

Psychological capital, work engagement and individual work performance amongst nursing staff

A de Coning

 **orcid.org 0000-0002-2204-9855**

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Supervisor: Prof E Botha

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Student number: 22196587

**I dedicate this degree to my family.
Without your love and support, this would not have been possible.
To my husband, happy anniversary.**

COMMENTS

The reader is reminded of the following:

- The editorial style of the chapters outlined in this mini-dissertation adhere to the format as prescribed by the Master's in Industrial Psychology programme of the North-West University (Vaal Triangle Campus).
- The referencing style in this mini-dissertation follows the format prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA). This format is approved by and according to the policy of the Master's programme in Industrial Psychology at the North-West University (Vaal Triangle Campus) where the use of the APA referencing style is common practice in scientific research.
- The mini-dissertation follows the format of a research article as per the editorial style specified by the *South African Journal of Industrial Psychology*, particularly in the second chapter.

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DECLARATION

I, Abigail de Coning, hereby declare that “Psychological capital, work engagement and individual work performance amongst nursing staff” is my own work and that the view and opinions expressed in this mini-dissertation are my own and those of the authors as referenced both in-text and in the reference lists.

I further declare that this work will not be submitted to any other academic institution for qualification purposes.

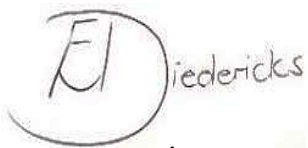
A handwritten signature in black ink, appearing to read 'Abigail de Coning', with a stylized, circular flourish at the end.

ABIGAIL DE CONING

NOVEMBER 2019

DECLARATION OF LANGUAGE EDITING

I hereby declare that I was responsible for the language editing of the mini-dissertation **Psychological capital, work engagement and individual work performance amongst nursing staff** submitted by **Abigail de Coning**.

A handwritten signature in black ink. The first part of the signature is a stylized monogram consisting of a large 'D' with 'E' and 'I' inside it. To the right of this monogram, the name 'Diedericks' is written in a cursive script.

DR ELSABÉ DIEDERICKS

BA Hons HED Hons MA PhD

NOVEMBER 2019

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SUMMARY

Title

Psychological capital, work engagement and individual work performance among nurses.

Keywords

Psychological capital, work engagement, individual work performance, mediation, public healthcare sector, nurses.

The nursing profession functions within the healthcare sector and focuses mainly on the promotion and maintenance of the health of individuals within the community. Compared to other healthcare practitioners, nurses spend the majority of their time with patients and have an impact on their recovery through the quality care that they provide. Facing numerous adversities in an under-resourced public healthcare sector has an adverse effect on the quality care provided to patients. Research has found that psychological capital (as a personal resource) has a positive impact on both work engagement and performance and should be investigated within the public healthcare sector.

The aim of the current study was to investigate the relationships that exist between psychological capital, work engagement and individual work performance amongst nurses in the Sedibeng public healthcare sector, including whether work engagement mediated the relationship between psychological capital and individual work performance. The study followed a quantitative, cross-sectional approach with a non-probability convenient sample ($n = 212$). The measuring instruments that were utilised are the Psychological Capital Questionnaire (PCQ-24), the Work Engagement Scale (WES) and three-factor Individual Work Performance Questionnaire (IWPQ). Correlations were used to determine the relationships between the constructs; confirmatory factor analysis (CFA) was used to assess the structure of the latent variables; and regression analysis was used to evaluate the structured model against the hypotheses.

The results of the study confirmed that there are positive relationships between the constructs. The relationships between psychological capital and work engagement, and work engagement and individual work performance, were practically and statistically significant; however, the relationship between psychological capital and individual work performance was statistically, but not practically significant. Work engagement was confirmed to have an indirect effect on the relationship between psychological capital and individual work performance.

The findings suggest that managers and human resource professionals within the healthcare sector should consider incorporating interventions focused on the development of nurses' levels of psychological capital, and increasing their levels of work engagement in order to improve their performance. These elements should aid in the improvement of organisational outcomes.

CHAPTER 1

INTRODUCTION

This mini-dissertation investigates the relationships between psychological capital, work engagement, and individual work performance amongst nursing staff in the Sedibeng public healthcare sector.

In this chapter, the problem statement will be presented, including a literature review outlining information regarding research conducted on psychological capital, work engagement, and individual work performance. The research questions, research objectives and research hypotheses will be provided, followed by a discussion relating to the research methodology. Lastly, an outline regarding the chapter division will be provided.

1.1 PROBLEM STATEMENT

DeLucia, Ott, and Palmieri (2009) noted that patient outcomes are largely affected by the quality of care provided by nurses. With the extensive amount of time that nurses spend with patients, compared to other healthcare providers, it is clear that in order to improve patient outcomes, improved nursing performance is essential. However, according to Carayon and Gurses (2008), nurses in the American healthcare system are experiencing substantial workloads due to an increased demand for nurses, inadequate supply of nurses, reduced staffing and increased overtime, and reduction in patient length of stay; subsequently adversely affecting patient outcomes.

The quality of healthcare is determined by considering various aspects, including mortality rates, the availability of healthcare for the population, and the cost of healthcare per capita, to name but a few. The quality of South Africa's healthcare ranked 119 out of 195 countries worldwide (Businessstech, 2017). According to the Rapid Mortality Surveillance Report 2017, progress has been made in life expectancy rates and there is a decline in mortality rates; however, the report was based on information gathered after the correction of the incompleteness of death and birth registrations (Dorrington, Bradshaw, Laubscher, & Nannan, 2019). Although South Africa continues to make progress by means of extending life expectancy and reducing mortality rates (Dorrington et al., 2019), further work is needed to improve quality healthcare. In the South African healthcare system, the Department of Health has a responsibility towards improving the health status of all South Africans through increasing life expectancy, decreasing maternal and child mortality, decreasing the burden of disease, and improving the effectiveness of healthcare system, particularly in the public

sector (Department of Health, 2016). However, South Africa is challenged by substantial skills shortages in a particularly under-resourced healthcare sector (Cullinan, 2015); challenges pertaining to the transformation of the healthcare delivery system, and a high demand for quality healthcare services in the public sector (Pillay, 2009). With South Africa's burden of disease estimated to be quadruple in comparison to developed countries (Department of Health, 2011a) and an increased workload as a result of the shortage of qualified nurses (Shihundla, Lebeso, & Maputle, 2016), it is clear that the lack of quality service provided in public healthcare facilities is a particular concern. Geyer (2016) further raises the concern regarding the urgency to increase the production of nurses by referring to the changes in South African legislation and policies in terms of addressing the burden of disease. These legislations and policies place a larger demand on nurses, alongside the Human Resources for Health (HRH) strategy which focuses on the development of new competencies required by nurses to address these demands.

Nurses experiencing high levels of work overload and job exhaustion could contribute to the current challenges regarding quality care, whereby nurses are experiencing burnout that could have an adverse effect relating to quality care provided to patients (Besevic-Comic, Bosankic, & Draganovic, 2014). Williams and Smith (2013) conducted a study which confirmed that nurses experience higher stress levels compared to the general population, with higher demands and higher levels of extrinsic effort. Due to high levels of demands placed on nurses in an under-resourced public healthcare sector (Cullinan, 2015), an alternative resource is required to assist nurses in improving their wellbeing and performance.

The needs-satisfying approach (Kahn, 1990) assumes that three psychological conditions are required for an individual to become engaged: meaningfulness (sense of return on investment in terms of role performance), safety (sense of ability of employing one's self without fear of negative consequences), and availability (sense of availability of physical, emotional and psychological resources to engage in role performances). Peng et al. (2013) stated that nurses exhibited positive work attitudes, because they were hopeful, optimistic, resilient and exhibited high levels of self-efficacy; elements that are consistent with the dimensions of psychological capital. Luthans, Avolio, Avey, and Norman (2007) defined psychological capital as "the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement" (p. 220). Psychological capital comprises four dimensions pertaining to individual behaviour: self-efficacy (confidently undertaking challenging tasks), hope (perseverance towards attaining goals), optimism (positive attribution

towards success) and resilience (adversity to accomplish success) (Shelton & Renard, 2015). Sweetman and Luthans (2010) suggested that psychological capital, which Van Bogaert and Franck (2013) regard as a personal resource, promotes an individual's intrinsic motivation and could be a contributing factor that may influence work engagement.

According to Kahn (1990), work engagement is defined as “the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (p. 694). Research has indicated that regardless of the demanding work environment and profession, some nursing staff thrive and even experience work engagement (Herholdt, 2015). According to Bargagliotti (2012), engaged nurses provide better quality care to patients, exhibit higher levels of personal initiative, reduce mortality rates, and enhance the profitability of organisations. De Waal and Pienaar (2013) stated that personal resources may facilitate work engagement; whereas work engagement, in turn, affects employee performance (Anitha, 2014).

Performance improvement has been the topic of discussion for some time, especially with regards to the nursing profession. Nursing performance focuses on the effectiveness of nursing staff and the accomplishment of tasks and responsibilities aimed at patient care (Al-Makhaita, Ahmed Sabra, & Hafez, 2014). Koopmans et al. (2011) identified a conceptual framework regarding individual work performance, which is generally defined as behaviours or actions that employees exhibit in accordance with, and supporting the goals of the organisation. Individual work performance comprises of four dimensions, including task performance (proficiency regarding performing central tasks), contextual performance (behaviours supporting the organisational, social and psychological work environment), counterproductive behaviour (harmful behaviour towards the well-being of the organisation), and adaptive behaviour (proficiency in adapting to changes) (Koopmans, Bernaards, Hildebrandt, De Vet, & Van der Beek, 2014).

Research has demonstrated that psychological capital has a positive effect on individuals' work performance (Luthans, Avolio, Avey, & Norman, 2007; Walumbwa, Peterson, Avolio, & Hartnell, 2010); whereas Chen (2015) proposed that an individual's psychological capital influences his or her work performance through his or her level of work engagement. However, no studies have been found regarding psychological capital, work engagement, and individual work performance amongst nurses, specifically in the South African context.

The objective of the study will focus on investigating the relationships between psychological capital, work engagement and individual work performance amongst nurses in the Sedibeng public healthcare sector. The study will also aim to establish whether work engagement indirectly affects the relationship between psychological capital and individual work performance in this context.

1.2 LITERATURE REVIEW

Positive psychology has made its way to the world of industrial organisational psychology through positive organisational behaviour. Positive psychology refers to the study and application of strengths and psychological capabilities of human capital of a positive nature. These strengths and capabilities play an important role in the improvement of performance, if measured, developed and managed effectively (Luthans, 2002). The optimisation of human capital provides an organisation with a competitive advantage (Luthans, Avey, Avolio, & Peterson, 2010). Attaining a sustainable competitive advantage is crucial for all organisations in order to be successful. However, organisations have been focusing on traditional resources, including financial and economic capital; whereas organisations should shift their focus to more dynamic resources, such as personal resources (Luthans, Youssef-Morgan, & Avolio, 2015).

Psychological Capital

Research has determined that positive psychological constructs may include concepts such as self-efficacy, optimism, hope and resilience (Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007). These concepts represent psychological capital, which is derived from the positive psychology movement and positive organisational behaviour (Luthans, Youssef, & Avolio, 2007). Psychological capital refers to the positive psychological state of an individual (Luthans & Avolio, 2014), which has the potential to be developed through training as well as intentional practice (Newman, Ucbasaran, Zhu, & Hirst, 2014). Psychological capital is characterised by four dimensions (Luthans, Luthans, & Luthans, 2004; Luthans & Youssef, 2004; Luthans, Youssef, & Avolio, 2007): *self-efficacy* (achievement of high levels of performance through the confident utilisation of individual motivation, cognitive resources, and course of action), *optimism* (positive attribution to pursuing goals and managing challenging situations), *hope* (perseverance towards goals, but when the need arises, the pathways to goals are redirected), and *resilience* (positive coping and adapting to situations; the ability to bounce back from adverse situations). The utilisation of each dimension enables individuals to exert more energy and effort, resulting in improved performance over a longer period (Avey, Reichard, Luthans, & Mhatre, 2011).

The dimensions of psychological capital assist employees in improving their levels of engagement, through mobilising personal resources and the experience of positive attitudes towards their abilities (Sweetman & Luthans, 2010). The conservation of resources (COR) theory supports this proposition in that psychological capital enables employees to accumulate valuable resources that are regarded as necessary for engagement (Hobfoll & Shirom, 2001). Studies have shown that work engagement is enhanced through the contributing dimension of resilience (Luthans, Avolio, Walumbwa, & Li, 2005); employees with high levels of self-efficacy have indicated higher levels of work engagement (Schaufeli & Salanova, 2007). Chen (2015) argues that individuals with high levels of psychological capital tend to be more resourceful and motivated due to their beliefs in their capabilities, resilience and optimism, enabling them to focus on their task-related activities.

Work Engagement

Work engagement has been conceptualised in various ways throughout literature. Maslach, Jackson, and Leiter (1997) conceptualised engagement as the direct opposite of burnout (exhaustion, cynicism and inefficacy), which existed on a continuum. Lower scores indicated engagement, whereas higher scores indicated burnout. Harter, Schmidt, and Hayes (2002) defined employee engagement as an “individual’s involvement and satisfaction as well as enthusiasm at work” (p. 269). Rothmann (2014) mentioned that the frameworks of Kahn (1990), and Schaufeli, Salanova, González-Romá, and Bakker (2002), conceptualising work engagement, have been utilised in research in numerous countries. Studies have also concluded that work engagement is positively related to performance (Bakker & Bal, 2010; Bargagliotti, 2012).

Furthermore, Maslach, Schaufeli, and Leiter (2001) stated that traditionally psychology focused on the negative psychological states of burnout. With the positive psychology movement, the focus shifted towards the positive states of work engagement. Maslach and Leiter (1997) characterised engagement by energy, involvement, and efficacy, which were characteristics opposite to the three dimensions of burnout (exhaustion, cynicism, and ineffectiveness). With engagement being established from constructs in organisational psychology (organisational commitment, job satisfaction, or job involvement), it provides a comprehensive perspective of the relationship between the individual and his or her work. Work engagement is thus defined as a positive and fulfilling work-related state of mind which is characterised by *vigour* (high levels of energy, willingness in investing effort, and persistence through challenging situations), *dedication* (intense involvement and sense of enthusiasm, significance, challenge and pride at work), and *absorption*

(intensely focused and immersed in one's work) (Schaufeli, Bakker, & Salanova, 2006; Schaufeli et al., 2002; Storm & Rothmann, 2003).

Kahn (1990) introduced the concept of personal engagement which refers to employees engaging themselves physically, cognitively, and emotionally within their work roles. According to the needs-satisfying approach, three psychological conditions have been noted to have an impact on an individual's engagement, which include Kahn's (1990) *psychological meaningfulness* (the feeling of return of investment on a personal level, relating to physical, cognitive or emotional energy), *psychological safety* (the feeling of the ability to express one's self without the fear of consequences to one's self-image, status, or career), and *psychological availability* (sense of possessing the physical, emotional or psychological resources to engage in activities). Work engagement comprises three dimensions, namely *physical engagement* (physical involvement, exhibiting vitality, and a positive affective state), *cognitive engagement* (alertness, absorption and involvement), and *emotional engagement* (connectedness with job/others, dedication and commitment) (Kahn, 1990; May, Gilson, & Harter, 2004).

Rothmann (2014) discussed employee engagement in a cultural context and referred to a study by Storm and Rothmann (2003) that investigated the psychometric properties of the Utrecht Work Engagement Scale (UWES), which measures work engagement (Schaufeli et al., 2002), for police members in South Africa. This study had confirmed the three dimensions of work engagement (vigour, dedication and absorption) for the different cultural groups. However, another South African study by Naudé and Rothmann (2004) yielded contradictory results for the different cultural groups, concluding that some items of the UWES were regarded as problematic, and resulted in undesirable construct equivalence. The difficulties regarding the UWES could be attributed to the utilisation of metaphors, which could be interpreted differently in different cultures. Van Zyl, Deacon, and Rothmann (2010) referred to a complication with the UWES where at least one item (e.g., "I find the work I do full of meaning and purpose") measured the psychological condition of meaningfulness. This item could contribute to work engagement, rather than the construct itself (Kahn, 1990; May et al., 2004).

Individual Work Performance

Numerous studies regarding individual work performance have been conducted in different subject fields (such as management, occupational health, and industrial psychology), which conceptualise and operationalise the concept differently (Koopmans et al., 2011). Campbell (1990) defined work

performance as behaviours or actions that individuals exhibit within the work context, which are regarded as relevant to the goals of the organisation. Whereas the above definition focuses on behaviour rather than actions. Viswesvaran and Ones (2000) defined work performance in terms of outcomes, stating that work performance refers to actions and behaviours that individuals engage in and exhibit. It includes outcomes that individuals generate that contribute to organisational goals. Compared to performance, productivity is defined in terms of results (input versus output), rather than behaviours (Kemppilä & Lönnqvist, 2003). Parker and Turner (2002) define individual work performance as behaviours that employees exhibit with the purpose of attaining organisational goals; these behaviours contribute to performance outcomes. Although identified as a multi-faceted concept, contextual performance and task performance have been distinguished as the two broad concepts of individual work performance.

Koopmans et al. (2011) proposed a comprehensive conceptual framework for individual work performance. Through a systematic review, *task performance* (proficiency with which an individual performs work-related tasks), *contextual performance* (individual behaviours exhibiting supporting core functions in the organisational, social and psychological environment), *counterproductive work behaviour* (behaviour that may cause harm to the well-being of the organisation), and *adaptive behaviour* (that an individual exhibits towards changes at work) have been identified as the dimensions that constitute individual work performance (Koopmans et al., 2011). In developing the individual work performance questionnaire, Koopmans et al. (2013) originally considered the four-dimensional conceptual framework. However, the study identified individual work performance rather as a three-dimensional conceptual framework with adaptive performance deemed as an aspect of contextual performance.

A lack of information exists in terms of psychological capital, work engagement, and individual work performance amongst nurses, specifically in the South African context. Figure 1 below illustrates the conceptual model for the study.

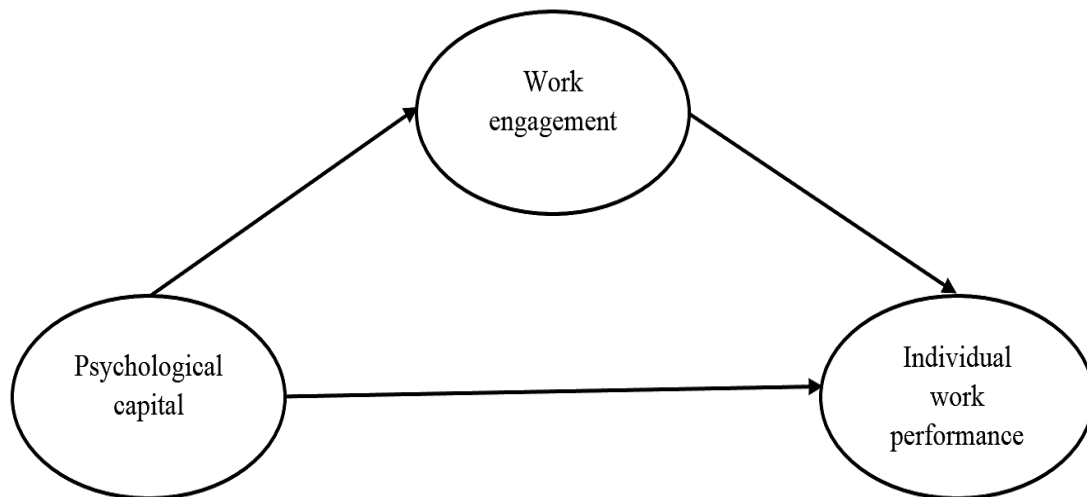


Figure 1. Conceptualised model of the relationships between psychological capital, work engagement and individual work performance.

1.3 RESEARCH QUESTIONS

The following research questions were derived from the problem statement:

- How are psychological capital, work engagement, individual work performance and the relationships between these constructs conceptualised in literature?
- What is the relationship between psychological capital, work engagement and individual work performance in the public healthcare sector in the Sedibeng district?
- Does work engagement indirectly affect the relationship between psychological capital and individual work performance?

In order to answer the above-mentioned research questions, the following research objectives have been outlined.

1.4 RESEARCH OBJECTIVES

1.4.1 General Objective

The general objective of this study was to investigate the relationships between psychological capital, work engagement, and individual work performance amongst nursing staff in the Sedibeng public healthcare sector.

1.4.2 Specific Objectives

The specific objectives of this study were to:

- Conceptualise psychological capital, work engagement, individual work performance, and the relationships between these constructs from literature;
- Determine the relationship between psychological capital, work engagement and individual work performance amongst nurses in the public healthcare sector in the Sedibeng district; and
- Investigate whether work engagement indirectly affects the relationship between psychological capital and individual work performance.

1.5 RESEARCH HYPOTHESES

The research hypotheses of the study were as follows:

Hypothesis 1: There is a positive relationship between psychological capital, work engagement and individual work performance amongst nurses in the public healthcare sector in the Sedibeng district.

Hypothesis 2: Work engagement indirectly affects the relationship between psychological capital and individual work performance.

1.6 RESEARCH DESIGN

1.6.1 Research Approach

This study followed a quantitative research method, which enabled the researcher to measure the relationship between the variables outlined in the study, by collecting numerical data through the use of questionnaires. A cross-sectional approach was utilised, as the data was collected from the population at a specific point in time. This approach accommodated a larger number of respondents (De Vos, Delport, Fouché, & Strydom, 2011).

1.6.2 Research Method

The research method followed a two-phased approach, namely a literature review and an empirical study. The results were presented in the form of a research article.

1.6.3 Literature Review

During phase one, a thorough literature review was conducted regarding psychological capital, work engagement and individual work performance for the purpose of investigating the relationship between these variables. Articles relevant to the study were consulted, including literature obtained

through electronic databases such as *EBSCOhost*, *Google Scholar*, *SAePublications*, *ProQuest*, *Science Direct*, *ResearchGate*, and *PsycINFO*. Examples of the journals to be consulted relating to the relevance of the topic include: *South African Journal of Industrial Psychology*, *Journal of Occupational Health and Psychology*, *Journal of Positive Psychology*, *Journal of Applied Psychology*, *Journal of Nursing Management*, *Psychological Management of Individual Performance*, *International Journal of Psychological Research*, *Personnel Psychology*, *International Journal of Human Resource Management*, *International Journal of Productivity and Performance Management*, and *Journal of Organisational Behaviour*.

While consulting articles relevant to the study, cross-referencing was done in the event that additional relevant information from reliable sources has been identified.

1.6.4 Empirical Study

1.6.4.1 Research Participants

For the purpose of the study, the researcher aimed to obtain a convenience sample of approximately five hundred ($n = 500$) nurses within the public healthcare sector in the Sedibeng district, which includes public hospitals and clinics in Vanderbijlpark, Vereeniging, Heidelberg and Sebokeng. This non-probability sampling technique allowed the researcher to select participants at her convenience and availability of the participants (De Vos et al., 2011). In order to utilise structural equation modelling (SEM) as a statistical technique, the preferred sample size should be an estimated minimum of 200 participants (Byrne, 2012; Kline, 2011).

1.6.4.2 Measuring Instruments

A biographical questionnaire, the Psychological Capital Questionnaire (PCQ), the Work Engagement Scale (WES), and the Individual Work Performance Questionnaire (IWPQ) were utilised in the empirical study.

Biographical Questionnaire: All participants were required to complete a biographical questionnaire which provided the researcher with information pertaining to the characteristics of the participants. Information was collected on, amongst others, gender, year of birth, race, home language, marital status, level of education, and years of service.

Psychological Capital Questionnaire (PCQ; Luthans, Avolio, et al., 2007): Psychological capital was measured by utilising the 24-item PCQ which comprises six items for each of the four subscales: self-efficacy, optimism, hope and resilience (Luthans, Youssef et al., 2007). The items are based on a six-point Likert scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Sample items include “I feel confident helping to set targets/goals in my work area” (self-efficacy), “I always look on the bright side of things regarding my job” (optimism), “Right now I see myself as being pretty successful at work” (hope), and “I usually take stressful things at work in stride” (resilience) (Peterson et al., 2011). Recent studies based in the South African context signify that the PCQ yielded an overall reliability score of at least 0.85, which indicates a high level of reliability (Görgens-Ekermans & Herbert, 2013; Harris, 2012; Schoeman, 2012). The PCQ is derived from literature theories regarding self-efficacy, optimism, hope and resilience, which measure psychological capital accurately. Therefore, the PCQ demonstrates both content and construct validity (Shelton & Renard, 2015).

Work Engagement Scale (WES; May et al., 2004): An adapted version of the WES was used in the measurement of work engagement (May et al., 2004). The items are based on a seven-point Likert scale, ranging from 1 (*almost never or never*) to 7 (*always or almost always*). The items reflect the three components of Kahn’s (1990) conceptualisation of personal engagement, including cognitive engagement (e.g., “I get so into my job that I lose track of time”), emotional engagement (e.g., “I am so passionate about my job”), and physical engagement (e.g., “I feel a lot of energy when I am performing my job”). Rothmann (2010) reported Cronbach’s alpha coefficients of the scales as cognitive engagement = 0.78, emotional engagement = 0.82, and physical engagement = 0.80.

Individual Work Performance Questionnaire (IWPQ; Koopmans et al., 2014a): Individual work performance was measured by utilising the IWPQ, which measures task performance (5 items), contextual performance (8 items), and counterproductive work behaviour (5 items). The items are based on a six-point Likert scale ranging from 1 (*never*) to 6 (*always*). Sample items include “I was able to perform my work well with minimal time and effort” (task performance), “I took on challenging work tasks, when available” (contextual performance), “I focused on the negative aspects of a work situation, instead of on the positive aspects” (counterproductive work behaviour), and “I recovered fast, after difficult situations or setbacks at work” (adaptive behaviour). The IWPQ demonstrates reliability between 0.79 and 0.89 for the scales, as well as good content validity (Koopmans et al., 2014b).

1.6.5 Research Procedure

The researcher approached the Department of Health in the Sedibeng district to discuss the objective and the importance of the study. Once permission had been granted, all participants received a document detailing the purpose and importance of the study, including a letter of consent requesting voluntary participation in the research. Emphasis was placed on the confidentiality and anonymity of participants' responses. Participants were provided with the opportunity to withdraw at any given time. The questionnaires were distributed to the participants as per the arrangement with Hospital Management and a gatekeeper was utilised in order to arbitrate access to the participants. After the completion of the questionnaires, participants submitted the completed questionnaires in a secured box allocated to the research project, which was collected by the researcher on a regular basis. The gatekeeper ensured that the questionnaires remained secured until the researcher was able to collect the data. It should be noted that no identifiable information was requested on the questionnaire to ensure that the participants' personal information remains confidential. Upon concluding the data collection process, the data analysis process commenced. Feedback was provided to the relevant healthcare departments after the completion of the study, detailing the impact of the study on the organisation.

1.6.7 Statistical Analysis

The statistical analysis of the study was conducted by using the psych and lavaan packages (Revelle, 2015) of the R-statistical framework (R Development Core Team, 2015). Descriptive statistics were conducted by means of using Microsoft Excel 2016 (Microsoft Corporation, 2019) in order to analyse the data. Structural equation modelling (SEM) was utilised by means of the R-statistical framework in order to determine the fit of the data to the suggested model. SEM involves a two-step approach (Kline, 2011). Confirmatory factor analysis (CFA) is a statistical method used to measure the factorial validity of a measurement model. CFA was utilised to assess the underlying structure of the latent variables (psychological capital, work engagement and individual work performance) of the suggested structural model. Regression analysis assisted in evaluating the structural model against the suggested hypotheses.

The following fit statistics were considered in this study: Absolute fit indices including degrees of freedom (*df*), the standardised root mean residual (SRMR), and the root means square error of approximation (RMSEA). SRMR and RMSEA values lower than 0.08 indicate acceptable fit (Milfont & Fischer, 2010). Incremental fit indices include the Tucker-Lewis index (TLI) and

comparative fit index (CFI). CFI and TLI values higher than 0.90 generally indicate acceptable model fit (Hu & Bentler, 1995).

In order to compare alternative measurement models, the Akaike information criterion (AIC) and Bayesian information criterion (BIC) were utilised. Lower AIC and BIC values indicate a more suitable model. Composite reliability was calculated for each scale as Cronbach's alpha may underestimate the scale reliability (Peterson & Kim, 2013).

1.7 ETHICAL CONSIDERATIONS

To ensure that fair and ethical research was conducted, the researcher submitted an ethics application to request ethical clearance for the study from the relevant Ethics Committee of the North-West University before commencing the research project. Ethical considerations guiding the research included voluntary participation, provision of informed consent, and assuring confidentiality and anonymity of participants' responses. The rights and dignity of all participants were respected, and no harm was caused to participants. The Ethics Committee reviewed the purpose and nature of the study and approved the ethics application (NWU-HS-2017-0032).

1.8 EXPECTED CONTRIBUTIONS OF THE STUDY

1.8.1 Contribution for the Individual

Nursing staff are faced with a challenging work environment; yet, have a significant impact on patient outcomes. With the current state of the South African public healthcare system, the need for personal resources may be on the rise. Assisting nursing staff to effectively build and improve their personal resources may increase and help maintain their individual motivation for work engagement, which could result in an improvement in their performance. This improvement may also assist nursing staff in their personal and professional domain.

1.8.2 Contribution to the Organisation

This study will assist the public healthcare sector to understand the important role of personal resources and the impact they may have on improving the performance of nursing staff. Improved performance may have a positive impact on patient outcomes and the image of the organisation. The study will influence future interventions to improve the potential of nurses through developing

psychological capital, which may potentially improve the competitive advantage of hospitals, potentially reducing organisational risks.

1.8.3 Contribution for Industrial/Organisational Literature

Although the results cannot be generalised to the larger population, this study will contribute to Industrial/Organisational literature by means of providing a baseline for further studies. Due to the fact that the study follows a cross-sectional approach, longitudinal studies may be conducted in order to draw comparisons over a period of time. This study will also contribute to the literature gap pertaining to the relationships that exist between psychological capital, work engagement and individual work performance.

1.9 CHAPTER DIVISION

The chapters in this mini-dissertation are outlined as follows:

Chapter 1: Introduction

Chapter 2: Research article

Chapter 3: Conclusions, limitations, and recommendations

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CHAPTER 2

RESEARCH ARTICLE

Psychological capital, work engagement and individual work performance amongst nursing staff

ABSTRACT

Orientation: Nursing as a profession falls within the healthcare sector and focuses primarily on promoting and maintaining health and good quality of life for individuals within the community. However, functioning within a severely under-resourced public healthcare sector has an adverse effect on the quality care provided by nurses.

Research purpose: The purpose of this study is to investigate the relationships between psychological capital, work engagement and individual work performance; also to determine whether work engagement has an indirect effect on the relationship between psychological capital and individual work performance.

Motivation for the study: It is evident from literature that psychological capital has an impact on both work engagement and performance and that work engagement, in return, has an impact on psychological capital and performance. It is therefore important to establish if this is true (and to what extent) in the South African context, where nurses in particular experience adversity in the workplace; yet, are expected to provide quality healthcare services.

Research design, approach and method: The study followed a quantitative research approach with a cross-sectional survey design. The target population was registered nurses within the Sedibeng public healthcare sector ($n = 212$).

Main findings: There is a positive relationship between psychological capital and work engagement, and a positive relationship between work engagement and individual work performance. The analysis did not reveal a practically significant relationship between psychological capital and individual work performance; however, the relationship was statistically significant. Work engagement had an indirect effect on psychological capital and individual work performance.

Practical implications: The results of the study provide managers and human resource practitioners in the healthcare sector insight into the importance and impact of psychological capital and work engagement on nurses' individual work performance. Accordingly, managers and human resource practitioners can develop interventions that focus on developing nurses' psychological capital and work engagement which will positively impact their performance.

Contribution: The study contributes to literature by investigating the relationship between psychological capital, work engagement and individual work performance within a South African context. Furthermore, the study provides information regarding the mediating effect of work engagement on psychological capital and individual work performance.

Keywords: Psychological capital, work engagement, individual work performance, mediation, public healthcare sector, nurses.

INTRODUCTION

Nursing as a profession falls within the healthcare sector and primarily focuses on the care of individuals within the community in order to promote and maintain optimal health and improve quality of life. Nurses work in collaboration with other healthcare practitioners as part of a multidisciplinary healthcare team (Dunphy & Winland-Brown, 2007). Within the past few years, the profession has advanced and nurses have received wider specialisation, greater autonomy and more accountability (Scrivener, 2011). Nurses are also expected to perform their tasks according to the requirements of the nursing professional bodies and the law (Singh & Mathuray, 2018).

The delivery of high-quality and efficient healthcare is largely reliant on the quality of care provided by nurses (Needleman & Hassmiller, 2009). Although working as a member of a multidisciplinary healthcare team, nurses spend the majority of their time with their patients compared to other healthcare practitioners. It is therefore essential to improve patient outcomes and patient experience of quality care through the improvement of nursing performance (Kieft, De Brouwer, Francke, & Delnoij, 2014).

Coster, Witkans, and Norman (2018) concluded that hospitals and clinics with an adequate number of qualified nurses showed a reduction in the risk of patient mortality; however, these results were limited to high-income countries. According to the International Council of Nurses (2019), the International Workforce Forum recently conducted a meeting that resulted in a plea to governments to take action in increasing the number of registered nurses and the provision of decent working conditions in order to provide a better future for nurses and their patients. The Global Advisory Group of the World Health Organisation has acknowledged that there is a global shortage of nurses as a result of an increased demand for nurses. In addition to this, there are fewer individuals considering a profession in nursing; the current nursing population is ageing, and nurses are migrating to developed countries in search of better employment opportunities, resulting in the critical loss of specialised skills, particularly in developing countries (International Council of Nurses, 2019).

In South Africa, the Department of Health has the responsibility to improve the health status of all South Africans by improving the healthcare delivery system by increasing life expectancy and reducing mortality rates (National Department of Health, 2015). Considering the purpose of the Department of Health and the alignment between the National Development Plan's vision to improve the health of all South Africans, it should be noted that nurses in South Africa constitute

one of the largest groups of health service providers, and play a crucial role in promoting health and essential health services. However, South Africa is currently in a “nursing crisis” due to severe deficits, declined interest in the profession (specifically specialised skills), lack of caring culture, and apparent disconnection between the needs for nurses and those of communities served. The numbers of individuals residing in Gauteng have increased dramatically from 7 million in 2009 to 14.5 million in 2019, which makes it clear that the nurse shortage in Gauteng has reached critical levels (Child, 2019).

There is an estimated shortage of 44 780 nurses in the public healthcare sector which is a concern (Rispel & Bruce, 2015). According to a recent news article (Mkize, 2019), severe nursing staff shortages are apparent, particularly in Kwazulu-Natal and Gauteng, the biggest provinces in South Africa. However, this is not due to a shortage of trained nurses, but rather the provincial state hospitals’ inability to absorb newly qualified nurses, leaving hundreds of aspiring nurses unemployed. Adding to this, hospital CEOs received a letter from the Gauteng Department of Health in 2018 requesting that new medical staff should not be recruited to replace those who have resigned or retired due to budgetary constraints (Child, 2019).

According to a study conducted by Shammika and De Alwis (2015), it was noted that high levels of nursing workload influenced patient outcomes negatively. The nursing shortage had a negative impact on the quality of nurses’ work life, the quality of patient care, and the amount of time that nurses spent with patients. Shammika and De Alwis (2015) further state that the shortage of nurses has a negative impact on the levels of stress nurses experience, resulting in nurses leaving the profession. Peltzer, Ilic, and Oldenburg (2016) state that nurses not only experience high levels of work-related stress and burnout, but low levels of job satisfaction due to the nature of their work. With South Africa being challenged by high levels of demand and severe nursing skills shortages in an under-resourced healthcare sector (Cullinan, 2015), it is important to investigate alternative resources that could support nurses by improving their wellbeing and performance.

A comprehensive study conducted by Garrosa, Moreno-Jiménez, Rodríguez-Munoz, and Rodríguez-Carvajal (2010) yielded thought-provoking results by exploring the possible alternative resources that support nurses during such adverse conditions. This particular study discovered that nurses who experience high levels of job demands may tend to experience burnout, whereas the availability of job resources may result in nursing staff experiencing a sense of engagement. These resources may be based on either physical, psychological, social or organisational aspects that assist

in the stimulation of personal growth and progress. Amongst other elements, optimism, personality and emotional competence have been regarded as relevant personal resources that affect the manner in which nurses engage with their immediate working environment. Garrosa et al. (2010) further contributed to current research by reporting that nurses who have reported higher levels of optimism, experience lower levels of emotional exhaustion and higher levels of engagement, even when faced with high levels of work stress, compared to nurses who were less optimistic.

Taking the above-mentioned into consideration, Madrid, Diaz, Leka, Leiva, and Barros (2018) stated that psychological capital has been regarded as a set of personal resources that have been considered valuable for work performance. A study conducted by Nasurdin, Ling, and Khan (2018) outlined that psychological capital has been identified as a large contributor to nursing job performance. The study particularly reviewed the effects of each element of psychological capital (self-efficacy, hope, resilience and optimism) on nursing job performance (task and contextual performance) in particular. In addition to the positive relationship that exists between psychological capital and work performance, Costantini et al. (2017) conducted a study which concluded that an improvement in psychological capital as a personal resource resulted in an increase in work engagement.

Lorente, Salanova, Martinez, and Vera (2014) conducted a study which explored whether personal resources predicted job performance through job resources and work engagement amongst construction workers. The results confirm that perceived job resources and work engagement fully mediated the relationship between personal resources and performance. Therefore, from a positive psychological perspective, it is important to improve both personal and job resources in order to improve engagement and performance at work. However, the study also noted that although both personal and job resources are important in terms of improving engagement and performance, it is the sense of personal resources that have an impact on individuals' perception of their job resources.

Although the relationship between psychological capital, work engagement and work performance has been confirmed throughout various research studies, no studies have been found that investigated the relationship between psychological capital, work engagement and individual work performance amongst nurses in the South African context. Therefore, the aim of this study is to examine the relationships that exist between psychological capital, work engagement and individual work performance amongst nursing staff in the Sedibeng public healthcare sector. In addition, the

study will investigate whether work engagement has an indirect effect on the relationship between psychological capital and individual work performance.

LITERATURE REVIEW

The intent of the literature review section is to describe how the constructs and relationships between the constructs are conceptualised in literature.

Psychological Capital

The notion of positive psychology initially emerged due to the shift towards a positive approach in the discovery and promotion of elements that enabled individuals, groups and organisations to thrive and prosper (Luthans, 2002). The concept of positive organisational behaviour is derived from positive psychology and focuses on developing and managing human resources by taking a more positive approach (Luthans, Avolio, Avey, & Norman, 2007). Psychological capital is derived from the concept of positive psychology, namely positive organisational behaviour (Avey, Luthans, Smith, & Palmer, 2010), which Luthans (2002) defined as “the study and application of positively oriented human resource strengths and psychological capacities that can be measured, developed, and effectively managed for performance improvement” (p. 59). The concept of psychological capital was developed by Luthans to serve as a source of competitive advantage.

Psychological capital is the positive psychological state of individual development (Luthans, Youssef, & Avolio, 2007), comprising self-efficacy, optimism, hope and resilience (Boamah & Laschinger, 2015). *Self-efficacy* is a state-like capacity (Bandura, 1977) and the principle in which an individual has the ability to mobilise the motivation and cognitive resources required to effectively execute the task presented within the specific context (Kotzé, 2018). *Optimism* as an explanatory style involves the acknowledgement and internalisation of positive events and attributing them to personal, permanent, and pervasive causes (Luthans & Jensen, 2005). Boamah and Laschinger (2015) postulated that optimism is derived from the realistic evaluations of events from a positive stance, and positive attributions regarding current and future successes. *Hope* is a multi-dimensional construct (Luthans & Jensen, 2005) through which an individual experiences dissatisfaction with his or her current state, aspiring to improve his or her current situation (Shelton & Renard, 2015) by acquiring a motivational state and redirecting his or her pathways in order to reach his or her goals (Cilliers & Flotman, 2016). *Resilience* refers to an individual’s ability to recover from hindrances, adapt to change and to persevere through adversity (Costantini et al., 2017). Based on research that was conducted by Luthans et al. (2007), it can be noted that

psychological capital - being more than the sum of its parts - has been characterised as a second-order core factor construct that has been found to predict performance and satisfaction more effectively than each of the four factors.

Research has confirmed a strong positive and, in these cases, predictive relationship between psychological capital and work engagement (Robyn & Mitonga-Monga, 2017; Simons & Buitendach, 2013) alongside organisational commitment. Youssef and Luthans (2007) confirmed that throughout various organisational contexts, the relationship between psychological capital and work engagement has been supported by empirical research. Sweetman and Luthans (2010) conducted research and proposed a conceptual model regarding the relationship between the elements of psychological capital and work engagement. Employees find themselves in situations where they are expected to adapt to new and challenging environments where the demands placed upon them become greater and the available resources, fewer. Researchers suggested that psychological capital, in particular, offers an alternative method to meet the challenges of employee engagement in organisations, and suggested the development of employees' psychological capital in order to have a positive impact on their levels of work engagement. This will assist them in developing a more positive attitude towards their abilities and to be more resourceful and motivated. In support of this, Hobfoll and Shiron (2001) refers to the conservation of resources (COR) theory which regards psychological capital as an enabling element that contributes to engagement by assisting individuals to accumulate valued resources necessary for engagement.

Work Engagement

Kahn (1990) was a forerunner in the conceptualisation of engagement and established a personal engagement model, defining work engagement as “the harnessing of organization members' selves to their work roles” (p. 694). In engagement, people employ and express themselves physically, cognitively, and emotionally during role performances (Kahn & Heaphy, 2014). In order for an individual to experience a sense of engagement in his or her work, the needs-satisfying approach has identified three psychological conditions deemed necessary to have an impact on an individual's level of engagement. These three psychological conditions include *psychological meaningfulness* (sense of gaining the benefits from investing in one's physical, cognitive and emotional energy), *psychological safety* (sense of the absence of fear of negative consequences) and *psychological availability* (sense of possessing the essential personal resources to perform a role) (Amah, 2018; Kahn, 1990). The availability of such conditions, when present in an individual's environment, enables him or her to experience a sense of work engagement which in itself comprises three

dimensions. The first dimension is *physical engagement* which refers to the physical involvement and energy that an individual exhibits during the task at hand; *cognitive engagement* includes the individual's alertness, completely emerging and involving him or herself in his or her performance. *Emotional engagement* refers to the individual's dedication and commitment to the job at hand.

Considering the above, work engagement can be fundamentally regarded as a motivational concept where an individual assigns personal resources towards the tasks he or she is required to accomplish within a given work role (Christian, Garza, & Slaughter, 2011). Therefore, employees who are engaged tend to put more effort into their work, for they are able to relate to their work; yielding positive outcomes relating to personal growth and development and the quality of their performance (Bakker, Schaufeli, Leiter, & Taris, 2008). Research has found that engaged employees yield higher performance ratings (Oosthuizen, Rabie, & De Beer, 2018) as a result of experiencing positive feelings, improvement in overall health - both physical and psychological - creating personal and job resources, and the influence on others' employment levels (Bakker et al., 2008). Hassan and Jubari (2010) stated that engaged employees tend to successfully complete tasks related to their work and have a more positive relationship with their organisation. This, in turn, encourages positive attitudes and behaviours.

Researchers have taken a between-person approach to work engagement which investigates work engagement between individuals by taking the working conditions, personal characteristics and behavioural strategies into consideration. However, some of the latest research indicates that there is also a level of work engagement that fluctuates within individuals across time and situations. Research indicates that individuals experience a higher level of engagement when they are challenged over short intervals of work, after being well-rested, and where they have access to a variety of resources (Bakker & Albrecht, 2018). Alongside positivity in the workplace, engagement has had an impact on employees' performance and there has been increased research in understanding engagement and the impact thereof (Sweetman & Luthans, 2010).

Individual Work Performance

The search for a unified definition of individual work performance has been quite a challenge as a result of the different conceptualisations of the construct throughout literature. Different approaches to studying individual work performance have been conducted from the perspectives of different fields such as management, occupational health and industrial psychology (Koopmans et al., 2011). Viswesvaran (2002) noted that it was challenging to determine what constitutes individual work

performance as work performance is regarded as an abstract and latent construct which is difficult to measure. Furthermore, the construct contains various dimensions which consist of measurable indicators. Work performance should be viewed in terms of behaviours that are relevant to an organisation's goals rather than results and that it is a multi-dimensional construct. Although the constructs are often used interchangeably, it is important to distinguish between work performance and work productivity. *Work performance* is regarded as the actions and behaviours that individuals exhibit in order to contribute to organisational goals (Viswesvaran & Ones, 2000), whereas *work productivity* is defined as employees' input divided by their output (Griffin, Neal, & Parker, 2003).

Individual work performance is regarded as a crucial element in improving the entire economy, because "without individual work performance there is no team performance, no unit performance, no organizational performance, no economic sector performance, and no GDP" (Campbell & Wiernik, 2015, p. 48). In pursuit of creating a shared definition of individual work performance and investigating a measuring framework, Koopmans et al. (2011) reviewed numerous research articles in order to determine how work performance has been conceptualised and operationalised throughout the years by creating a heuristic framework of individual work performance. By means of conducting a systematic literature review, Koopmans et al. (2011) concluded that individual work performance comprised a four-dimensional framework which includes task performance, contextual performance, counterproductive work behaviour, and adaptive performance.

Task performance refers to the proficiency with which an individual performs work-related tasks that are associated with his or her particular role and where he or she exhibits a particular set of knowledge and skill required (Campbell, 1990). Borman and Motowidlo (1993) defined *contextual performance* as behaviours that individuals exhibit that support the core functions in the organisation, social and psychological environment. *Counterproductive work behaviour* can be regarded as behaviour that has a negative impact on the productivity and wellbeing of the organisation which includes behaviours such as engaging in tasks that are not related to the organisational goals, or that hinder performance at work such as absenteeism, being late for work, theft and substance abuse (Rotundo & Sackett, 2002). *Adaptive performance* refers to the adaptive behaviours that individuals exhibit towards changes within the work environment (Griffin, Neal, & Parker, 2003). Koopmans et al. (2013) embarked on a study to develop the individual work performance questionnaire which was originally based on a four-dimensional conceptual framework. However, the findings of their research identified a three-dimensional conceptual framework which included task, contextual, and counterproductive work behaviour. According to

the study, adaptive performance was not found to be a separate dimension, but seemed to be an aspect of contextual performance.

With regards to the relationship between psychological capital and work performance, Luthans, Avolio, Walumbwa, and Li (2005) stated that the more an employee's positive psychological state is developed, the more developed and higher his or her levels of psychological capital will be. This, in turn, will assist employees in managing the increased demands and pressures placed upon them in modern-day organisations. Taking this into consideration, it is important to note that psychological capital capabilities are measurable, can be developed and managed in order to improve effective work performance (Luthans, Luthans, & Luthans, 2004). Christian, Garza, and Slaughter (2011) conducted a study that investigated the relationship between work engagement and task and contextual performance. Work engagement, in particular, was found to have significant relations with work performance. In terms of task performance, engaged employees will most likely be able to perform their tasks efficiently and effectively. However, in terms of contextual performance, engaged employees are most likely able to create an environment that is conducive to teamwork and behaviour that could lead to organisational effectiveness.

In a study by Rich, LePine, and Crawford (2010), work engagement has been found to have a mediating relationship between antecedents and job performance. Furthermore, research conducted by Alessandri, Consiglio, Luthans, and Borgogni (2018) found that increases in psychological capital resulted in an increase in work engagement, which in turn predicted increases in job performance. The study confirmed the mediating role of work engagement between psychological capital and performance.

Based on the literature review, it is evident that there are numerous studies depicting the relationships between psychological capital, work engagement and performance; however, no studies were found relating these constructs in a singular model and with individual work performance in particular as defined by Koopmans et al. (2013). Furthermore, the relationships between these constructs have not been investigated in the South African context, specifically within the public healthcare sector. This research study was conducted within the public healthcare sector with the purpose of understanding nurses' levels of psychological capital, work engagement and individual work performance in a severely under-resourced environment.

CONCEPTUAL FRAMEWORK

The literature review provided a framework for the possible relationships between the constructs of psychological capital, work engagement and individual work performance. Based on the literature review, the conceptual framework for the study is depicted in Figure 1, indicating the hypothesised relationships between the different constructs.

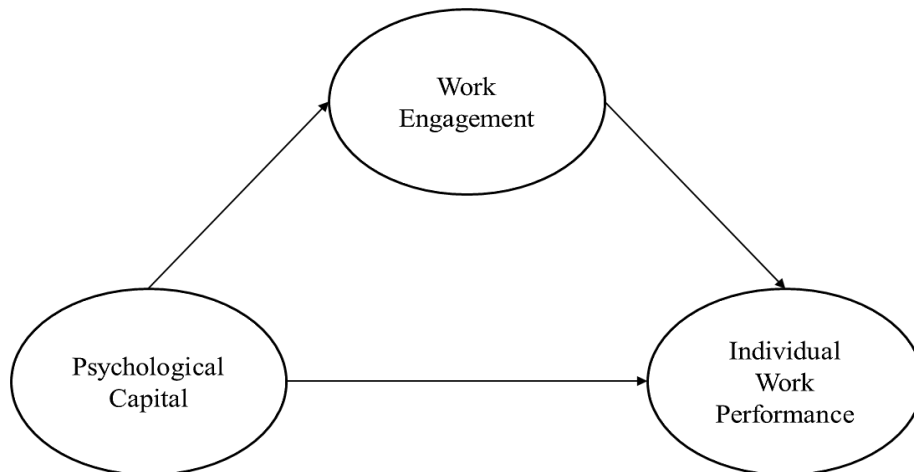


Figure 1. A hypothesised model of psychological capital, work engagement and individual work performance.

Based on the model, the following hypotheses were proposed in this study:

Hypothesis 1: There is a positive relationship between psychological capital, work engagement and individual work performance amongst nurses.

Hypothesis 2: Work engagement indirectly affects the relationship between psychological capital and individual work performance.

RESEARCH DESIGN

Research Approach

The study followed a quantitative research approach that allowed the researcher to make use of structured questionnaires to gather numerical data in terms of the relationship between the variables as outlined in the study (Babbie, 2010; Muijs, 2010). Data was collected in the form of a cross-sectional survey design, from a particular population at a specific point in time (De Vos, Delpont, Fouche, & Strydom, 2011). Furthermore, the study addressed both descriptive and exploratory objectives as some of the hypotheses were addressed in literature. However, the indirect effects of work engagement on the relationship between psychological capital and individual work performance in the particular context have not yet been established in empirical research.

RESEARCH METHOD

Research Participants

A non-probability sampling technique was used. Convenience sampling was specifically utilised as the participants were selected based on their convenient accessibility to the researcher. Hospitals and clinics within the Sedibeng healthcare sector were identified and targeted. For the purpose of the study, participants were required to be specifically registered in the nursing profession in this particular public healthcare sector. Gaining access to the various hospitals and clinics deemed to be challenging due to the availability of and permission from Management at the various hospitals. As a result, two hospitals within the Sedibeng healthcare sector agreed to assist in undertaking the research. The majority of the participants were from a particular hospital due to a large number of registered nurses that voluntarily made themselves available. Gatekeepers at the individual public health care institutions assisted with the anonymous distribution and collection of the questionnaires to registered nurses in the institution.

Table 1

Demographic Composition of the Sample (n = 212)

Variable	Category	Frequency	Percentage
Gender	Men	20	9%
	Women	185	87%
	Not indicated	7	3%
Age	21-30 years	30	14%
	31-40 years	45	21%
	41-50 years	57	27%
	51-60 years	51	24%
	Other	11	5%
	Not indicated	18	8%
Race	White	4	2%
	African	198	93%
	Coloured	2	1%
	Indian	0	0%
	Other	1	0%
	Not indicated	7	3%

Employment Status	Full-time	199	94%
	Part-time	2	1%
	Other	3	1%
	Not indicated	8	4%
Employment Level	Managerial	63	30%
	General workforce	140	66%
	Not indicated	9	4%
Tenure at Employer	0-9 years	111	52%
	10-19 years	51	24%
	20-29 years	24	11%
	30-39 years	17	8%
	40-49 years	1	0%
	Not indicated	8	4%
Tenure in Current Position	0-9 years	116	55%
	10-19 years	49	23%
	20-29 years	15	7%
	30-39 years	19	9%
	Not Indicated	13	6%
Qualification	Bachelor's degree	16	8%
	Diploma	100	47%
	Higher certificate	39	18%
	Advanced diploma	5	2%
	Postgraduate diploma	15	7%
	Postgraduate degree	7	3%
	Master's degree	2	1%
	PhD degree	1	0%
	Other	17	8%
	Not indicated	10	5%
Registration	Professional nurse and midwife	114	54%
	Registered staff nurse	48	23%
	Auxiliary nurse	28	13%
	Other	15	7%
	Not indicated	7	3%

The demographic composition of the sample can be viewed in Table 1. The sample was composed mostly of women (87%). The modal age is between 41 and 50 years (27%), and the majority of the sample work full-time (94%). More than half of the sample was registered in the professional nurse and midwife category (54%) and was employed in non-managerial roles (65%). The majority of the nurses have been in employment with their current employer for less than 10 years (52%), while 24% have been employed with their current employer for less than 20 years. More than half of the nurses have been employed in their current position for less than 10 years (55%), and less than a quarter have been employed in their current position for less than 20 years (23%). With regards to education, the sample was primarily comprised of individuals holding either a diploma (47%) or higher certificate (18%).

Measuring Instruments

A biographical questionnaire and three measuring instruments were used to measure the constructs of psychological capital, work engagement, and individual work performance.

Biographical Questionnaire. The research participants completed the recommended North-West University's standardised biographical questionnaire which has been adapted to complement the context of this particular study. Adaptations included the addition of nursing registration categories. Biographical information that was deemed unfit for the particular research context was removed. The remaining standardised biographical questions provided the research with a detailed description of the research population, including age, gender, employment status, employment level, and qualification. This will provide the researcher with information regarding the characteristics of the participants.

Psychological capital was measured using the *Psychological Capital Questionnaire* (PCQ; Luthans, Avolio, Avey, & Norman, 2007). The psychological capital construct in this study is measured by making use of the PCQ which consists of 24 items. Psychological capital is measured by four subscales, namely self-efficacy (e.g., "I feel confident helping to set targets/goals in my work area"), hope (e.g., "Right now I see myself as being pretty successful at work"), resilience (e.g., "I can get through difficult times at work because I've experienced difficulty before"), and optimism (e.g., "When things are uncertain for me at work, I usually expect the best") with each subscale comprising six items. Cronbach' alpha coefficients for the psychological capital questionnaire found in previous research range from 0.88 to 0.89 (Luthans et al., 2007).

Work engagement was measured using the *Work Engagement Scale* (WES; May, Gilson, & Harter, 2004). Work engagement is measured by making use of an adapted version of the WES which comprises 13-items (May et al., 2004). The items are based on a seven-point Likert-scale, ranging from 1 (*almost never or never*) to 7 (*always or almost always*). The items in the WES reflects the three components of personal engagement as conceptualised by Kahn (1990), namely cognitive engagement (e.g., “I get so into my job that I lose track of time”), emotional engagement (e.g., “I get excited when I perform well on my job”), and physical engagement (e.g., “I am energised when I work”). Cronbach’s alpha coefficients of the scales are reported as cognitive engagement = 0.78, emotional engagement = 0.82, and physical engagement = 0.80 (Rothmann, 2010).

Individual work performance was measured by means of the *Individual Work Performance Questionnaire* (IWPQ; Koopmans, Bernaards, Hildebrandt, De Vet, & Van der Beek, 2014). The IWPQ was used in order to measure individual work performance and comprises 18 items, measured on a five-point Likert-scale, ranging from 1 (*seldom*) to 5 (*always*). The questionnaire measures three types of performance, including task performance (e.g., “I am able to carry out my work efficiently”), contextual performance (e.g., “I took on challenging tasks when they were available”), and counterproductive work behaviour (e.g., “I complained about minor work-related issues at work”). The IWPQ revealed reliability scores between 0.79 and 0.89 for the scales (Koopmans et al., 2014).

Research Procedure

Prior to the commencement of the research study, the researcher obtained ethical approval from the North-West University Ethics Committee (HS-2017-0032). The researcher approached the Department of Health in the Sedibeng district in order to request permission to conduct research and the request was approved. Once permission had been granted, the researcher distributed the questionnaires to various public institutions with the assistance of gatekeepers. A consent letter accompanied the questionnaires, outlining the objectives of the study and emphasising that participation was voluntary and information obtained would be confidential. Participants were provided with the opportunity to complete the questionnaire in their own time and at a place of their choice. Once the questionnaires had been completed, participants were requested to submit the completed questionnaires and consent forms in clearly marked and secured boxes at each facility.

Statistical Analysis

Reliability and factor analysis statistics were generated using the psych and lavaan packages (Revelle, 2015) of the R-statistical framework (R Development Core Team, 2015). Descriptive statistics and data cleaning were done with Microsoft Excel 2016 (Microsoft Corporation, 2019). The R-statistical framework was utilised in order to conduct structural equation modelling (SEM) to determine the fit of the data to the suggested model (Hooper, Coughlan, & Mullen, 2008).

Confirmatory factor analysis (CFA) was performed in order to determine the factor structure for psychological capital, work engagement and individual work performance. The following R indices were used in this study (Byrne, 2012): Absolute fit indices including degrees of freedom (*df*), the standardised root mean residual (SRMR), and the root means square error of approximation (RMSEA). SRMR and RMSEA values lower than 0.08 indicate acceptable fit (Byrne, 2012; Hair, Black, Babin, & Andersen, 2010).

Incremental fit indices included the Tucker-Lewis index (TLI) and comparative fit index (CFI). CFI and TLI values higher than 0.90 generally indicate acceptable model fit (Hu & Bentler, 1995). In order to compare alternative measurement models, the Akaike information criterion (AIC) and Bayesian information criterion (BIC) were utilised. Lower AIC and BIC values indicate a more suitable model. Composite reliability was calculated for each scale as Cronbach's alpha may underestimate the scale reliability (Peterson & Kom, 2013).

RESULTS

Firstly, internal consistency reliability coefficients were calculated for the scales used in the study. Secondly, the CFA for the measuring instruments and their factors were calculated and descriptions of the different models specified were included. Lastly, the relationships between the constructs were examined, including the indirect effect of work engagement.

Reliability

Cronbach's alpha (*a*) internal consistency reliability coefficients and McDonald's omega (ω) were calculated for each of the scales of the PCQ, WES, and the IWPQ. The results are shown in Table 2. Lower and upper limits of the 95% confidence intervals are provided. This gives the range of reliability scores in which the true reliability is likely to fall.

Table 2

Internal Consistency Reliability of the PCQ, WES and IWPQ

Questionnaire	Scale	alpha (<i>a</i>)	lower	Upper	McDonald's (ω) (G. 6)
Psychological Capital Questionnaire	Self-efficacy	0.60	0.52	0.69	0.71
	Hope	0.74	0.68	0.79	0.72
	Resilience	0.66	0.59	0.73	0.66
	Optimism	0.42	0.30	0.54	0.39
	Instrument Overall	0.81	0.77	0.85	0.81
Work Engagement Scale	Cognitive	0.58	0.48	0.68	0.53
	Engagement				
	Emotional	0.83	0.79	0.87	0.77
	Engagement				
	Physical	0.89	0.86	0.91	0.85
	Engagement				
	Instrument Overall	0.90	0.88	0.92	0.93
Individual Work Performance Questionnaire	Task Performance	0.89	0.86	0.91	0.86
	Contextual	0.91	0.89	0.93	0.91
	Performance				
	Counterproductive	0.84	0.81	0.88	0.83
	Work Behaviour				
	Instrument Overall	0.92	0.90	0.93	0.94

Generally, values of ≥ 0.70 on both Cronbach's alpha (a) and McDonald's omega (ω) are seen to be satisfactory for use in individual decision making (Nunnally & Bernstein, 1994). All the scales, except self-efficacy ($a = 0.60$), resilience ($a = 0.66$) and optimism ($a = 0.42$) on the PCQ, and cognitive engagement ($a = 0.58$) on the WES meet this criterion. In practice, reliability values above 0.60 are generally seen to be acceptable for group work, and seeing the results are not used at an individual level, they could still be interpreted (Foxcroft & Roodt, 2013). The upper limits of the resilience scale exceed acceptable bounds; however, psychological capital may be more reliably measured as a single construct. The overall reliability of the three instruments exceeds the values of 0.70 or higher and can be interpreted.

Testing the Measurement Model

Using the R-statistical framework (R Development Core Team, 2015), confirmatory factor analysis (CFA) was conducted with the measurement scales used in the study. In the CFA, a series of models were tested to investigate the factor structure of the three measures, namely PCQ, WES, and IWPQ.

With each instrument, three competing measurement models were tested, namely:

- Model 1: All items within the instrument load onto a latent variable
- Model 2: Items load onto factors as defined by their authors
- Model 3: Items load onto factors as defined by their authors and a hierarchical factor.

Confirmatory factor analysis (CFA) was conducted using the maximum likelihood (ML) estimator; the results are reported in Tables 3, 4, and 5, respectively.

Psychological Capital Questionnaire

Model 1 consisted of one latent variable (psychological capital) with all the items in the instrument loading onto it. Poor fit statistics were found for Model 1: (CFI = 0.591; TLI = 0.552; RMSEA = 0.099; SRMR = 0.092). Thereafter, a new model was created (Model 2) where each item belonging to the PCQ was set to load onto its respective factors. There are four factors that make up the PCQ, namely self-efficacy, hope, resilience and optimism.

In Model 2, self-efficacy contained 6 items, hope contained 6 items, resilience contained 6 items and optimism contained 6 items (Luthans et al., 2007). The fit statistics for Model 2 showed a moderate improvement over Model 1: (CFI = 0.749; TLI = 0.719; RMSEA = 0.078; SRMR = 0.088). The results for Model 2 showed that one item belonging to resilience (PCQ13- “When I have a setback at work, I have trouble recovering from it, moving on.”) did not load onto its respective construct (0.297). On the optimism scale, item PCQ23 (“In this job, things never work out the way I want them to”) was found not to load significantly (0.012). It should be noted that these particular items are reversed scored and that the possibility of the respondents engaging in reverse item bias (which may include acquiescence, careless responding, or confirmation bias) should be taken into consideration (Weijters, Baumgartner, & Schillewaert, 2013).

A third model was then specified, whereby items were set to load onto their factors, and the factors were set to load onto a latent variable. The fit for Model 3 was slightly poorer than Model 2: (CFI = 0.742; TLI = 0.713; RMSEA = 0.079; SRMR = 0.090).

Table 3

Fit Statistics for Psychological Capital Questionnaire

Model	df	AIC	BIC	CFI	TLI	RMSEA	SRMR
Model 1	276	16053.91	16295.58	0.591	0.552	0.099	0.092
Model 2	276	15858.10	16119.91	0.749	0.719	0.078	0.088
Model 3	276	15864.97	16120.07	0.742	0.713	0.079	0.090

Note: *df* = degrees of freedom; AIC = Akaike information criterion; BIC = Bayes information criterion; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual.

Work Engagement Scale

Model 1 consisted of one latent variable (work engagement) with all the items in the instrument loading onto it. Poor fit statistics were found for Model 1: (CFI = 0.823; TLI = 0.764; RMSEA = 0.176; SRMR = 0.076). As expected, this model did not show sufficient fit statistics. A second model was created where each item belonging to WES was set to load onto its respective factors. There are three scales that make up the WES, namely cognitive engagement, emotional engagement and physical engagement.

In Model 2, cognitive engagement contained 3 items; emotional engagement contained 3 items; and physical engagement contained 3 items (May et al., 2004). Model 2 yielded significantly improved fit statistics compared to Model 1: (CFI = 0.903; TLI = 0.855; RMSEA = 0.138; SRMR = 0.053). The results for Model 2 showed that all items loaded significantly onto their respective factors.

In an effort to further improve model fit, a third model was specified where all items loaded onto their respective factors, and the factors loaded onto a latent variable. Model 3 yielded identical fit statistics to Model 2 (CFI = 0.903; TLI = 0.855; RMSEA = 0.138; SRMR = 0.053). Models 2 and 3 represent the best fit statistics for the Work Engagement Scale in this study. Due to the identical fit statistics, the most appropriate model can be selected, based on the model which is theoretically most sound.

Table 4

Fit Statistics for Work Engagement Scale

Model	df	AIC	BIC	CFI	TLI	RMSEA	SRMR
Model 1	27	6443.97	6534.60	0.823	0.764	0.176	0.076
Model 2	36	6365.80	6466.50	0.903	0.855	0.138	0.053
Model 3	24	6365.80	6466.50	0.903	0.855	0.138	0.053

Note: *df* = degrees of freedom; AIC = Akaike information criterion; BIC = Bayes information criterion; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual.

Individual Work Performance Questionnaire

Model 1 consisted of one latent variable (individual work performance) with all the items in the instrument loading onto it. That is, all the items were set to load onto IWP as the latent variable. The following fit was found for Model 1: (CFI = 0.630; TLI = 0.581; RMSEA = 0.150; SRMR = 0.134). Unsurprisingly, the fit statistics for Model 1 were not acceptable. Thereafter, a new model was created (Model 2) where each item belonging to the IWP was set to load onto its respective factors. There are 3 scales that make up the IWPQ, namely task performance, contextual performance and counterproductive work behaviours.

In Model 2, task performance contained 5 items, contextual performance contained 8 items and counterproductive work behaviours contained 5 items (Koopmans et al., 2014). The fit for Model 2 was quite good: (CFI = 0.901; TLI = 0.885; RMSEA = 0.078; SRMR = 0.059). The results for Model 2 showed that all items in the questionnaire loaded onto their respective factors, with factor loadings of 0.639 and above.

Model 3 was then created, where items were set to load onto their factors, and the factors were set to load onto a latent variable. The following fit was found for Model 3: (CFI = 0.901; TLI = 0.885; RMSEA = 0.078; SRMR = 0.059). The fit statistics for Model 3 did not show significant improvements over Model 2.

Table 5

Fit Statistics for Individual Work Performance Questionnaire

Model	df	AIC	BIC	CFI	TLI	RMSEA	SRMR
Model 1	153	9821.39	10001.09	0.630	0.581	0.150	0.134
Model 2	153	9365.64	9555.330	0.901	0.885	0.078	0.059
Model 3	132	9365.64	9555.33	0.901	0.885	0.078	0.059

Note: *df* = degrees of freedom; AIC = Akaike information criterion; BIC = Bayes information criterion; CFI = comparative fit index; TLI = Tucker-Lewis index; RMSEA = root mean square error of approximation; SRMR = standardised root mean square residual.

Pearson Product-Moment Correlations Coefficients

The relationship between each of the measurements included in the study was correlated with one another to identify possible links. Correlation coefficients between the factors within each measurement were also examined. Pearson correlation coefficients were calculated and missing values were handled by casewise deletion. The results are reported in Table 6.

Based on the results as outlined in Table 6, it can be concluded that work engagement is practically significantly related to both psychological capital and individual work performance (medium effect). Psychological capital was statistically significantly related to individual work performance. Optimism, emotional engagement and physical engagement were practically and statistically significantly related to individual work performance (medium effect). Task performance, contextual performance and counterproductive work behaviour were practically and statistically significantly related to individual work performance. This is to be expected as these constructs are factors of this particular latent variable.

Self-efficacy, hope and resilience were practically and statistically significantly related to psychological capital (large effect), and optimism was practically and statistically significantly related to psychological capital (medium effect). This is to be expected as these constructs are factors of this particular latent variable. Emotional engagement, physical engagement and contextual performance were practically and statistically significantly related to psychological capital (medium effect). Cognitive engagement and task performance were statistically significantly related to psychological capital.

Hope, resilience and optimism, as well as task performance and contextual performance were practically and statistically significantly related to work engagement (medium effect), whereas cognitive engagement, emotional engagement and physical engagement were practically and statistically significantly related to work engagement (large effect). This is to be expected as these constructs are factors of this particular latent variable.

Hope and optimism were found to be practically and statistically significantly related to self-efficacy (medium effect), and physical and contextual performance were statistically significantly related to self-efficacy. Resilience, optimism, emotional engagement and contextual performance were practically and statistically significantly related to hope (medium effect), whereas physical engagement and task performance were statistically significantly related to hope. Optimism and contextual performance were found to be practically and statistically significantly related to resilience. Cognitive, emotional and physical engagement, as well as task performance, were statistically significantly related to resilience. Emotional engagement, physical engagement, task performance and contextual performance were practically and statistically significantly related to optimism (medium effect). Cognitive engagement was found to have been statistically and significantly related to hope.

Emotional engagement and physical engagement were practically and statistically significantly related to cognitive engagement (medium effect), and task performance and contextual performance were statistically significantly related to cognitive engagement. Task and contextual performance were found to be practically and statistically significantly related to both emotional engagement and physical engagement (medium effect), and physical engagement was practically and statistically significantly related to emotional engagement (large effect).

Lastly, contextual performance was found to be practically and statistically significantly related to task performance (large effect), whereas counterproductive work behaviour was found to be statistically significantly related to both task and contextual performance. This is to be expected as this construct is a factor of this particular latent variable. However, it should be noted that counterproductive work behaviour was not found to be practically or statistically related to any factors of both psychological capital or work engagement.

Table 6

Correlation Coefficients of Measuring Instruments

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. IWPQ	1.00												
2. PCQ	0.27**	1.00											
3. WES	0.43†**	0.39†**	1.00										
4. Self-efficacy	0.09	0.81‡**	0.27**	1.00									
5. Hope	0.27**	0.75‡**	0.32†**	0.42†**	1.00								
6. Resilience	0.29**	0.66‡**	0.32†**	0.26**	0.35†**	1.00							
7. Optimism	0.30†**	0.48†**	0.49†**	0.32†**	0.32†**	0.46†**	1.00						
8. Cognitive Engagement	0.28**	0.20**	0.72‡**	0.18**	0.12	0.13*	0.28**	1.00					
9. Emotional Engagement	0.39†**	0.39†**	0.86‡**	0.26**	0.35†**	0.29**	0.46†**	0.45†**	1.00				
10. Physical Engagement	0.37†**	0.33†**	0.83‡**	0.20*	0.29**	0.27**	0.42†**	0.37†**	0.71‡**	1.00			
11. Task Performance	0.86‡**	0.23**	0.40†**	0.07	0.27**	0.22**	0.33†**	0.23**	0.39†**	0.32†**	1.00		
12. Contextual Performance	0.92‡**	0.33†**	0.47†**	0.13*	0.32†**	0.33†**	0.35†**	0.29**	0.42†**	0.42†**	0.75‡**	1.00	
13. Counterproductive Work Behaviour	0.54‡**	-0.00	0.06	-0.04	-0.03	0.08	-0.07	0.11	0.03	0.06	0.26**	0.28**	1.00

† Correlation is practically significant $r \geq 0.30$ (medium effect)

‡ Correlation is practically significant $r \geq 0.50$ (large effect)

* Statistically significant ($p \leq 0.05$)

** Statistically significant ($p \leq 0.01$)

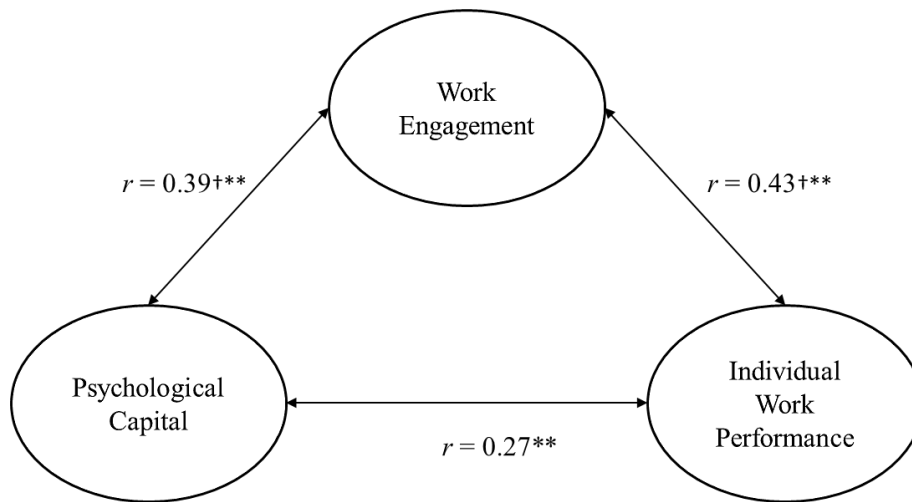


Figure 2. Correlation coefficients of the measuring instruments.

Based on the results, it is evident that there is a positive correlation (medium effect) between psychological capital and work engagement, and a positive correlation (medium effect) between work engagement and individual work performance. The analysis revealed a statistically significant direct relationship between psychological capital and individual work performance, although the relationship was not practically significant. Therefore, Hypothesis 1 can be accepted.

Testing the Indirect Effect

To determine whether an indirect relationship existed between psychological capital to individual work performance through work engagement, the researcher made use of the procedure as described by Hayes (2009). Bootstrapping (with 1 000 samples) was used. Two-sided bias-corrected 95% confidence intervals (CIs) were constructed to evaluate indirect effects. Table 7 indicates the lower and upper CIs, as well as the estimates and standard errors of the tested indirect effects. Table 8 consists of individual path estimates. From Table 7, the mediation estimates indicate that the indirect effect differs significantly from zero; therefore there is indeed a mediation effect between the variables ($\beta = 0.18, p < 0.01, 95\% \text{ CI } [0.09, 0.26]$).

Table 7

Indirect Effect of PCQ on IWPQ Through WES

Effect	Label	Estimate	SE	Lower	upper	Z	p	%
Indirect	a x b	0.180	0.0422	0.0974	0.263	4.27	< .001**	56.7
Direct	c	0.138	0.0782	-0.0155	0.291	1.76	0.078	43.3
Total	c † a x b	0.318	0.0771	0.1667	0.469	4.12	< .001**	100.0

Est.: Estimate, SE: standard error, CI: confidence interval

* $p < 0.05$; ** $p < 0.01$

Table 8 illustrates the exact nature of the mediation effects. From the Table, it is evident that psychological capital had a greater effect on work engagement ($\beta = 0.43$, $p < 0.01$, 95% CI [0.29, 0.56]) than work engagement on individual work performance ($\beta = 0.41$, $p < 0.01$, 95% CI [0.27, 0.55]).

Table 8

Path Estimates

	Label	Estimate	SE	lower	upper	Z	p
PCQ → WES	a	0.434	0.0685	0.2999	0.568	6.34	< .001**
WES → IWPQ	b	0.415	0.0719	0.2739	0.556	5.77	< .001**
PCQ → IWPQ	c	0.138	0.0782	-0.0155	0.291	1.76	0.078

Est.: Estimate, SE: standard error, CI: confidence interval

* $p < 0.05$; ** $p < 0.01$

Figure 3 illustrates the path estimates for the indirect effect of psychological capital on individual work performance through work engagement.

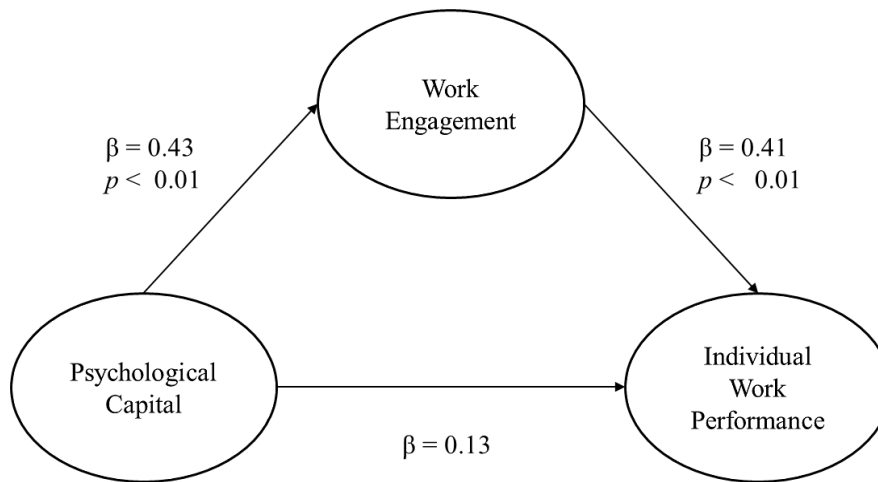


Figure 3. Path estimates for indirect effects.

Based on the results, support was found for Hypothesis 2.

DISCUSSION

The objectives of this study were to determine the possible relationships between psychological capital, work engagement and individual work performance, and the indirect effect of work engagement on the relationship between psychological capital and individual work performance.

Hypothesis 1 suggested that there is a positive relationship between psychological capital, work engagement and individual work performance. In order to determine whether this hypothesis could be accepted, the researcher was required to determine the relationships that firstly exist between psychological capital and work engagement. Secondly, the relationship between work engagement and individual work performance had to be established and lastly, the relationship between psychological capital and individual work performance.

The results of this study indicate that psychological capital is positively related to work engagement. This suggests that higher levels of psychological capital seem to correspond with an increase in engagement levels. Upon further review of the results, it is evident that higher levels of hope, resilience and optimism, in particular, correlated with higher levels of engagement. Therefore, nurses who seek opportunities to improve their situation, acknowledge positive events and are motivated to attain their goals, seem to exert more energy and are more committed to the task at hand. Furthermore, nurses who have the ability to adapt to change and persevere through challenging situations, tend to immerse themselves in their work.

The results further indicate that work engagement is positively related to individual work performance, suggesting that a higher level of work engagement corresponds with higher levels of performance. Physical and emotional engagement, in particular, related positively to task and contextual performance. This implies that nurses, who are involved, exert energy and are dedicated and committed to the task at hand, tend to exhibit proficient ability to perform their work-related tasks. They may also showcase behaviour that supports the core functions within the hospital. Counterproductive work behaviour did not appear to have any significant impact on either psychological capital or work engagement. By taking the above into consideration, it should be noted that, in this context, psychological capital and work engagement could be beneficial for patient care, the organisation and the employee (Bonner, 2016).

Based on the results, it is evident that there is a positive relationship between psychological capital and individual work performance; however, it should be noted that this relationship was statistically, but not practically significant. Therefore, although a relationship exists between the constructs, the magnitude of the effect size indicates that this relationship is not of practical concern within the sample. Upon further investigation, it can be concluded that hope, resilience and optimism related positively to contextual performance. This means that nurses who acknowledge and internalise positive events, who are motivated to attain their goals and persevere through difficult situations, showcase behaviour that supports the goals of the organisation. In addition, optimism was found to have a positive impact on nurses' proficiency with which they perform their tasks. The results support the findings by Nasurdin, Ling, and Khan (2018), where psychological capital had a positive relationship with nurses' job performance. Although the study concluded that resilience was found to be unrelated to both task and contextual performance, resilience was found - in this particular study - to be both practically and statistically significantly related to contextual performance and statistically significantly related to task performance. Taking the above into consideration, it can be concluded that hypothesis 1 could be accepted as the results indicated that a positive relationship exists between the constructs.

Hypothesis 2 suggested that work engagement indirectly affects the relationship between psychological capital and individual work performance amongst nurses. The results in the study confirmed that psychological capital had an effect on individual work performance through work engagement. Therefore, psychological capital increases nurses' individual work performance as long as their work engagement levels remain sufficiently high. These results support the theory that psychological capital is an antecedent to work engagement (Sweetman & Luthans, 2010).

These results are similar to previous research where Bhatti, Hussain, and Al Doghan (2018) uncovered that work engagement had an indirect effect on the relationship between nurses' personal and job resources, and their job performance (task and contextual performance). Bhatti et al. (2018) further stated that personal resources (particularly self-efficacy) enable individuals to influence their work environment which would significantly contribute to work engagement.

Limitations and Recommendations for Future Studies

This study contained a few limitations that should be taken into consideration. Firstly, the cross-sectional research design prevented the researcher from determining causal relationships between the various constructs as the data was collected at a specific point in time (Sedgwick, 2014). In future, researchers may consider conducting longitudinal studies to determine causal relationships between the constructs.

Secondly, common method bias may have resulted in a limitation to the study due to the self-report nature of the questionnaires. This could be as a result of respondents' unwillingness or inability to spend the necessary cognitive effort required to accurately answer questions presented in a survey (Krosnick, 1991, 1999). Possible recommendations for future studies would be to consider a mixed-method research approach that includes in-depth interviews and/or focus groups.

In addition to the mixed-method approach, the researcher should consider the participants' language proficiency and translate the measuring instruments into other South African languages. Du Plessis (2014) suggested the revision and validation of the language of the PCQ for future studies within the South African context. This suggestion was as a result of the large difference that was found between the respondents' level of psychological capital that spoke English as a first language, compared to those who did not.

Thirdly, as a result of challenges pertaining to the data collection process, the study was limited largely to nurses from a particular hospital which accounted for the majority of the participants. A recommendation for future research may be to adapt the data collection methods to ensure that the majority of the intended research sample can be reached.

The study was limited to the public healthcare sector in the Sedibeng district in South Africa. Recommendations for future research would be to consider including participants from the private healthcare sector to allow for a comparative study. Future researchers may consider expanding the

geographic location in which future studies are to be conducted. Furthermore, it may be beneficial to include other categories of health practitioners as this may aid in generalising the findings to other contexts.

Lastly, this study viewed psychological capital as a form of personal resource and did not consider alternative types of resources (i.e. organisation-based resources and job-based resources). Therefore, a recommendation for future research is to consider alternative types of resources in addition to personal resources and the impact thereof on both engagement and performance.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

The purpose of this chapter is to discuss the conclusions of the study, based on its specific objectives. The limitations of the study are discussed. Furthermore, recommendations are made in terms of the organisation and future research.

3.1 CONCLUSIONS

The general objective of this study was to investigate the relationship between psychological capital, work engagement, and individual work performance amongst nursing staff in the Sedibeng public healthcare sector. Based on the literature review and empirical results of the study, the following conclusions can be drawn.

The first objective was to investigate the relationships between psychological capital, work engagement and individual work performance as conceptualised in literature.

Positive organisational behaviour takes a positive stance on the study and application of individuals' strengths and psychological capabilities. Derived from positive organisational behaviour, Luthans (2002b) developed the concept of psychological capital which refers to the positive psychological state of an individual. Psychological capital is characterised by having the confidence and dedication to be successful in taking on challenging tasks (self-efficacy), having a positive attribution towards future successes (optimism), being able to persevere and, when necessary, redirect pathways in order to reach goals (hope). Furthermore, psychological capital is characterised by having the capacity to bounce back from adverse situations (resilience) (Luthans, Youssef, & Avolio, 2007). The effective measurement of these strengths and state-like capabilities enables individuals to develop these elements with the purpose of improving performance (Luthans, 2002a; Luthans, Youssef-Morgan, & Avolio, 2015), and are regarded as a source of competitive advantage for organisations (Ohlin, 2019).

Sweetman and Luthans (2010) proposed that psychological capital can be regarded as a contributing factor to work engagement. This proposition is supported by the conservation of resources (COR) theory, where psychological capital is regarded as an enabler that assists individuals in the accumulation of resources that are valued and deemed necessary for engagement to take place (Hobfoll & Shirom, 2001). Kahn (1990) conceptualised work engagement as "how

the psychological experiences of work and work contexts shape the process of people presenting and absenting themselves during task performance” (p. 3). It should be noted that work engagement in this context takes an individual’s physical engagement (physical involvement and energy), cognitive engagement (mental absorption), and emotional engagement (dedication and commitment) into consideration when performing work-related tasks (Kahn, 1990; May, Gilson, & Harter, 2004). Costantini et al. (2017) concluded in their study that psychological capital, as a set of personal resources, may foster higher levels of work engagement amongst employees. Further studies also investigate the relationship between work engagement and the positive impact on task and contextual performance (Anitha, 2014; Christian, Garza, & Slaughter, 2011).

Throughout literature, individual work performance has been conceptualised and operationalised in different ways in different disciplines. These disciplines range from occupational health (prevention of productivity loss through health impairments), work and organisational psychology (determinants of individual work performance), and management and economics (optimising performance to increase productivity and competitive ability) (Koopmans, Bernaards, Hildebrandt, De Vet, & Van der Beek, 2014). Koopmans et al. (2011) endeavoured to create a heuristic conceptual framework for individual work performance. The researchers concluded that the concept comprised a four-dimensional framework, which was later refined to a three-dimensional framework comprising task performance, contextual performance, and counterproductive work behaviour (Koopmans et al., 2013).

Based on the literature review, it is evident that psychological capital, work engagement and performance are conceptualised well in literature, and although it is evident that relationships exist between these constructs, no research has been found measuring the relationship between psychological capital and work engagement, and individual work performance (three-factor model), as defined by Koopmans (2015). Based on this, an opportunity presented itself for empirical research on the possible relationships that exist between these constructs. Also, no studies pertaining to the measurement of individual work performance amongst nursing staff were found.

The second objective was to determine the relationship that exists between psychological capital, work engagement and individual work performance amongst nurses in the Sedibeng public healthcare sector.

In order to determine the relationships between psychological capital, work engagement and individual work performance, statistical analyses were performed to investigate the relationships.

Relationship between psychological capital and work engagement. The results of the study indicated that there is a positive relationship between nurses' levels of psychological capital and levels of work engagement. Psychological capital had a statistically significant relationship with the three factors of work engagement, which included cognitive engagement, emotional engagement and physical engagement. It should be noted that the relationship between psychological capital and cognitive engagement was not practically significant; however, the relationship with both emotional engagement and physical engagement was practically significant (medium effect). This might be interpreted as an indication that nurses with the availability of personal resources are able to involve themselves physically and with energy when engaging in work-related activities, whilst being emotionally engaged by being dedicated and committed to the task at hand. Additionally, the researcher found that hope had a practically and statistically significant relationship with emotional engagement, whereas optimism was both practically and statistically related to emotional and physical engagement (medium effect). These results coincide with studies conducted by Erbas and Ozbek (2016), and Pan, Mao, Zhang, Wang, and Su (2017) which found that psychological capital had a positive relationship with an individual's level of work engagement. Pan et al. (2017) also concluded that, by developing nurses' psychological capital, one can create a supportive environment that increases work engagement.

Relationship between work engagement and individual work performance. The results of this study indicated that a positive relationship exists between nurses' levels of work engagement and perceived individual work performance. From the results, it is evident that although the relationship between the factors of both engagement and individual work performance (excluding counterproductive work behaviour) is statistically significant, it should be noted that the relationship between both emotional and physical engagement, and task and contextual performance, was practically significant (medium effect). The results revealed that the nurses were emotionally engaged in their work, which is defined as being dedicated and committed to their job and also physically involved in their work by exerting energy to be able to conduct their work. These results were moderately associated with task performance, which refers to the proficiency with which the nurses perform their work-related task in their role that requires the necessary skill and knowledge in their field. Furthermore, these elements of engagement linked with contextual performance in that nurses showcase behaviour that supports the functions of the hospitals where

they are employed. Bargagliotti (2011) investigated the outcomes of work engagement with specific relation to the nursing profession, which included higher levels of personal initiative.

In addition to this, the study found that nurses who are engaged in their work contributed to the decrease in hospital mortality rates and the financial profitability of organisations. It should be noted that, in this study, work engagement did not bear any relation to counterproductive work behaviour. These results contradict the findings of Snygans (2019), where a negative relationship was found between work engagement and counterproductive work performance. In this particular study, both emotional and physical engagement were practically and statistically negatively related to counterproductive work behaviour. However, the researcher could not establish any relationship with counterproductive work behaviour within the current study. These seemingly contradicting results may potentially be attributed to the self-reporting nature of the Individual Work Performance Questionnaire (IWPQ). The respondents may have been reluctant to truthfully report on their counterproductive work behaviour due to fear of or eluding punishment. Alternatively, participants may not have been comfortable answering questions where they are portrayed in a negative light (Heneman, Heneman, & Judge, 1997). These possibilities could stem from respondents' preference of presenting themselves in a favourable light to avoid blame, to maintain a positive self-image (impression management) (Tedeschi & Riess, 1981), that they perceive the information as highly sensitive, or that they merely do not engage in counterproductive work behaviour.

Relationship between psychological capital and individual work performance. The results indicated a positive relationship between psychological capital and individual work performance. Though the direct relationship between these latent variables was statistically significant, it should be noted that the relationship was not practically significant. This may indicate that although a relationship exists between the constructs, the magnitude of the effect size may not be of practical concern in relation to this particular sample of nurses. Upon further investigation, it is evident that contextual performance was practically and statistically related to various factors within psychological capital, including hope, resilience, and optimism. This may indicate that nurses who are hopeful, may be motivated to reach their goals and be willing to improve their current situation; optimistic nurses may acknowledge and internalise positive events. Furthermore, depending on their level of resilience, nurses may be able to adapt to change and persevere through challenging situations. These results correspond with contextual performance which relates to nurses engaging in activities that contribute to the overall goal of the organisation. The results were partially

consistent with the findings of Nasurdin, Ling, and Khan (2018) in that the factors of psychological capital were positively related to both task and contextual performance.

It should be noted that, in this study, self-efficacy did not bear any relation to the factors of individual work performance, excluding contextual performance, although the relationship was not practically significant. Some studies have found that self-efficacy was positively related to nurses' performance (Salanova, Lorente, Cambel, & Martínez, 2011; Van Hooft, Dwarswaard, Bal, Strating, & Van Staa, 2016). The results in the current study indicated that self-efficient nurses with a sense of confidence in undertaking challenging tasks indicated that they engage in behaviour that support the work environment. However, there was no relation to task performance or counterproductive work behaviour. This could indicate that having confidence in taking on difficult tasks did not have any relation with the nurses' proficiency to do the tasks or engaging in counterproductive work behaviour. Wang, Tsai, Tsai, Huang, and De la Cruz (2018) noted that, amongst other elements, job performance was regarded as a consequence of psychological capital; not just by taking the objective measurement of performance into consideration, but also the mental processes (personal and other's beliefs) used to evaluate how an individual is performing (Campbell, 1990; Campbell, McCloy, Oppler, & Sager, 1993). No studies were found relating psychological capital to individual work performance as defined by Koopmans' (2015) three-factor model.

By taking the above into consideration, the researcher will make reference to Hypothesis 1, which stated that there is a positive relationship between psychological capital, work engagement and individual work performance amongst nurses. Based on the results, Hypothesis 1 could be accepted.

The third objective was to investigate whether work engagement indirectly affected the relationship between psychological capital and individual work performance.

The results of this study were consistent with previous research which has shown that job and personal resources lead to higher levels of job performance of employees through work engagement (Bakker & Demerouti, 2008). Bonner (2016) furthermore determined that psychological capital can be regarded as an antecedent of work engagement. The results of the current study indicated that an increase in nurses' level of psychological capital had an increased effect on their perceived individual work performance, given that their levels of work engagement

remained sufficiently high. Further studies such as Bhatti, Hussain, and Al Doghan (2018) and Chen (2015) arrived at similar conclusions. Chen (2015) suggested that individuals tend to be more resourceful and motivated when their levels of psychological capital are high. This could be attributed to their abilities to persevere through adverse situations (resilience), their positive attributions to pursuing their goals (hope), and belief in their capabilities that enable them to focus on the task at hand (self-efficacy). Bhatti et al. (2018) specifically investigated the relationships between these constructs amongst nurses; however, this current study measured individual work performance as defined by Koopmans (2015) within the public healthcare sector in South Africa. Hypothesis 2 stated that work engagement indirectly affects the relationship between psychological capital and individual work performance. Based on the results, hypothesis 2 could be accepted.

3.2 LIMITATIONS

This study contained various limitations that should be taken into consideration. Firstly, the cross-sectional nature of the research design hindered the researcher's ability to determine causal relationships between constructs. Secondly, common method bias can be regarded as a limitation due to the self-report nature of the questionnaires. In order for respondents to provide optimal answers when responding to a survey, a great deal of cognitive effort is required. By taking the nature of the work that the respondents have and the manner in which the data was collected into consideration, the researcher should not disregard the possibility that some participants may have been unmotivated or unable to exert the necessary cognitive effort to complete the questionnaire (Krosnick, 1991; Podsakoff, MacKenzie, & Podsakoff, 2012). The language proficiency of the research participants may be regarded as a possible limitation as this may have influenced their understanding of the items. However, proficiency in English was communicated as a prerequisite for participation in the study. A particular limitation in this study related to the data collection process, whereby the majority of the participants were limited to a particular hospital. In addition, the study was limited to nurses in the public healthcare sector in the Sedibeng district in South Africa.

3.3 RECOMMENDATIONS

3.3.1 Recommendations for the Organisation

Despite the limitations, there are various recommendations that can be made for management and human resource professionals in the healthcare field. By taking the current state of public

healthcare within the South African context into consideration, it is evident that the lack of resources, staff and skills shortages and financial constraints have an adverse effect on public healthcare institutions and the quality of services provided to the public. Based on this study, it is evident that psychological capital had a positive impact on nurses' perceived performance through work engagement. It is therefore imperative for these institutions to understand the impact that both psychological capital and work engagement have on nursing performance, which impacts the quality care provided.

Luthans, Avey, Avolio, Norman, and Combs (2006) suggest that organisations invest in the implementation of psychological capital interventions which focus on the development of employees' psychological capital. Ruderman and Clerkin (2015) discuss training elements that are used in the development of psychological capital. By providing nurses with the opportunity to develop new skills in a supportive environment, management can contribute to the development of nurses' self-efficacy. This element is of particular importance as nurses are constantly faced with the challenge of caring for patients; therefore, the continual attendance of educational programmes focusing on the improvement of competence, skills, knowledge and abilities, is crucial (Nasurdin et al., 2018). Training and supporting employees to create a positive outlook on new possibilities and goal settings may aid in the development of optimism. In addition, the implementation of mentoring and training programmes that focus on addressing self-defeating beliefs when confronted with adverse situations may assist nurses with developing a sense of optimism (Luthans, Luthans, & Luthans, 2004). By addressing behaviours that allow individuals to grow and to address negative circumstances in a pro-active manner would assist in developing hope (Nasurdin et al., 2018). Luthans et al. (2004) suggested that nurses engage in setting specific and challenging goals, but also focus on developing contingency plans to ensure that these goals are met. Resilience could be developed by providing nurses with guidance and social support when faced with adverse situations (Jackson, Firtko, & Edenborough, 2007). Management should also focus on acknowledging and praising nurses in their achievements, which will create a sense of pride in their work (Hodges, Keeley, & Grier, 2005).

Researchers noted that the improvement of work engagement amongst clinical care practitioners is of great importance in order to protect them from occupational stress and burnout (Fiabane, Giorgi, Sguazzin, & Argentero, 2013). The authors suggested that it is important to focus on ensuring that employees' workload is in line with their resources. However, this may be challenging within the South African public healthcare sector where resources are scarce and

demands are high. To support staff during this time, management should consider investing in educating nurses in the use of effective strategies that will assist them in managing work overload. The development of nurses' personal resources may also act as a support by strengthening their internal coping resources. Effective talent management strategies are crucial, particularly when considering the nurse shortage in South Africa. This may assist hospitals in filling vacancies quickly and effectively with skilled staff members that will lessen the unnecessary burden of current nursing staff. Although it is important for hospitals to invest in the psychological capital and work engagement of their staff, the vital need for investing in adequate resources for the healthcare sector is a topic that requires further immediate attention.

3.3.2 Recommendations for Future Research

The following pertains to recommendations for future research. Firstly, future researchers should consider utilising longitudinal research designs. This will contribute to the research field by determining the causalities of the relationships between the constructs over an extended period of time. Secondly, it is recommended that future researchers consider the replication of the study to allow for a comparative study between the public and private healthcare sectors. Thirdly, expanding the geographic location of the study may enable researchers to gain a larger overview of the challenges and advantages that other areas may experience relating to the study variables. Adding other categories of healthcare practitioners may also aid in generalising the findings to the larger healthcare field. Lastly, the study focused more on psychological capital as a personal resource and an antecedent of work engagement. Future studies may consider investigating alternative types of resources, and the antecedents of psychological capital within this particular context.

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