choose to, which should take you about 10 minutes. Your participation in this research is voluntary and there is no penalty if you do not participate. The anonymity of your responses is guaranteed. You are also not required to disclose your name anywhere on the questionnaire. You are free to withdraw from the study at any time. Clearance to administer the survey from the Ethics Committee of UCT's Faculty of Commerce has been obtained.

Should you require any information or if you have any questions regarding the questionnaire or the study, please contact Dr. Chao Mulenga at chao.mulenga@uct.ac.za

Thank you in advance for your participation and cooperation.

The survey closes at 18:00 on 18 August 2014.

Appendix C

Distributed questionnaire

Psychological Capital

Below are statements about you with which you may agree or disagree. Use the following scales to indicate your level of agreement or disagreement.

1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree,
5 = agree, 6 = strongly agree

1	I feel confident analysing a long-term problem to find a solution.	1	2	3	4	5	6
2	I feel confident in representing my work area in meetings with management.	1	2	3	4	5	6
3	I feel confident contributing to discussions about the company's strategy	1	2	3	4	5	6
4	I feel confident helping to set targets/goals in my work area.	1	2	3	4	5	6
5	I feel confident contacting people outside the company (e.g., suppliers, customers) to discuss problems.	1	2	3	4	5	6
6	I feel confident presenting information to a group of colleagues.	1	2	3	4	5	6
7	If I should find myself in a jam at work, I could think of many ways to get out of it.	1	2	3	4	5	6
8	At the present time, I am energetically pursuing my work goals.	1	2	3	4	5	6
9	There are lots of ways around any problem	1	2	3	4	5	6
10	Right now I see myself as being pretty successful at work.	1	2	3	4	5	6
11	I can think of many ways to reach my current work goals.	1	2	3	4	5	6
12	At this time, I am meeting the work goals that I have set for myself.	1	2	3	4	5	6
13	When I have a setback at work, I have trouble recovering from it and moving on. *	1	2	3	4	5	6
14	I usually manage difficulties one way or another at work.	1	2	3	4	5	6
15	I can be "on my own" so to speak at work if I have to.	1	2	3	4	5	6
16	I usually take stressful things at work in stride.	1	2	3	4	5	6
17	I can get through difficult times at work because I've experienced difficulty before.	1	2	3	4	5	6
18	I feel I can handle many things at a time at this job.	1	2	3	4	5	6
19	When things are uncertain for me at work I usually expect the best.	1	2	3	4	5	6
20	If something can go wrong for me work-wise it will. *	1	2	3	4	5	6
21	I always look on the bright side of things regarding my job.	1	2	3	4	5	6
22	I'm optimistic about what will happen to me in the future as it pertains to work.	1	2	3	4	5	6
23	In this job, things never work out the way I want them to. *	1	2	3	4	5	6
24	I approach this job as if "every cloud has a silver lining".	1	2	3	4	5	6

Work engagement

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. Use the following scale to indicate your responses:

1=never; 2=almost never (a few times a year or less); 3=rarely (once a month or less); 4=sometimes (a few times a month); 5=often (once a week); 6= very often (a few times a week); 7=always (every day).

25	At my work, I feel bursting with energy	1	2	3	4	5	6	7
26	At my job, I feel strong and vigorous	1	2	3	4	5	6	7
27	I am enthusiastic about my job	1	2	3	4	5	6	7
28	My job inspires me	1	2	3	4	5	6	7
29	When I get up in the morning, I feel like going to work	1	2	3	4	5	6	7
30	I feel happy when I am working intensely	1	2	3	4	5	6	7
31	I am proud of the work that I do	1	2	3	4	5	6	7
32	I am immersed in my job	1	2	3	4	5	6	7
33	I get carried away when I am working	1	2	3	4	5	6	7

Mindfulness

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1=almost always; 2=very frequently; 3=somewhat frequently; 4= somewhat infrequently; 5= very infrequently; 6= almost never

34	I could be experiencing some emotion and not be conscious of it until sometime later	1	2	3	4	5	6
35	I break or spill things because of carelessness, not paying attention, or thinking of something else.	1	2	3	4	5	6
36	I find it difficult to stay focused on what's happening in the present	1	2	3	4	5	6
37	I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.	1	2	3	4	5	6
38	I tend not to notice feelings of physical tension or discomfort until they really grab my attention.	1	2	3	4	5	6
39	I forget a person's name almost as soon as I've been told it for the first time.	1	2	3	4	5	6
40	It seems I am "running on automatic," without much awareness of what I'm doing.	1	2	3	4	5	6
41	I rush through activities without being really attentive to them.	1	2	3	4	5	6
42	I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.	1	2	3	4	5	6
43	I do jobs or tasks automatically, without being aware of what I'm doing	1	2	3	4	5	6
44	I find myself listening to someone with one ear, doing something else at the same time.	1	2	3	4	5	6
45	I drive places on 'automatic pilot' and then wonder why I went there	1	2	3	4	5	6
46	I find myself preoccupied with the future or the past.	1	2	3	4	5	6
47	I find myself doing things without paying attention.	1	2	3	4	5	6
48	I snack without being aware that I'm eating.	1	2	3	4	5	6

Demographics

49. What is your age?

50. What is your race?

 White Black Coloured Asian Indian Prefer not to answer

51. What is your gender?

 Male Female Other Prefer not to answer

52. How long have you been working in the organisation

53. What is your nationality?

 South African Zimbabwean

Appendix D

Tables

Table 8

Factor Matrix of Measurement Scale Factor Structures

Rotated Factor Matrix				
	Factor			
	1	2	3	4
M14	.839	.165		
M7	.776			.129
M8	.774	.144	.247	
M10	.710		.125	
M9	.622	.137	.211	
M11	.608			.106
M4	.606	.140		.151
M13	.601	.187		.117
M12	.585	.191	.191	
M15	.564	.125	.112	.140
WE_D2	.156	.798	.170	
WE_V3	.165	.797		.167
WE_D1	.178	.788	.104	.218
WE_D3	.198	.744	.165	.163
WE_A2	.176	.695	.150	
WE_V1	.296	.686	.135	.214
PCQ_R5		.135	.705	
PCQ_R6		.143	.687	.198
PCQ_R2	.124		.654	.105
PCQ_R4	.131		.621	
PCQ_R3		.105	.498	
PCQ_H3		.139	.334	.279
PCQ_SE2	.138	.129	.116	.761
PCQ_SE3	.172	.113	.120	.724
PCQ_SE4	.132	.203	.143	.602
PCQ_SE5		.139		.592
PCQ_SE1	.121		.203	.416

Extraction Method: Principal Axis Factoring.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table 9

Pattern Matrix of the PCQ Scale Structure

	Factor			
	1	2	3	4
PCQ_H2	.720	.070	.001	-.053
PCQ_H4	.697	-.037	-.044	.139
PCQ_H6	.569	.073	.044	.101
PCQ_H5	.530	.102	.099	.058
PCQ_H3	.359	.156	.132	.023
PCQ_R4	-.145	.754	-.052	.062
PCQ_R5	.067	.720	-.031	-.027
PCQ_R6	.153	.625	.013	.053
PCQ_R2	.043	.593	.118	-.019
PCQ_R3	.089	.449	.023	-.022
PCQ_O3	.113	-.099	.767	.044
PCQ_O1	-.115	.041	.586	.261
PCQ_O4	.297	.138	.518	-.039
PCQ_O6	-.009	.070	.492	-.076
PCQ_SE2	.162	-.024	.027	.734
PCQ_SE5	.021	.069	-.152	.690
PCQ_SE3	.158	-.012	.095	.608
PCQ_SE6	-.110	.049	.159	.491
PCQ_SE4	.333	-.024	.027	.456

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.^a

a. Rotation converged in 13 iterations.