



Investigating perceived stress, emotional intelligence and psychological well-being among first-year Nursing students

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COMMENTS

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- The editorial style as well as the references referred to in this mini-dissertation follow the format prescribed by the Publication Manual (6th edition) of the American Psychological Association (APA). This practice is in line with the policy of the Programme in Industrial Psychology of North-West University (Potchefstroom Campus) to use the APA style in all scientific documents as from January 1999.
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I, Corné Montgomery, hereby declare that **Investigating perceived stress, emotional intelligence and psychological well-being among first-year nursing students** is my own work and that the views and opinions expressed in this work are my own and that of relevant literature references as shown in the references.

Furthermore, I declare that the contents of this research study will not be submitted for any other qualification at any other tertiary institution.

CORNÉ MONTGOMERY NOVEMBER 2017

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I, Cecilia van der Walt, hereby declare that I have language edited the following dissertation:
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SUMMARY

Title

Investigating perceived stress, emotional intelligence and psychological well-being among first-year Nursing students

Keywords

Perceived stress, emotional intelligence, psychological well-being, first-year nursing students

The constructs *perceived stress*, *emotional intelligence* and *psychological well-being* are well-described in literature. Research is available with regard to these constructs in the general sense of the healthcare industry but limited focus exists on first-year nursing students, especially within the South African context. This research then focuses specifically on first-year university students enrolled in a nursing programme at a South African university. South Africa faces enormous challenges concerning the nursing profession both at present and will also in the future. South Africa currently experiences a shortage in the nursing profession due to many of the registered nurses emigrating. A reason for this immigration may be linked to the current working conditions in the healthcare industry. This problem is even further exacerbated by the situation that the nursing profession is facing dire dropout rates of nursing students at South African universities.

The nursing profession can be regarded as one of the strongest pillars in the healthcare sector and it is therefore essential that attention be turned to not only the unsettling aspects of the nursing profession but also to the nursing student and what can be done to strengthen and retain them. This will assist students in becoming stronger health-care professionals and in minimising the dropout rate of universities, which will lead to more registered nurses being harvested for the profession. For first-year nursing students, there is an intricate balance that needs to be maintained between their practical work, academic requirements and their personal lives as students. It is important for first-year nursing students to realise they are in control of this balance and for the university to realise they have a tremendous influence with respect to the creation of this balance. As soon as first-year nursing students realise the importance of this balance and take control of it, the more it will become a habit for them in

their future studies. This research focuses on the role that perceived stress, emotional intelligence and psychological well-being will play.

The objective of this research was to determine whether first-year nursing students experience different levels of perceived stress and psychological well-being based on levels of emotional intelligence. Further investigations were undertaken to determine the strength and nature of the relationships between these constructs. This study was performed with a view to gain a better understanding of how these constructs play a role in the life of a first-year nursing student in South Africa, as well as to investigate what the university can do in this respect. The participants in this research were first-year nursing students enrolled in a nursing programme at a university in South Africa.

Convenience sampling was used with a population of ($N = 110$) at the relevant university in South Africa and acquired an 80% participation rate ($n = 88$). The main priority of sampling the participants was to ensure that they indeed were first-year nursing students. The SPSS and AMOS programmes were used to aid in the statistical analysis, and a cross-sectional research approach was utilised. Descriptive statistics were used to generalise the characteristics of the participants from the sample to the population. The Cronbach Alpha Coefficient was applied to determine the reliability and validity of the questionnaires. The Pearson correlation coefficient was applied to determine the strength and nature of the relationship between perceived stress, emotional intelligence and psychological well-being. Finally, a one-way analysis of variance (ANOVA) was utilised and implemented to determine whether statistically significant differences exist between the means of perceived stress and psychological well-being based on low, moderate and high emotional intelligence.

Results found that relationships between perceived stress and psychological well-being; perceived stress and emotional intelligence were both negative and significant. Furthermore, a positive relationship exists between emotional intelligence and psychological well-being. Based on the mean scores, it was found that students are more likely to have lower levels of perceived stress with high emotional intelligence and vice versa. The results, based on the mean scores, indicated that a student with high levels of emotional intelligence was more likely to be found with high levels of psychological well-being and vice versa.

Once conclusions were drawn regarding the study, limitations were discussed and therefrom, recommendations were made for future research and practice.

OPSOMMING

Titel

Ondersoek waargenome stres, emosionele intelligensie en psigologiese welstand onder eerstejaar Verpleegstudente

Sleutelwoorde

Waargenome stres, emosionele intelligensie, psigologiese welstand, eerstejaar-verpleegstudente

Die konstrunkte *waargenome stres*, *emosionele intelligensie* en *psigologiese welstand* word goed beskryf in die literatuur. Navorsing is beskikbaar met betrekking tot hierdie konstrunkte in die algemene sin van die gesondheidsorgbedryf, alhoewel beperkte fokus geplaas word op eerstejaar- verpleegstudente, veral binne die Suid-Afrikaanse konteks. Hierdie navorsing fokus dus op eerstejaarstudente wat by 'n universiteitsinstelling in 'n verpleegprogram in Suid-Afrika ingeskryf is. Suid-Afrika word deur groot uitdagings in die gesig gestaar met betrekking tot verpleging – tans, en sal ook in die toekoms. Suid-Afrika ondervind tans 'n tekort in die verplegingsprofessie as gevolg van baie van die huidige geregistreerde verpleegsters wat emigreer; dit kan toegeskryf word aan die werksomstandighede in die gesondheidsorgbedryf. Hierdie probleem word selfs verder vererger deurdat die verplegingsprofessie tans groot uitvalsyfers onder verpleegstudente by Suid-Afrikaanse universiteite ondervind.

Die verplegingsberoep kan beskou word as een van die sterkste pilare in die gesondheidsorg-sektor. Dit is dus noodsaaklik dat aandag nie slegs op die kommerwekkende aspekte van die verplegingsprofessie gefokus moet wees nie, maar ook op die verpleegstudent, asook wat gedoen kan word om hulle te versterk en te behou. Dit sal studente help om sterker gesondheidswerkers te word en die uitrol/uitvalkoers van universiteite te verminder, wat daartoe sal lei dat meer geregistreerde verpleegkundiges vir die professie geoes sal kan word. Vir eerstejaarverpleegstudente is daar 'n ingewikkelde balans wat tussen hul praktiese werk, akademiese vereistes en hul persoonlike lewe as studente bewerkstellig moet word. Dit is belangrik vir eerstejaarsverpleegstudente om te besef dat hulle in beheer is van hierdie balans en dat die universiteit besef dat hulle as 'n organisasie 'n geweldige invloed uitoefen op die

skep van hierdie balans. Hierdie navorsing fokus op watter rol waargenome stres, emosionele intelligensie en psigologiese welstand ten opsigte van hierdie balans speel.

Die doel van hierdie navorsing was om vas te stel of eerstejaarverpleegkundiges verskillende vlakke van waargenome stres en psigologiese welstand ervaar, gebaseer op vlakke van emosionele intelligensie. Verdere ondersoek is ingestel met die oog daarop om die sterkte en aard van die verwantskap tussen hierdie konstrakte te bepaal. Hierdie studie is onderneem om 'n beter begrip te kry van hoe hierdie konstrakte 'n rol speel in die lewe van 'n eerstejaarverpleegstudent in Suid-Afrika, asook om ondersoek in te stel na wat deur die universiteit gedoen kan word in hierdie verband. Die deelnemers aan hierdie navorsing was eerstejaarsverpleegstudente wat in 'n verpleegprogram by 'n universiteit in Suid-Afrika ingeskryf is.

In die studie is 'n gerieflikheidsteekproefneming gebruik by 'n bevolking van ($N = 110$) by die betrokke universiteit in Suid-Afrika en het 'n deelname van 80% ($n = 88$) behaal. Die belangrikste deel van die steekproefneming vir deelnemers was om te verseker dat hulle inderdaad eerstejaarverpleegstudente was. Die SPSS- en AMOS-programme is gebruik om te help met die statistiese analise en 'n kruis-deursnee-navorsingsbenadering is aangewend. Beskrywende statistiek is verder gebruik om die eienskappe van die deelnemers van die steekproef tot die bevolking te veralgemeen. Die Cronbach Alpha-koëffisiënt is gebruik om die betroubaarheid en geldigheid van die vraelyste te bepaal. Die Pearson-korrelasiekoëffisiënt is toegepas om die sterkte en aard van die verhouding tussen waargenome stres, emosionele intelligensie en psigologiese welstand te bepaal. Ten slotte is 'n eenrigtingvariensieanalise (ANOVA) aangewend en geïmplementeer om te bepaal of daar statisties beduidende verskille bestaan tussen die gemiddeldes van waargenome stres en psigologiese welstand gebaseer op lae, matige en hoë emosionele intelligensie.

Resultate het bevind dat die verhouding tussen waargenome stres en psigologiese welstand beide negatief en betekenisvol was en só ook tussen waargenome stres en emosionele intelligensie. Verder bestaan daar 'n positiewe verhouding tussen emosionele intelligensie en psigologiese welstand. Op grond van die gemiddelde tellings is bevind dat studente meer geneig is om laer vlakke van waargenome stres te ervaar met hoër emosionele intelligensie en omgekeerd. Die resultate dui verder aan dat op grond van die gemiddelde tellings, studente

met hoë vlakke van emosionele intelligensie meer geneig was om hoë vlakke van psigologiese welstand te toon en andersom.

Nadat gevolgtrekkings vir die studie gemaak is, is beperkings bespreek en aanbevelings vir toekomstige navorsing en praktyk gemaak.

CHAPTER 1

INTRODUCTION

This mini-dissertation investigated the perceived stress, emotional intelligence and psychological well-being among first-year nursing students. It postulated the relationship between perceived stress and psychological well-being. Furthermore, it investigated the relationship between perceived stress and emotional intelligence and then the latter's relationship with psychological well-being. Finally, it investigated the relationship between the perceived stress and psychological well-being experienced by a sample of first-year nursing students based on different levels of emotional intelligence.

In this chapter, the problem statement will be provided, as well as an overview of research already done on perceived stress, emotional intelligence and psychological well-being specifically on the population of first-year nursing students. An explanation of the research questions, research objectives and research hypotheses will be followed by a discussion of the research methodology. Finally, the ethical considerations of this study as well as a layout of the chapters will be provided.

1.1 PROBLEM STATEMENT

In the nursing profession globally, nurses are required to possess certain characteristics such as being caring and trustworthy. These traits in turn can be seen as roles and responsibilities nurses need to perform so as to provide care to the patients and their families alike (Ateah, Snow, Wener, MacDonald, Metge, Davis, Frickle, Ludwig & Anderson, 2011). However, there are more to the responsibilities and roles of a nurse than just their traits as an expectation from a patient and an employer's perspective. The stress versus professional role of nurses has been of interest in research in the past 30 years due to the constant rapid changing environment nurses have to operate in. Its interest remains to this date (Lambert & Lambert, 2001).

The work role of a nurse is always accompanied by a certain amount of stress; therefore it remains the aim for organisations or health care institutions to reduce the stress experienced

by nurses (Rothmann, Van der Colff & Rothmann, 2006). As a result, perceived stress can be deemed important since it may occur before nurses experience actual stress. Nurses may need to suppress their feelings of being emotionally heavily loaded due to the fact that they care for their patients or simply to remain employed. Dlamini (2015) states that the psychological well-being of nurses, coupled with their performance, has a direct effect on the care they give to their patients. Likewise, the quality of the care a nurse provides largely depends on the perception of their patient with regard to whether the nurse can satisfy their needs. As a result the nurse's presence plays an important role (Meade, Bursell, & Ketelsen, 2006).

Since various perceptions exist regarding the expectations of the role and responsibilities of a nurse, few people actually realise that a student nurse enrolled at an institution such as a university has a scope of practice which includes academic and practical work concurrently (National Department of Health, 2005). First-year student nurses have earlier reported that the academic pressures they were experiencing increased their levels of stress, which is further increased by their practical working hours along with participating in first-year academic activities (Watkins, Roos, & Van der Walt, 2011). First-year nursing students therefore must strike a balance between their clinical practice, academic responsibilities and social activities.

First-year university students often enter a program and to come classes without regard or being prepared for the various stressors of life (Hamdan-Mansour & Marmash, 2007). Parkes (1985) emphasises that nursing students usually already obtain their initial practical experience of basic nursing practices in either medical or surgical settings in their first year of study. High levels of perceived stress may be experienced by nursing students in the training environment, since nursing students are often placed in environments unfamiliar to them where they do not know the immediate staff, patients or the ward routines (Elliot & Cert, 2002). Elliot and Cert (2002) are also of opinion that very high expectations are usually placed on these individuals, even though they are still only students.

Emotional intelligence is considered to be an essential requirement for the recruitment in nursing, considering that nursing students are often faced with new and very often difficult, stressful conditions when enrolled for a nursing programme (Cadman & Brewer, 2001; Watson, Deary, Thompson, & Li, 2008). This in turn has an impact on the psychological well-being of a nursing student and it has been shown that a negative correlation exists

between stress hormones experienced by an individual and their level of psychological well-being (Robertson & Cooper, 2011). Hence there is a need to assist student nurses in being able to cope with the working conditions when they enter the working environment as registered nurses.

Perceived Stress

Before discussing the construct *stress*, it is important to differentiate between the terms stress and perceived stress. Stress is defined by Parumasur and Barkhuizen (2009) as a condition an individual experiences; such that they react to an environmental event in their lives which places certain demands on them and they in turn acknowledge that they cannot cope with these demands placed upon them. Perceived stress (PS) in turn is defined by Cohen, Kamarck and Mermelstein (1983) as the degree to which one's life appears to be stressful. Por, Barriball, Fitzpatrick and Roberts (2011) indicate that nursing is indeed a stressful environment and students who are placed in clinical settings are exposed to the realities of being a healthcare professional at an early stage during their studies. Elliot and Cert (2002) further state that often these students are expected to be proficient or familiar with concepts in which they have not yet received training. Skok, Harvey and Reddihough (2006) describe in their study that a negative relationship exists between PS and psychological well-being, indicating that should PS increase, psychological well-being will decrease.

Stress and stress levels experienced by student nurses have been researched extensively (Elliot & Cert, 2002; Görgens-Ekermans & Brand, 2012; Jones & Johnston, 1997, 1999, 2000; Parkes, 1985; Por et al., 2010; Watson, Deary, Thompson & Li 2008; Watson et al., 2007). Little research, however, has been done that focuses on PS experienced by nursing students during their first year of study (Birks, McKendree & Watt, 2009; Jones & Johnston, 1999). Ruiz-Aranda, Extremera, and Pineda-Galán (2014) focused on PS on various healthcare students (including nurses) while other research focused on registered nurses or other health care students (dental undergraduates) (Pau & Croucher, 2003).

Emotional Intelligence

The most widely known definition of emotional intelligence (EQ) is conceptualised by Salovey and Mayer (1990, p.5) as “one's ability to monitor one's own and others'” feelings

and emotions, to discriminate among them and to use this information to guide one's thinking and actions. The definition of EQ applicable to this study is that of Petrides and Furnham (2000, p.313) who define EQ as “an appraisal of emotions, the regulation of emotions and utilising the emotional information in thinking and acting.”

Nursing is often considered, and characterised as, an emotional profession (Smith, 2017). Smith (2017) goes further by stating that usually patients are vulnerable and their families afraid and defensive and this can result in a demanding relationship between the student nurse, the patient and their families. A variety of research has been conducted on the EQ of nurses in the literature (Akerjordet & Severinsson, 2004; Heffernan, Quinn Griffin, McNulty & Fitzpatrick, 2010; Montes-Berges & Augusto, 2007; Quoidbach & Hansenne, 2009). When nurses portray high levels of EQ, they appear to be more resilient, cope better with the stress, portray higher levels of caring (Hurley, 2008) and develop a stronger sense of psychological well-being (Kaur, Sambasivan, & Kumar, 2013). This in turn can cultivate a sense of hope, trust and safety in the patients which, as previously mentioned, can be seen as the perception patients have of the nursing profession (Blegen & Severinsson, 2011). Furthermore, demonstrating high levels EQ can assist the first-year nursing student in gaining better self-control and self-confidence which in turn will motivate them to remain committed to the profession (Smith, 2017).

Furthermore, nursing students are often faced with new and very often difficult conditions when they enrol for a nursing programme at a university, which in turn stimulates a perception of stress (Watson et al., 2007). As a result, when nurses' experience increased levels of EQ, it may shield the negative influence that their PS may have on their psychological well-being. Furthermore, Cadman and Brewer (2001, p.321) are also of opinion that a selection process is needed in which EQ can be measured for potential candidates as it appears to be a “reliable predictor for success in both clinical nursing practice and academic study.” EQ can be deemed a necessity for a student nurse because caring relationships between the nurse, the individual, their family and communities form the foundation of the profession (Smith, 2017).

Psychological Well-Being

Psychological well-being (PWB) has been thoroughly defined in literature. The definition of PWB which will be used for this study is that of Ryff and Keyes (1995) who define PWB as the barriers or tasks people face in life when striving towards functioning fully and realising the talents unique to themselves in terms of self-acceptance, personal growth, purpose in life, positive relations with others, autonomy, and environmental mastery. This definition can be simplified by referring to the definition of PWB of Wood and Joseph (2010) who define PWB as an individual's emotional and cognitive state after having been exposed to certain conditions within their environment.

In their study Gipson-Jones (2009) found that the PWB of nursing students is greatly influenced by their ability to balance their work, family and educational role. As mentioned previously, this statement is also supported by Watkins et al. (2011) stating the same effect these roles have on a student's stress along with Gipson-Jones' (2009) finding on PWB. Furthermore, the importance of PWB is highlighted by Dlamini and Visser (2017), indicating that PWB proves to be a valuable and essential contributor to quality patient care. It is important to investigate PWB as it has been found that when PWB in nurses is enhanced, it contributes to a greater healthy working environment which in turn increases retention and improved quality care among nurses (Brunault, Fouquereau, Gillet, El-hage, Camus & Gaillard, 2014).

Hence Keyes (2002) proposes a mental health continuum which depicts an individual being seen as "flourishing" on one side of the spectrum and "languishing" on the other. When an individual experience an overwhelming sense of positive emotions they should be capable of functioning optimally on a psychological and social aspect in which they will be considered to be flourishing (Keyes, 2002). Should individuals experience low levels of well-being, they may experience low levels of or incomplete mental health, in which they will be considered to be languishing (Keyes, 2002). The mental health of an individual can be seen as a combination of three dimensions – psychological well-being, social well-being and emotional well-being with the former two dimensions referring to the eudaimonic perspective and the latter to as stated by Keyes (2002), with the former two dimensions referring to the eudaimonic and the latter to the hedonic perspective. The hedonic perspective according to Robertson and Cooper (2011) can consist of aspects such as the experience of positive

emotions, happiness and subjective well-being of an individual. The eudaimonic perspective in turn comprises the six dimensions of Ryff (1989, p 1071), namely “*Self-acceptance; Positive relations with others; Autonomy; Environmental mastery; Purpose in life and Personal growth*”. It is therefore imperative for a nursing student to obtain and display a high level of understanding of their own PWB to flourish even in their first year – for practical and/or academic purposes.

In a study performed by Shayghi, Fallahchai, Branch and Abbas (2017) it was found that a negative relationship exists between PS and PWB and that positive PS strategies predicted positive PWB. Furthermore, in a study performed by Birks et al. (2009) it was also proved that a moderate relationship exists between PS and EQ, whereas Carmeli, Yitzhak-Halevy and Weisberg (2007) found that there is a positive association between EQ and certain aspects of PWB. Hamdan-Mansour and Marmash (2007, p.38) also found that the “perception of the psychological well-being of a student is influenced by their academic year and faculty”.

The aim of this study therefore was to research the relationship between the PS experienced by first-year student nurses and their PWB and how it differs based on different levels of EQ.

1.2 Research questions

- How are perceived stress, emotional intelligence and psychological well-being conceptualised according to the literature?
- What is the relationship between perceived stress and psychological well-being of first-year nursing students?
- What is the relationship between perceived stress and emotional intelligence of first-year nursing students?
- What is the relationship between emotional intelligence and psychological well-being of first-year nursing students?
- Do first-year nursing students experience lower levels of perceived stress when portraying high levels of emotional intelligence?
- Do first-year nursing students experience high levels of psychological well-being while portraying high levels of emotional intelligence?

- What recommendations can be made for future research and practice?

2 RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

2.1 General objective

The general objective of this research is to explore the relationship between the perceived stress and psychological well-being experienced by a sample of first-year nursing students based on different levels of emotional intelligence.

2.2 Specific objectives

The specific objectives of this research are:

- To conceptualise how perceived stress, emotional intelligence and psychological well-being are defined according to the literature.
- To determine whether a relationship exists between the perceived stress and psychological well-being of first-year nursing students.
- To determine whether a relationship exists between perceived stress and emotional intelligence of first-year nursing students.
- To determine whether a relationship exists between emotional intelligence and psychological well-being of first-year nursing students.
- To determine whether first-year nursing students experience lower levels of perceived stress with higher levels of emotional intelligence than do those with low levels of emotional intelligence.
- To determine whether first-year nursing students experience high levels of psychological well-being while displaying high levels of emotional intelligence, than do those with low levels of emotional intelligence.
- To outline recommendations for future research and practice.

3 RESEARCH HYPOTHESES

- H1:** A negative relationship exists between the perceived stress and psychological well-being of first-year nursing students.
- H2:** A negative relationship exists between the perceived stress and emotional intelligence of first-year nursing students.
- H3:** A positive relationship exists between the emotional intelligence and psychological well-being of first-year nursing students.
- H4:** First-year nursing students will experience low levels of perceived stress while portraying high levels of emotional intelligence than do those with low levels of emotional intelligence.
- H5:** First-year nursing students will experience high levels of psychological well-being while portraying high levels of emotional intelligence than will those with low levels of emotional intelligence.

4 RESEARCH DESIGN

4.1 Research Approach

This research is quantitative in nature. Fouche, Delport and De Vos (2011) explain that in quantitative research the researcher asks narrow research questions (e.g. Questionnaires) or formulates one or more hypotheses about certain variables related to the particular research for it to be measured, observed and explained. Quantitative research is best suited for this research seeing that the sample group may be perceived as large in which the results can be generalised to this population. Furthermore, quantitative research will be best suited as stated by Struwig and Stead (2001) since quantitative research aims at establishing whether a causal relationship exists between certain variables.

With regard to sampling, the researcher applied convenience sampling. Strydom (2011), point out that convenience sampling is also better known as accidental sampling; it allows the researcher to use elements that are readily available. This sampling method was used for the current research since it took place during the participants' classes and thereby also eliminated the biased aspect known to convenience sampling.

A cross-sectional survey design was utilised to collect the data and to achieve the research objectives. A cross-sectional survey design can be used to describe a specific group of participants with regard to a specific moment in time (Fouche, Delpont & De Vos, 2011). The cross-sectional survey design was further used to determine whether a particular problem exists between a specific group of participants and the level of the specific problem, this data collection method tends to be easier to use, less expensive and it also minimises the dropout rates of participants (Fouche, Delpont & De Vos, 2011).

4.2 Research Method

4.2.1 Literature review

A comprehensive and extensive scientific literature review was carried out to study the literature on the particular variables for this research. The relevant variables include: PS; PWB/health (though subjective well-being and emotional well-being will be measured alongside PWB) and EQ. Other key words include first-year nursing students and certain contexts such as universities in South Africa in which the research was conducted. The literature review comprised the extensive use of resources which included the internet to achieve certain databases such as GoogleScholar, ScienceDirect, EBSCO Host and Mendeley. Additional resources such as verified and accredited scientific articles and journals were used such as the South African Journal of Industrial Psychology, Journal of Health and Social Behaviour, International Journal of Nursing Practice etc. as well as relevant academic text books and departmental institutions such as the South African Nursing Council with regard to statistics.

4.2.2 Research participants and procedure

For purposes of this study, a sample of first-year nursing students who enrolled in a nursing program at a university was selected ($N = 110$). To ensure sufficient representation of the population, the measures were administered during a lecture session. Approval was obtained from the relevant lecturer and department at the university

The sample of participants could differ regarding age, gender and race but they had to be first-year nursing students at the specific university. Prior to the data gathering period the researcher communicated with the students three weeks in advance. Participation was voluntary and confidentiality and anonymity was assured. Informed consent forms were handed out to the students which contained all the relevant information the researcher discussed with them as well as one or two examples from the questionnaires they would complete. This was used to gain permission in writing and an understanding on the part of the student.

One week before the research took place (one week after they had received the informed consent forms); the researcher notified and reminded the students (participants) about the research as to when and where it would take place. Participants were also reminded of the informed consent forms that had to be completed and brought with them, to participate in the research.

During the class, before the questionnaires were handed out, the researcher explained the above-mentioned aspects once more and received the informed consent forms from the students before the process commenced. Envelopes were handed out along with the pen and paper questionnaires in which the completed questionnaires (since this research is quantitative in nature) were placed and sealed without the participant's name appearing on it, to ensure anonymity, and handed over to the researcher to ensure the safety thereof, where after data analysis took place. Completion of the questionnaires took approximately 30 minutes to complete.

4.2.3 Measuring instrument(s)

For this study, measuring instruments were administered to measure biographical characteristics of the nursing students, perceived stress, emotional intelligence and psychological well-being. The measurements were as follows:

Biographical Questionnaire

Basic biographic characteristics of the participants were collected by means of the completion of a short (four-question) biographical questionnaire. The biographical characteristics included age, gender, ethnicity and level of education.

Perceived Stress

The Perceived Stress Scale (PSS-10) designed by Cohen et al. (1983) measures the perception of stress. The PSS-10 consists of ten items and is measured on a five-point Likert scale which ranges from responses 0 (never) to 4 (very often). The items of the PSS-10 were designed for example to measure how difficult and unable to control the lives were of the test-takers and includes direct questions on their experiences of stress and the current level thereof (Cohen et al., 1983). The PSS-10 measures the degree to which life appears to be stressful – such an example question is *“In the last month, how often have you felt that you were on top of things.”* According to Cohen et al. (1983) the PSS-10 was designed for individuals with at least a junior high school education. The PSS-10 has demonstrated to be both reliable and valid with Cronbach alpha coefficients ranging from 0.84, 0.85 and 0.86 and furthermore had a test-retest reliability correlation of 0.85 which is adequate for the criteria of a self-report and behavioural measurement (Cohen et al., 1983). Pau et al. (2007) also found that the PSS-10 has demonstrated a reliability coefficient of 0.87; hence the PSS-10 is deemed reliable and valid within the South African context.

Emotional Intelligence

The Trait Emotional Intelligence Questionnaire Short Form (TEIQue-SF) which was developed by Petrides and Faunham (2006) consists of 30 items on a 7-point Likert type scale ranging from 1 (completely disagree) to 7 (completely agree) and it is specifically designed to measure the ability an individual has to identify and manage their own emotions and to identify those of others. Items include examples such as *“I often find it difficult to regulate my emotions”* and *“I often find it difficult to see things from another person’s viewpoint”*. According to Petrides and Faunham (2006), the TEIQue-SF consists of 15 subscales from the original instrument which has 153 items. However, in the short form only two items were used for each of the 15 subscales. The TEIQue-SF has demonstrated to be both valid and reliable with a Cronbach alpha coefficient of 0.84 and 0.89 for male and female respectively (Petrides & Faunham, 2006). Furthermore, the TEIQue-SF has been administered within the South African context and particularly on registered nurses and demonstrated to be reliable and valid with a Cronbach alpha coefficient of 0.80 which is above the cut-off score of 0.70 as found by Jane, (2011); hence the TEIQue-SF is deemed reliable and valid within the South African context.

Psychological Well-Being

The Mental Health Continuum Short Form (MHC-SF) with 14 items was derived from the Mental Health Continuum which originally had 40 items (Keyes, 2009). The MHC-SF aims at measuring the extent to which individuals experience certain symptoms of positive mental health with specific regard to whether they are in a flourishing or languishing state concerning their well-being (Keyes, 2009). The MHC-SF consists of 14 items which are measured on a six-point Likert scale ranging from responses 1 (Never) to 6 (Every Day). The MHC-SF measures three facets or dimensions of well-being, which include psychological well-being, emotional well-being and social well-being (Keyes, 2009). According to Keyes (2009), the MHC-SF measures psychological well-being based on the six dimensions of Ryff's model of psychological well-being or the eudaimonic dimension (Ryff, 1989). One item for each of Ryff's (1989) dimensions was used to measure psychological well-being, for example: *"During the past month, how often did you feel that your life has a sense of direction or meaning to it."* The MHC-SF measures social well-being based on the five dimensions of Keyes' model of social well-being or the eudaimonic dimension (Keyes, 1998). One item for each of Keyes's (1998) dimensions was used to measure social well-being, for example: *"During the past month, how often did you feel that you had something important to contribute to society."* Emotional well-being or the hedonic dimension is the third section that is measured and an example question is: *"During the past month, how often did you feel happy."* The MHC-SF demonstrates to be both valid and reliable with a Cronbach alpha coefficient of 0.89 (Lamers, Westerhof, Bohlmeijer, Ten Klooster, & Keyes, 2011). Furthermore, the MHC-SF has been administered in the South African context and demonstrated to be reliable and valid with a Cronbach alpha coefficient of 0.74 which is above the cut-off score of 0.70 as found by Keyes et al. (2008); hence the MHC-SF reliable and valid within the South African context.

4.2.4 Statistical analysis

The statistical analyses was conducted by using the SPSS 24 (SPSS, 2017) and the AMOS 24 (Amos, 2017) programme. Firstly, descriptive statistics were applied – specifically the mean, standard deviation to be able to generalise the results of the sample to the population with regard to the characteristics of the participants.

Furthermore, the Cronbach alpha coefficient was applied to determine the reliability of the three constructs (*PS, EQ and PWB*) that had to be measured in this study, whereby the values larger than 0.70 can be seen as reliable (Tabachnick & Fidell, 2001). To confirm the validity of the various questionnaires, confirmatory factor analyses was utilised with AMOS for this study.

To establish/determine the relationship between the variables, product-moment correlation (r) was used. In product-moment correlation (also known as the Pearson correlation coefficient), the variables can be seen as positive or negative, depending on how they differ from one another (Beaumont, 2012). The correlation can range from -1 (which can be seen as a negative relationship); 0 (which can be seen as a no relationship) and +1 (which can be seen as a positive relationship) (Beaumont, 2012). This technique was applied to determine the relationship between PS, EQ and PWB. Pearson's correlation coefficient was used when the scores were normally distributed whereas Spearman correlation coefficient in turn was used when the scores appeared to be not normally distributed (high skewness and kurtosis). The cut-off points for practical significance of the correlations is, up to 0.29 (small effect), 0.30-0.49 (medium effect) and 0.50+ (large effect) (Hauke & Kossowski, 2011).

To test hypotheses four and five, a one-way analysis of variance (ANOVA) was performed so as to determine whether any statistically significant difference exists between the means of three independent groups. ANOVA was therefore used to investigate whether PS and PWB of first-year nursing students differed, based on EQ by dividing them into three independent groups (low, moderate and high EQ). The effect sizes used as determined by Cohen (1988) for a guideline is: $d = 0.20+$ (small effect); $d = 0.50+$ (medium effect) and $d = 0.80+$ (large effect). Brown-Forsythe's test was further calculated to determine the statistical significance concerning Robustness tests of equality of means.

4.2.5 Ethical considerations

Throughout the research, the researcher adhered to and complied with any and all aspects regarding research ethics with a view to conduct the research process through sound and fair research principles. De Vos et al. (2011) are of opinion that research should be based on trust, cooperation, promises and expectations that are all mutual between the involved parties of the

research. Therefore, the specific aspects regarding ethical principles include (De Vos et al, 2011; Struwig & Stead, 2001):

- The fundamental rule of research being *not to cause harm* to participants;
- Ensuring that the participation of participants is *voluntary*;
- Obtaining *informed consent* from the participants before data collection commences;
- Avoiding deceiving participants in any way during the research;
- Trying as far as possible to secure the *confidentiality* of participants even though it cannot always be promised;
- Not to violate the privacy of participants by ensuring *anonymity*. Should they give their name on the questionnaires, it is removed once data analyses start;
- Participation is voluntary; therefore, participants can withdraw their participation in the research at any time;
- Avoiding any form of plagiarism by ensuring that the research is original, acknowledging the work of others and reporting only on the data that have been found.

The research proposal was submitted to North-West University's ethics committee for review.

5 CHAPTER DIVISION

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

Chapter 1: Introduction.

Chapter 2: Research article

Chapter 3: Conclusions, limitations and recommendations.

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CHAPTER 2

RESEARCH ARTICLE

INVESTIGATING PERCEIVED STRESS, EMOTIONAL INTELLIGENCE AND PSYCHOLOGICAL WELL-BEING AMONG FIRST-YEAR NURSING STUDENTS

ABSTRACT

Orientation: The constructs perceived stress, emotional intelligence and psychological well-being have been extensively researched throughout literature. Although these constructs have been researched within the health industry in general, the interest of this current research is in the population of first-year nursing students enrolled at a university institution.

Research purpose: The purpose of this research is to explore the relationship between the perceived stress and psychological well-being experienced by a sample of first-year nursing students based on different levels of emotional intelligence.

Motivation for the study: To gain more knowledge and a better understanding of the importance of the role emotional intelligence plays in the lives of first-year nursing students and its influence on their psychological well-being when having a certain perception of stress.

Research design, approach and method: A cross-sectional research approach was used, with a convenience sample ($N = 110$) of first-year nursing students enrolled for a program at a university in South Africa. Amos in this study is used for testing different levels of emotional intelligence, perceived stress and psychological well-being. Pearson's correlation coefficient is applied to test the relationships of these variables with one another.

Main findings: Relationships between perceived stress and psychological well-being and perceived stress and emotional intelligence were negative and significant. Furthermore, a positive relationship was found to exist between emotional intelligence and psychological well-being. It was found that students are more likely to experience low levels of perceived stress while demonstrating high emotional intelligence and vice versa. The results further indicated that high levels of emotional intelligence are more likely to be found in these students with high levels of psychological well-being and vice versa.

Practical/managerial implications: This study will make tertiary institutions aware of the impact emotional intelligence can have on the psychological well-being of first-year nursing students while experiencing perceived stress, and will also guide institutions to reduce stress and ensure psychological well-being.

Contribution/value-add: This research will contribute to the Industrial Psychology discipline to provide more scientific research in the healthcare industry of South Africa and even more so- specifically in the nursing sector.

Keywords: Perceived stress, emotional intelligence, psychological well-being, first-year nursing students

INTRODUCTION

In terms of the Nursing Act in the National Department of Health (2005, p.6):

“Nursing means a caring profession practised by a person registered under section 31, which supports, cares for and treats a health care user to achieve or maintain health and where it is not possible, cares for a health care user so that he or she lives in comfort and with dignity until death.”

The healthcare system of the twenty first century is complex, technologically advanced, ethically challenged and constantly changing. Armstrong et al. (2013) further elaborate that the roles of all healthcare professionals are continually evolving and boundaries of practice are shifting constantly.

A university offers an ideal environment for the development of a first-year nursing student, as the focus is on both learning and development (Du Rand & Viljoen, 2000). The roles of nursing students are continuously changing, for the better of the healthcare system and the patients, but the expectations imposed on these students remain demanding (Armstrong et al., 2013). This means that they are required to adapt to changing circumstances all around them while keeping the patients' care their priority.

Student nurses are expected to complete 4 000 practical/clinical hours during four years of study within general hospitals, midwifery, community clinics and psychiatric units (Van den Heever, 2017). These 4 000 hours add up from the 40 hours of work which nursing students should perform during a week along with all the other employees (Ramahlafi, 2015). The practical hours form part of the curriculum, adding on to all the academic requirements the first-year nursing student has to meet. Van den Heever (2017) notes that during her research she was puzzled by the question as to how student nurses could still remain emotionally empathic and mindful, while some nursing students felt as if they were falling apart.

Roos, Fichardt, Mackenzie and Raubenheimer (2011, p.1) emphasise the fact that “the nursing profession forms the backbone of many healthcare systems”. Since the nursing profession forms an integral part of our healthcare system we therefore need a constant supply of graduate nurses registering as registered nurses, to inevitably replace the registered nurses retiring and exiting the profession (Roos et al., 2011). Roos et al. (2011) goes further by stating that one of the most concerning problems South Africa is currently facing, is that

of the high dropout rate among nursing students which in turn threatens the supply of registered nurses in the future.

Hall (2004) explains that increasingly more information is required on why a shortage of nursing staff currently exists in South Africa. In this respect Hall is supported by Ramahlafi (2015) who expresses concern about the number of nurses currently being trained in South Africa. The main reason for a shortage of nurses in South Africa can be linked to an increase in emigration of nursing professionals, with one of the reasons being the working conditions in the healthcare environment of South Africa. As of 2005, already 15 100 nurses have been found in countries other than European countries to have been registered at the South African Nursing Council (SANC) (Breier, Wildschut & Mgqolozana, 2009).

Watkins, Roos and Van der Walt (2011), indicated that a pressing need currently exists in South Africa for nursing students to graduate from their programmes and enter the working environment to address this shortage. Concern has been expressed by SANC about the age profile of nurses in South Africa – indicating that within 15 years around 47% of nurses currently registered at SANC would be retired (Watkins, Roos & Van der Walt, 2011). Armstrong et al. (2013) found that having sufficient nurses available, in a 1:4 staffing ratio (one nurse for every four patients) - improve patient outcomes as well as job satisfaction of staff and a decrease in the burnout levels of nurses.

Lehasa (2008) remarks that very few studies at universities have collected information on why first-year nursing students drop out during the 4-year degree programme. Some reasons may be that nursing students may find it difficult to keep up with the university programme, poor education, absence of support and long practical working hours required (Armstrong et al., 2013). Watkins et al. (2011) explain that the situation that South Africa is currently facing in the nursing community is reflected in the training of nurses. Early attention to nurses while they are still students is crucial while they are still developing the necessary skills, knowledge, abilities and attitudes required for delivering professional caring services (Mason, 2014). Research has found that ways to increase the success rate of students completing the degree is through preventative strategies relating to the recruitment, admission and selection of prospective students into the programme and eventually the profession (Lehasa, 2008).

Watkins et al. (2011) points out that the emotional, time and academic pressures nursing students struggle with early in their first year as nursing students at a university in South Africa made them feel stressed and often unable to cope. However, in a study performed by

Pulido-Martos, Augusto-Landa and Lopez-Zafra (2012), which consists of a quantitative review of twenty three countries including, amongst others, Albania; Australia; Chili; China; England; Ireland; Iran; Scotland; South Africa; Spain and the United States of America, it was found that in all these countries only four studies investigated the relationships of the perceived stress of nursing students and predictors such as coping, burnout and self-esteem with one another. Furthermore, it has also been found that perceived stress is negatively related to both academic performance and clinical performance (Akhu-zaheya, Shaban, & Khater, 2015). As a nursing student, class attendance and clinical placement almost form an equal amount of a nursing degree programme as supported by Matshotyana, Van Rooyen and Du Randt (2015) and therefore furthermore highlight the importance of investigating perceived stress in nursing students. Mason (2014) states that as of yet limited research have focused on the stress-related experiences of first-year nursing students in South Africa – particularly the harmful effect of caring work has on them.

Emotional intelligence has been found to perform as a stress-relieving factor which may be deemed a requirement for nurses (Ibrahim, Elgzar, Mohamed & Mohamed Salem, 2016). Por, Barriball, Fitzpatrick and Roberts (2011) also state that emotional intelligence can assist nurses in coping better and thereby experiencing less stress, which contributes to a healthy, stable workforce. Ibrahim et al. (2016) emphasise that educators in universities should know that first-year nursing students possess different levels of emotional maturity and intelligence that will inevitably help them during their first year to overcome a large amount of stress which is undoubtedly present in this profession. Ibrahim et al. (2016) also proved and recommended through their research that training courses on emotional intelligence should be conducted and be included as a basic nursing curriculum during the first year of nursing so as to develop and improve their emotional intelligence abilities/skills.

Watkins et al. (2011) maintain that the well-being of nursing students has become very important due to the many different challenges nursing professionals have to deal with. It seems that, according to the current literature and research available, aspects of psychological well-being of nursing students are not being addressed sufficiently (Ratanasiripong & Wang, 2011). Ratanasiripong and Wang (2011) also state that the psychological well-being of nursing students can be considered to be extremely important in the training and development of future nurses. Ross et al. (2005) already then stated that it can be deemed vital that steps need to be taken during nursing programs in order to address the psychological well-being of

nursing students by presenting stress management courses and various programmes aimed at increasing emotional support in the university environment.

Hence this study aims at investigating the constructs *perceived stress*, *emotional intelligence* and *psychological well-being* in first-year nursing students.

LITERATURE REVIEW

Perceived Stress

According to Fink (2010, p.3), Selye was known as the ‘father of stress’ who began his research on the stress concept as early as in 1926. The concept and word *stress* as developed by Selye is accepted today in all foreign languages, including those in which the word *stress* did not previously exist (Fink, 2010). Fink (2010, p.5) mentions that the first and most universal definition of stress today thus is that of Hans Selye who defined stress as “the nonspecific response of the body to any demand”. A more modern definition of stress is that of Parumasur and Barkhuizen (2009) that define stress as the reactions of an individual to an environmental event in their lives which places certain demands on the individual and the individual in turn acknowledges that they cannot cope with these demands placed upon them.

Perceived stress in turn, is defined by Cohen, Kamarck, and Mermelstein (1983) as the degree to which one’s life appears to be stressful. Therefore, the degree to which one perceives the factors in their environment to be able to cause them to experience stress. The difference between stress and PS is thus reacting to demands placed upon an individual compared to the perception of demands that an individual will have to deal with and experience.

Stress and stress levels experienced by student nurses have been researched extensively (Elliot & Cert, 2002; Görgens-Ekermans & Brand, 2012; Jones & Johnston, 1997, 1999, 2000; Parkes, 1985; Por et al., 2010; Watson, Dreary, Thompson & Li 2008; Watson et al., 2007). Little research however has been done that focuses on the perceived stress by nursing students in their first year (Birks, McKendree & Watt, 2009; Chernomas & Shapiro, 2013; Jones & Johnston, 1999). Ruiz-Aranda, Extremera, and Pineda-Galán (2014) focused on PS on a variety of healthcare students (including nurses) while other researchers such as Pau and

Croucher (2003) focused on registered nurses or other health-care students such as dental undergraduates. Research in South Africa regarding PS and resulting well-being states of first-year nursing students is scarce.

Chernomas and Shapiro (2013) state an important fact in that universities should pay more attention to curriculum design which will assist in ensuring that prospective nursing students will fully understand the expectations of a nursing programme prior to admission. Chernomas and Shapiro (2013, p.1) found in their study titled “Stress, depression and anxiety among undergraduate nursing students”, that common themes found in the study were perceptions of clinical work that needs to be done while having to deal with studying, coping and personal issues, and maintaining a good work-life balance.

Emotional Intelligence

The concept *Emotional Intelligence* (EQ) has been researched since the 1920s and 1930s when Thorndike (1920) first introduced the concept *social intelligence* in which EQ found its roots. The most common definition of EQ is conceptualised by Salovey and Mayer (1990, p.5) who define EQ as “one’s ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s thinking and actions”. Salovey and Mayer’s (1990) definition is probably the most widely known and accepted. Other important definitions of EQ is that of Bar-on who defines EQ as a set of personality traits that can influence an individual’s ability to deal with and succeed with demands and pressures from one’s environment (Yekta & Abdolrahimi, 2015).

Petrides and Furnham (2000) explain that two types of EQ exist: firstly, that the trait *EQ* can be described as behaviour that is consistent within different situations, which takes on the form of specific traits/behaviour in an individual such as empathy, optimism etc. Secondly, information-processing EQ refers to certain abilities an individual possesses which include, for example, the ability to identify emotions as well as to label them (Petrides & Furnham, 2000).

The definition of EQ applicable to this study is that of Petrides and Furnham (2000, p.313), that define EQ as “an appraisal of emotions, the regulation of emotions and utilising the emotional information in thinking and acting”. Yekta and Abdolrahimi (2015) note that the

concept *EQ* was not even mentioned once before the year 2000 in any of the nursing fields throughout research and literature. Today, EQ for nursing can be defined as a nurse's practical ability to demonstrate self-awareness, self-management, social awareness and social relationship management (Yekta & Abdolrahimi, 2015).

Fernandez, Salamonson and Griffiths (2012) state that nurses need to understand and know how to deal with their emotions; this skill will enable them to provide emotional support to patients and consequently to their families. It is therefore vital to focus on developing the EQ of nursing students to enhance the quality of their clinical practice (Fernandez et al., 2012). When nurses demonstrate high levels of EQ, they appear to be more resilient, cope better with the stress, provide better levels of caring (Hurley, 2008) and experience better levels of psychological well-being (Kaur et al., 2013).

A variety of research has been conducted on the EQ of nurses and traced in literature (Akerjordet & Severinsson, 2004; Heffernan, Quinn Griffin, McNulty & Fitzpatrick, 2010; Montes-Berges & Augusto, 2007; Quoidbach & Hansenne, 2009). However, little research has been found that has specifically been done in South Africa on EQ of nurses (Morrison, 2008; Towell, Nel & Muller, 2015). Even though research on EQ of nursing in South Africa is available, more may be necessary, since EQ has become a topic of interest in the nursing environment over the last two decades (Codier, Muneno, Franey, & Matsuura, 2010).

Urquijo, Extremera and Villa (2015) found that a negative relationship exists between EQ and PS and that EQ is positively related to psychological well-being when PS is reduced. Cadman and Brewer (2001, p.1) are also of opinion that “emotional intelligence cannot be developed quickly enough through interpersonal skills training; thus, it is essential for nursing educators to create assessment strategies that will identify emotional intelligence at recruitment.” Furthermore, nursing students are often faced with new and very often difficult conditions when they enrol for a nursing programme at a university which in turn stimulates a perception of stress (Watson et al., 2007). Therefore, Cadman and Brewer (2001) concluded that a selection process is needed in which EQ can be measured for potential candidates as it appears to be reliable at predicting success in both the clinical and academic aspects.

Psychological Well-Being

One of the very first approaches to well-being in theory can be traced back to that of Hedonism (Compton & Hoffman, 2013). Compton and Hoffman (2013, p.10) explain that Hedonism takes on the perspective of well-being as “the pursuit of individual sensual pleasure and the avoidance of harm, pain and suffering.” However, it has been found that pursuing this perspective on well-being produces non-lasting changes in personality and no personal growth because it requires a constant struggle to sustain these pleasures (Compton & Hoffman, 2013).

Robertson and Cooper (2011) see well-being to include three main concepts: Physical well-being; social well-being and psychological well-being. Robertson and Cooper (2011, p.4) define these types of well-being as follows:

Type of Well-Being	Definition and Source
Psychological Well-Being	“Our ability to handle the stresses of daily life and maintain a positive attitude and sense of purpose.” (Robertson & Cooper, 2011, p.4).
Social Well-Being	“Having a positive and supportive social network.” (Robertson & Cooper, 2011, p.4).
Physical Well-Being	“Taking part in a certain amount of exercise, sleeping habits, alcohol etc.” (Robertson & Cooper, 2011, p.4).

This research will however specifically focus on the concept *Psychological Well-Being* (PWB). The applicable definition thereof for this research and one of the most known definitions is that of Ryff and Keyes (1995, p.727) that define PWB as the barriers or tasks people face in life when striving towards functioning fully and realising the talents unique to themselves in terms of “self-acceptance, personal growth, purpose in life, positive relations with others, autonomy, and environmental mastery.” This definition can be simplified by referring to the definition of PWB of Wood and Joseph (2010) that define PWB as an individual’s emotional and cognitive state after having been exposed to certain conditions

within their environment. Already there appears to be a connection between the aspects of PS, EQ and PWB (Wood and Joseph, 2010).

Al-hussami, Darawad, Saleh and Hayajneh (2014) are of opinion that good psychological health of nurses can be seen as a vital prerequisite for providing quality nursing practice. Hamdan-Mansour and Marmash (2007, p.38) found that when an individual demonstrates high levels of PWB they may tend to experience lower levels of “physical pain, chronic infections and influenza and fewer visits to a psychiatrist or psychologist. Hence Keyes (2002) proposes a mental health continuum which depicts an individual being seen as “flourishing” on the one side of the spectrum and ‘languishing’ on the other. When an individual experience an overwhelming sense of positive emotions they should be capable of functioning optimally on a psychological and social aspect in which they will be considered to be flourishing (Keyes, 2002). Should individuals experience low levels of well-being, they may experience low levels of or incomplete mental health in which they will be considered to be languishing (Keyes, 2002). The mental health of an individual can be seen as a combination of three dimensions, psychological well-being, social well-being and emotional well-being as stated by Keyes (2002), with the former two dimensions referring to the eudaimonic perspective and the latter to the hedonic perspective. The hedonic perspective, as Robertson and Cooper (2011) see it, can consist of aspects such as the experience of positive emotions, happiness and subjective well-being of an individual. The eudaimonic perspective in turn consists of the six dimensions of Ryff (1989), namely *Self-acceptance; Positive relations with others; Autonomy; Environmental mastery; Purpose in life and Personal growth*. It is therefore imperative for a nursing student to obtain and demonstrate a high level of understanding of their own PWB for them to flourish – even in their first year of study– for practical and/or academic purposes.

In a study performed by Du Rand and Viljoen (2000) on first-year nursing students in South Africa, they found that it is necessary to focus not only on the intellectual needs of the student but giving more attention to their psychological development. It has further been determined that by shifting the focus from not only the intellectual aspect but to the student as a whole will prevent the nursing student from falling behind – especially at the beginning of their first year (Du Rand & Viljoen, 2000). In previous research a negative correlation was found between PS and well-being (Skok, Harvey, & Reddihough, 2006) and research has also proved that a moderate strength relationship exists between PS and EQ (Birks, Mckendree, &

Watt, 2009). Carmeli, Yitzhak-Halevy and Weisberg (2009) found that a positive association exists between EQ and certain aspects of PWB. Hamdan-Mansour and Marmash (2007) also found that the perception of the psychological well-being of a student is strongly influenced by the academic year and the faculty to which they are connected.

In a study performed by Ratanasiripong and Wang (2011) they found that student nurses demonstrated higher levels of PWB than did non-nursing students. The study also revealed that nursing students experienced lower levels of depression than did their peers. However, Ratanasiripong and Wang (2011) indicated that the 47% of nursing students that were found in their research to be depressed, this statistic still remains high. A similar study conducted by Ross et al. (2005) found the depression level of nursing students in their research to be 50% and a study performed by Ahmadi, Toobae and Alishahi (2004) found a depression level of 57% for their students. Further studies that investigate the PWB of nursing students in the South African context are needed.

Hence the aim of this study is to research the relationship between the PS experienced by first-year undergraduate student nurses and their PWB, and whether it differs based on different levels of EQ.

Research Hypotheses

- H1:** A negative relationship exists between the perceived stress and psychological well-being of first-year nursing students.
- H2:** A negative relationship exists between the perceived stress and emotional intelligence of first-year nursing students.
- H3:** A positive relationship exists between the emotional intelligence and psychological well-being of first-year nursing students.
- H4:** First-year nursing students will experience low levels of perceived stress while portraying high levels of emotional intelligence than do those with low levels of emotional intelligence.
- H5:** First-year nursing students will experience high levels of psychological well-being while portraying high levels of emotional intelligence than will those with low levels of emotional intelligence.

RESEARCH QUESTIONS

- How are perceived stress, emotional intelligence and psychological well-being conceptualised according to the literature?
- What is the relationship between perceived stress and psychological well-being of first-year nursing students?
- What is the relationship between perceived stress and emotional intelligence of first-year nursing students?
- What is the relationship between emotional intelligence and psychological well-being of first-year nursing students?
- Do first-year nursing students experience lower levels of perceived stress when portraying high levels of emotional intelligence?
- Do first-year nursing students experience high levels of psychological well-being while portraying high levels of emotional intelligence?
- What recommendations can be made for future research and practice?

RESEARCH OBJECTIVES

The research objectives are divided into a general objective and specific objectives.

General objective

The general objective of this research is to explore the relationship between the perceived stress and psychological well-being experienced by a sample of first-year nursing students based on different levels of emotional intelligence.

Specific objectives

The specific objectives of this research are:

- To conceptualise how perceived stress, emotional intelligence and psychological well-being are defined according to the literature.

- To determine whether a relationship exists between the perceived stress and psychological well-being of first-year nursing students.
- To determine whether a relationship exists between perceived stress and emotional intelligence of first-year nursing students.
- To determine whether a relationship exists between emotional intelligence and psychological well-being of first-year nursing students.
- To determine whether first-year nursing students experience lower levels of perceived stress with higher levels of emotional intelligence than do those with low levels of emotional intelligence.
- To determine whether first-year nursing students experience high levels of psychological well-being while displaying high levels of emotional intelligence, than do those with low levels of emotional intelligence.
- To outline recommendations for future research and practice.

Expected contribution of the study

Contribution to the Individual

The contribution of this study for the individual will be to assist student nurses in reducing their stress perceived by them – both academically and in practice. Should the emotional intelligence of students be enhanced, the perceived stress they experience in their academic and clinical environment can be buffered in the impact it has on their psychological well-being. The better capabilities of the individual to cope with the stress they perceive, the more they can be able to adapt and be handle the stressors for their demanding work environment. Therefore, this research will contribute to the individual's abilities when they work as student nurses and when they enter the working environment as registered nurses to better cope with their working conditions.

Contribution to the Organisation (University)

This study can contribute towards initiating certain evaluative measures of emotional intelligence as a prerequisite for the enrolment in a nursing program at the university. Universities can therefore introduce emotional intelligence and stress management training as part of their academic programs. When the students leave the university after their studies, they will already be equipped to cope with the demanding workplace

Contribution to the Industrial/Organisational Literature

This research will contribute towards the profession of nursing by introducing industrial and organisational psychology practices in the health care sector. It will further contribute to this field by providing the nursing profession with more scientific research, which can consequently be used in universities and hospitals. Perceived stress, emotional intelligence and psychological well-being are important topics for the literature of Industrial and Organisational Psychology, but this study will contribute even further, namely to the spreading of knowledge concerning the difficulties students are faced with – particularly in the health sector regarding the constructs.

RESEARCH DESIGN

Research Approach

This research will be quantitative in nature. Fouche, Delpont and De Vos (2011) explain that in quantitative research, the researcher poses narrow research questions (e.g. Questionnaires) or formulates one or more, hypothesis about certain variables related to the particular research topic for it to be measured, observed and explained. Quantitative research is best suited for this research as the sample group may be perceived as large in which the results can be generalised to this population. Furthermore, quantitative research will be best suited, as stated by Struwig and Stead (2001), because quantitative research aims at establishing whether a causal relationship exists among certain variables with one another.

The researcher applied convenience sampling. Strydom (2011), define convenience sampling, also better known as accidental sampling; as that it refers to the researcher using elements that are most readily available to the researcher. This sampling method was applied since the research took place during one of the participants' lecture period and thereby also eliminated the biased aspect known to convenience sampling.

A cross-sectional survey design was utilised to collect the data and to achieve the research objectives. A cross-sectional survey design can be used to describe a specific group of participants concerning a specific moment in time (Fouche, Delpont & De Vos, 2011). The cross-sectional survey design will further be used to determine whether a particular problem

exists between a specific group of participants and the level of the specific problem, this data-collection method tends to be easier to use, less expensive and also minimises the dropout rate of participants (Fouche, Delpont & De Vos, 2011).

Research Method

Research participants

First-year nursing students, enrolled for a nursing program at a South African university, were used for this research. An acceptance rate of 80% participation for this study was obtained from those who participated ($N = 110$; $n = 88$).

Table 1

Characteristics of the participants (N = 88)

Item	Category	Frequency	Percentage
Age	18-24	84	95.5
	25-34	4	4.5
Gender	Male	11	12.5
	Female	77	87.5
Ethnic	Black African	40	45.5
	White	42	47.7
	Coloured	5	5.7
	Indian	1	1.1
Language	Afrikaans	45	51.1
	English	6	6.8
	Sepedi	5	5.7
	Sesotho	7	8.0
	Setswana	20	22.7
	Tshivenda	1	1.1
	IsiXhosa	2	2.3
	IsiZulu	1	1.1
Other	1	1.1	
Student Year	1st Year	88	100

The sample predominantly consisted of female nursing students (87.5%) that were mostly between the ages of 18-24 years (95.5%). There was an even spread between White (47.7%) and Black African (45.5%) students. The preferred languages were Afrikaans (51.1%), Setswana (22.7%), Sesotho (8%), English (6.8%), Sepedi (5.7%), and IsiXhosa (2.3%).

Measuring instruments

Biographical Questionnaire

Basic biographic characteristics of the participants were collected by completion of a short (four question) biographical questionnaire. This is necessitated by the guidelines of the American Psychological Association (APA) for publications and due to the non-probability sampling method employed; to be transparent when disseminating the research results of the basic sample composition for purposes of considering the generalisation of results. The biographical characteristics were: age, gender, ethnicity and level of education.

Perceived Stress

The Perceived Stress Scale (PSS-10) Cohen et al. (1983) measures the perception of stress. The PSS-10 consists of ten items and is measured on a five-point Likert scale which ranges from responses 0 (never) to 4 (very often). The items of the PSS-10 were designed for example to measure how difficult/unable to control the lives are of the test-takers and included direct questions on their experiences of stress and the current level thereof (Cohen et al., 1983). The PSS-10 measures the degree to which life appears to be stressful. Such an example item is “*In the last month, how often have you felt that you were on top of things.*” Cohen et al. (1983) elucidate that the PSS-10 was designed for individuals with at least a junior high school education. The PSS-10 has demonstrated to be both reliable and valid with Cronbach alpha coefficients ranging from 0.84, 0.85 and 0.86 and furthermore had a test-retest reliability correlation of 0.85, which is adequate for the criteria of a self-report and behavioural measurement (Cohen et al., 1983). Pau et al. (2007) also found that the PSS-10 has demonstrated a reliability coefficient of 0.87, with the PSS-10 thus being deemed reliable and valid within the South African context.

Emotional Intelligence

The *Trait Emotional Intelligence Questionnaire Short Form* (TEIQue-SF) which was developed by Petrides and Faunham (2006) consists of 30 items on a 7-point Likert type scale ranging from 1 (completely disagree) to 7 (completely agree) and it is specifically designed to measure the ability of an individual to identify and manage their own emotions and to identify those of others. Items include examples such as “*I often find it difficult to regulate my emotions*” and “*I often find it difficult to see things from another person’s viewpoint*”. Petrides and Faunham (2006) mention that the TEIQue-SF consists of 15 subscales from the

original instrument, which comprises 153 items. However, in the short form only two items were used for each of the 15 subscales. Global trait EQ is the average score between all 30 items and is divided between four subscales which accounts for 26 items: Well-Being (6 items), Self-Control (6 items), Emotionality (8 items) and Sociability (6 items). The 4 items remaining measures the aspects of adaptability and motivation and therefore contributes to the global trait EQ score rather than the subscales. The TEIQue-SF has demonstrated to be both valid and reliable with a Cronbach alpha coefficient of 0.84 and 0.89 for male and female respectively (Petrides & Faunham, 2006). Furthermore, the TEIQue-SF has been administered within the South African context and particularly on registered nurses and demonstrated to be reliable and valid with a Cronbach alpha coefficient of 0.80 which is above the cut-off score of 0.70 as found by (Jane, 2011), with the TEIQue-SF being deemed reliable and valid within the South African context.

Psychological Well-Being

The Mental Health Continuum Short Form (MHC-SF) with 14 items was derived from the Mental Health Continuum which originally had 40 items (Keyes, 2009). The MHC-SF aims at measuring the extent to which individuals experience certain symptoms of positive mental health with specific regard to whether they are in a flourishing or languishing state with concerning their well-being (Keyes, 2009). The MHC-SF consists of 14 items that are measured on a six-point Likert scale which ranges from responses 1 (Never) to 6 (Every Day). The MHC-SF measures three facets or dimensions of well-being which includes psychological well-being, emotional well-being and social well-being (Keyes, 2009). Keyes (2009) explains that the MHC-SF measures psychological well-being based on the six dimensions of Ryff's model of psychological well-being or the eudaimonic dimension (Ryff, 1989). One item for each of Ryff's (1989) dimensions was used to measure psychological well-being, for example "*During the past month, how often did you feel that your life has a sense of direction or meaning to it.*" The MHC-SF measures social well-being based on the five dimensions of Keyes's model of social well-being or the eudaimonic dimension (Keyes, 1998). One item for each of Keyes's (1998) dimensions was used to measure social well-being, for example "*During the past month, how often did you feel that you had something important to contribute to society.*" Emotional well-being or the hedonic dimension is the third section that is measured and an example question is "*During the past month, how often did you feel happy.*" The MHC-SF demonstrates to be both valid and reliable with a Cronbach alpha coefficient of 0.89 (Lamers et al., 2011). Furthermore, the MHC-SF has been

administered in the South African context and demonstrated to be reliable and valid with a Cronbach alpha coefficient of 0.74 which is above the cut-off score of 0.70 as found by Keyes et al. (2008), which causes MHC-SF to be deemed reliable and valid within the South African context.

Research procedure

To ensure sufficient representation of the population, the measures were administered during a lecture session. Approval was obtained from the relevant lecturer and department at the university, after approval had been obtained from the Institutional Office.

The researcher communicated with the students three weeks prior to data collection. Participation was voluntary and confidentiality was ensured as far as possible. Informed consent forms were handed to the students which contained all the relevant information the researcher discussed with them as well as one or two examples from the questionnaires they had to complete.

The questionnaire that was handed out to the research participants was in English; therefore, the participants needed to be able to read, understand and write in English. Envelopes were handed out along with the pen and paper questionnaires in which the completed questionnaires (since this research is quantitative in nature) were to be placed and sealed without the participant's name appearing on it, to ensure anonymity, and handed over to the researcher to ensure that it is safe. Participants were reminded that participation in this research still was voluntary and that they could withdraw from the process at any time. Completion of the questionnaires took approximately 30 minutes. The responses of the participants were captured on an Excel sheet where after it was analysed using the SPSS and AMOS programmes.

Statistical analysis

The statistical analyses was conducted by applying the SPSS 24 (SPSS, 2017) and the AMOS 24 (Amos, 2017) programme. Firstly, descriptive statistics was applied, specifically the mean and standard deviation to enable the researcher to generalise the results of the sample to the population with regard to the characteristics of the participants. Furthermore, Cronbach's

alpha coefficient was applied to determine the reliability and validity of the three constructs (*PS, EQ and PWB*) that were to be measured in this study, whereby the values larger than 0.70 can be seen as reliable (Tabachnick & Fidell, 2001).

In order to establish/determine the relationship between the variables, the product-moment correlation (r) was used. In product-moment correlation (also known as the Pearson correlation coefficient), the variables can be seen as positive or negative, depending on how they differ from one another (Beaumont, 2012). The correlation can range from -1 (which can be seen as a negative relationship); 0 (which can be seen as a no relationship) and +1 (which can be seen as a positive relationship) (Beaumont, 2012). This technique was used to determine the relationship between PS, EQ and PWB. Pearson's correlation coefficient was used when the scores were normally distributed whereby Spearman correlation coefficient in turn was used when the scores appeared to be not normally distributed (high skewness and kurtosis). The cut-off points for practical significance of the correlations is, up to 0.29 (small effect), 0.30-0.49 (medium effect) and 0.50+ (large effect) (Hauke & Kossowski, 2011).

To test hypotheses four and five, a one-way analysis of variance (ANOVA) was performed to determine whether there is any statistically significant difference between the means of three independent groups. ANOVA was therefore used to investigate whether PS and PWB of first-year nursing students differed, based on EQ by splitting them up in three independent groups (low, moderate and high EQ) based on the means of EQ. The effect sizes that were used to qualify the differences in group means were as determined by Cohen (1988) for a guideline, namely: $d = 0.20+$ (small effect); $d = 0.50+$ (medium effect) and $d = 0.80+$ (large effect). Brown-Forsythe's test was further calculated to determine the statistical significance with regard to Robustness of equality of means.

RESULTS

In order to test the reliability and validity of the three measures, the mean and standard deviations was calculated as part of descriptive statistics and is depicted in Table 2. For the hypotheses to be tested, the Pearson correlation coefficient was calculated in order to determine the direction and the strength of the relationship between the variables of PS, EQ and PWB as depicted in Table 3. Furthermore, a one-way analysis of variance (ANOVA) was

performed to determine whether differences exist within the group based on their EQ in relation to their PS and PWB, as depicted in Tables 4 and 6.

Table 2

Descriptive statistics for the measures of PS, EQ and PWB

Variable	(\bar{x})	SD	α
1. PS	2.26	0.63	0.83
2. EQ	4.90	0.74	0.77
3. PWB	28.16	4.64	0.71

As is evident from Table 2, all three measures used in this study demonstrated to be reliable and valid with a Cronbach alpha coefficient above the cut-off score of ($\alpha = 0.70$) (Jane, 2011).

Table 3

Correlation coefficients between Perceived Stress, Emotional Intelligence and Psychological Well-Being

Variable	1	2	3	4	5	6	7	8	9
1. PS	1.00	-	-	-	-	-	-	-	-
2. EQ WB	-	1.00	-	-	-	-	-	-	-
	0.35**								
3. EQ SC	-	0.57**	1.00	-	-	-	-	-	-
	0.47**								
4. EQ E	-	0.40**	0.43**	1.00	-	-	-	-	-
	0.37**								
5. EQ S	-	0.41**	0.38**	0.37**	1.00	-	-	-	-
	0.34**								
6. EWB	-	0.52**	0.40**	0.19	0.22*	1.00	-	-	-
	0.45**								
7. SWB	-	0.43**	0.35**	0.10	0.23*	0.71**	1.00	-	-
	0.37**								
8. PWB	-	0.52**	0.44**	0.15	0.39**	0.87**	0.48**	1.00	-
	0.37**								
9. MHC	-	0.59**	0.48**	0.18	0.35**	0.83**	0.42**	0.60**	1.00
	0.49**								

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

* Correlation is significant at the 0.05 level (2-tailed)

As can be seen in Table 3, there is a negative correlation between PS and all four of the subscales of EQ (well-being, self-control, emotionality and sociability). Furthermore, PS also correlated negatively with all the subscales of Mental Health. Moreover, a positive correlation exists between Mental Health (PWB) and all four the subscales of EQ (well-being, self-control, emotionality and sociability).

Regarding the relationships investigated in Hypothesis 1, the results proved that a negative relationship exists between PS and PWB ($r = -0.37$), which is statistically significant ($p < 0.01$) and practically significant (medium effect, $r \geq 0.30$). Furthermore, the negative

relationship between PS and EQ (Hypothesis 2) was also supported ($r = -0.35$, $r = -0.47$, $r = -0.37$, $r = -0.34$; $p < 0.01$). This relationship is also practically and statistically significant (medium effect, $r \geq 0.30$). Lastly, Hypothesis 3 was also supported in which PWB has a positive relationship with EQ in the subscales of well-being ($r = 0.52$), self-control ($r = 0.44$), emotionality ($r = 0.15$) and sociability ($r = 0.39$) respectively. All three subscales are statistically significant ($p < 0.01$) except for emotionality. The EQ subscale of well-being is practically significant (large effect, $r \geq 0.50$), whereas self-control and sociability are practically significant (medium effect, $r \geq 0.30$).

Table 4

Differences in Perceived Stress, Emotional Intelligence and Psychological Well-Being

		<i>df</i>	Mean Square	F	Significance
PS	Between Groups	2	4.76	16.22	0.00*
	Within Groups	85	0.29		
EWB	Between Groups	2	78.16	8.15	0.00*
	Within Groups	85	9.59		
SWB	Between Groups	2	104.11	4.6	0.01*
	Within Groups	85	22.63		
PWB	Between Groups	2	183.37	10.37	0.00*
	Within Groups	85	17.68		
MHC	Between Groups	2	1046.15	11.24	0.00*
	Within Groups	85	93.09		

* Statistically significant difference: $p \leq 0.05$

As can be deduced from Table 4, there was a statistically significant difference between groups in terms of PS, based on their EQ and determined by means of one-way ANOVA ($F(2, 85) = 16.41$, $p \leq 0,05$). Table 3 also proved that a statistically significant difference exists between groups, based on their EQ as determined by means of one-way ANOVA in terms of Emotional Well-Being ($F(2, 85) = 8.15$, $p \leq 0,05$), Social Well-Being ($F(2, 85) = 4.60$, $p \leq 0,05$) and Psychological Well-Being ($F(2, 85) = 10.37$, $p \leq 0,05$). Furthermore, there was a statistically significant difference between groups in terms of Psychological Well-Being based on their EQ as determined by one-way ANOVA ($F(2, 85) = 11.24$, $p \leq 0.05$). Table 5 further depicts the effect size of these differences in the groups, based on their EQ.

Table 5

Robustness Test of Equality of Means

		Statistic	df1	df2	Significance
PS	Brown-Forsythe	14.14	2	17.00	0.00*
EWB	Brown-Forsythe	10.30	2	21.03	0.00*
SWB	Brown-Forsythe	6.53	2	33.74	0.00*
PWB	Brown-Forsythe	11.08	2	28.04	0.00*
MHC	Brown-Forsythe	16.67	2	34.71	0.00*

* Statistically significant difference: $p \leq 0.05$

Based on the results as depicted in Table 5, the ANOVA was further proved to be statistically significant with PS, emotional well-being, social well-being, PWB and the total score of the Mental Health Continuum being ($p \leq 0.05$) based on different levels of EQ. The results are thus statistically significant in testing for equal population variances – it thus indicates absolute differences within different groups, based on the group median.

Table 6

Descriptive and effect sizes between different groups of Emotional Intelligence

Variable	EQ group	N	Mean (\bar{x})	SD	95% CI		Cohen's <i>d</i>	Effect Size
					Lower	Upper		
PS	Low	13	2.78	0.32	2.60	2.98		
	Moderate	64	2.28	0.53	2.15	2.42	0.94	
	High	11	1.53	0.76	1.01	2.04	1.65	0.99
	Total	88	2.26	0.63	2.13	2.40		
EWB	Low	13	12.15	3.65	9.95	14.36		
	Moderate	64	13.41	3.20	12.61	14.20	0.34	
	High	11	17.00	1.10	16.26	17.74	1.33	1.12
	Total	88	13.67	3.34	12.96	14.38		
SWB	Low	13	19.38	4.33	16.77	22.00		
	Moderate	64	20.69	5.03	19.43	21.94	0.26	
	High	11	24.90	3.21	22.75	27.06	1.28	0.84
	Total	88	21.02	5.00	19.97	22.07		
PWB	Low	11	24.92	4.73	22.06	27.78		
	Moderate	64	28.03	4.24	26.97	29.09	0.66	
	High	11	32.73	3.23	30.56	34.90	1.65	1.11
	Total	88	28.16	4.64	27.18	29.14		
MHC	Low	13	56.46	8.52	51.31	61.61		
	Moderate	64	62.13	10.27	59.56	64.69	0.55	
	High	11	74.64	6.31	70.40	78.88	2.13	1.22
	Total	88	62.85	10.72	60.58	65.12		

Notes: CI = 95% Confidence intervals; \bar{x} = Mean

Students in the low- EQ group demonstrated higher levels of PS (\bar{x} = 2.78) than did both the moderate-scoring EQ group (\bar{x} = 2.28; d = 0.94; large effect) and the high-scoring EQ group (\bar{x} = 1.53; d = 1.65; large effect). Furthermore, the high EQ group demonstrated lower PS (\bar{x} = 1.53) than did the moderate EQ group (\bar{x} = 2.28) as well (d = 0.99; large effect). Therefore Hypothesis 4 is supported, indicating that first-year nursing students are more likely to experience less PS when demonstrating low (d = 1.65) or moderate (d = 0.99) levels of emotional EQ.

Based on emotional well-being, students in the low-scoring EQ group demonstrated lower levels of emotional well-being ($\bar{x} = 12.15$) than did both the moderate-scoring EQ group ($\bar{x} = 13.41$; $d = 0.34$; small effect) and high-scoring EQ group ($\bar{x} = 17.00$; $d = 1.33$; large effect). Furthermore, the high EQ group demonstrated higher emotional well-being ($\bar{x} = 17.00$) than did the moderate EQ group ($\bar{x} = 13.41$) as well ($d = 1.12$; large effect). Based on social well-being, students in the low-scoring EQ group demonstrated lower levels of social well-being ($\bar{x} = 19.38$) than did both the moderate-scoring EQ group ($\bar{x} = 20.69$; $d = 0.26$; small effect) and the high-scoring EQ group ($\bar{x} = 24.91$; $d = 1.28$; large effect). Furthermore, the higher EQ group demonstrated higher social well-being ($\bar{x} = 24.91$) than did the moderate EQ group ($\bar{x} = 20.69$) as well ($d = 0.84$; large effect). Lastly, when looking at the aspect of PWB in the Mental Health Continuum, students in the low-scoring EQ demonstrated lower levels of PWB ($\bar{x} = 24.92$) than did both the moderate-scoring EQ group ($\bar{x} = 28.03$; $d = 0.66$; medium effect) and the high-scoring EQ group ($\bar{x} = 32.73$; $d = 1.65$; large effect). Furthermore, the high EQ group demonstrated higher PWB ($\bar{x} = 32.73$) than did the moderate EQ group ($\bar{x} = 28.03$) as well ($d = 1.11$; large effect). Based in the latter findings in table 4, hypothesis 5 is already supported.

However, when looking at the total effect size of Mental Health, students in the low-scoring EQ group demonstrated lower levels of PWB ($\bar{x} = 56.46$) than did both the moderate-scoring EQ group ($\bar{x} = 62.13$; $d = 0.55$; medium effect) and high-scoring EQ group ($\bar{x} = 74.64$; $d = 2.13$; large effect). Furthermore, the high EQ group demonstrated higher PWB ($\bar{x} = 74.64$) than did the moderate EQ group ($\bar{x} = 65.13$) as well ($d = 1.22$; large effect). Therefore Hypothesis 5 is supported, indicating that first-year nursing students are more likely to experience high levels of PWB when demonstrating low ($d = 2.13$) or moderate ($d = 1.22$) levels of EQ.

DISCUSSION

The current study investigated the relationships of perceived stress, emotional intelligence and psychological well-being of first-year nursing students with one another. This study specifically investigated the relationship between the PS and PWB experienced by a sample of first-year nursing students, based on different levels of EQ.

Firstly it is important to state that all the measures for the constructs used in this present study demonstrated to be reliable and valid with a Cronbach alpha coefficient above the cut-off score of ($\alpha = 0.70$) (Jane, 2011). The first objective of the study was to conceptualise how PS, EQ and PWB are defined in the literature. From what is discussed above, it is clear that readily available research exists regarding stress and stress levels experienced by student nurses (Elliot & Cert, 2002; Görgens-Ekermans & Brand, 2012; Jones & Johnston, 1997, 1999, 2000; Parkes, 1985; Por et al, 2010; Watson, Deary, Thompson & Li 2008; Watson et al., 2007). Little research has however been done that focuses on the PS of nursing students in their first year of study (Birks et al, 2009; Jones & Johnston, 1999). Ruiz-Aranda et al. (2014) focused on PS of a variety of healthcare students (including nurses) while other research focuses on registered nurses or other health-care students (dental undergraduates) (Pau & Croucher, 2003). Little research has however been done that focuses on the PS of nursing students in their first year of study specifically in South Africa (Hall, 2004; Rothmann, Van der Colff, & Rothmann, 2006; Watkins et al., 2011). The current study thus makes a valuable contribution by adding more information to the already limited literature available on first-year nursing students enrolled at a university in South Africa with regards to the specific constructs of this study. Various studies have been conducted on the EQ of nurses as indicated in the literature (Akerjordet & Severinsson, 2004; Heffernan et al., 2010; Montes-Berges & Augusto, 2007; Quoidbach & Hansenne, 2009). This study further contributes to the limited literature available in South Africa with regard to EQ as suggested by Codier et al. (2010). When it comes to the PWB of nurses a variety of literature exists (Al-hussami et al., 2014; Carmeli et al., 2009; Compton & Hoffman, 2013; Hamdan-Mansour & Marmash, 2007; Skok et al., 2006). The results of this current research will thus contribute to the limited research available in South Africa on nursing students, as established by Du Rand and Viljoen (2000).

The second objective was to determine what the relationship is between PS and PWB of first-year nursing students. The results confirmed hypothesis one, namely that a negative relationship exists between PS and PWB. This confirmation is also similar to the findings of other studies performed on PS and PWB such as that of Degges-White, Myers, Adelman and Pastoor (2003) and of Skok et al. (2006), who concluded that lower PS scores are found among individuals that experience greater overall wellness. From these results it may be deduced that it is important to address the aspect *stress* as early as possible in first-year nursing students, seeing that increased levels of PS can impact negatively on their PWB.

The third objective was to determine whether a relationship exists between PS and EQ of first-year nursing students. Hypothesis two was also supported indicating that a negative relationship exists between PS and EQ. This was also confirmed by the findings of Birks et al. (2009). From these results, it may be deduced that the PS first-year nursing students' experiences may have a negative impact on their EQ. The fourth objective was to determine what the relationship is between EQ and PWB of first-year nursing students. Hypothesis three was confirmed, namely that a positive relationship exists between the EQ and PWB of first-year nursing students. A similar result was also found in other studies (Ranjha & Shujja, 2010; Shaheen & Shaheen, 2016). These results may indicate that investing in the EQ of first-year nursing students may result in a positive impact on their PWB.

With regard to EQ, it can be considered a vital prerequisite for enrolment as a nursing student, since these nursing students are often faced with new and difficult stressful situations when enrolling for a programme, as found by Cadman and Brewer (2001) as well as Watson, Deary, Thompson and Li (2008). This in turn has an impact on the PWB of a nursing student and it has been shown that a negative correlation exists between stress hormones experienced by individuals and their level of PWB (Robertson & Cooper, 2011).

Hypothesis four was supported, based on the results that first-year nursing students with high levels of EQ are more likely to experience lower levels of PS than are those that demonstrate moderate and low levels of EQ. The differences between these groups were significant in that an 89% chance exists that a first-year nursing student who experiences low PS in the low EQ group and a 76% chance from the moderate EQ group will be chosen randomly

Hypothesis five was also confirmed, namely that first-year nursing students that demonstrate high levels of EQ are more likely to experience higher levels of PWB than are those with low levels of EQ. The differences between these groups were significant in that a 93% chance exists that a first-year nursing student will be chosen randomly who experiences high levels of PWB in the low EQ group and an 80% chance from the moderate EQ group. These results concerning hypotheses four and five are unique, because to our knowledge, no other studies have been performed in this regard in relation to these constructs and sample. The last two objectives mentioned provide a unique contribution to the existing literature, especially to the

limited research available in South Africa, as it provides evidence for strategies to work on in terms of PS, EQ and PWB.

In conclusion, South Africa is currently facing a severe shortage of nursing staff in the healthcare industry (Hall, 2004; Watkins et al., 2011). Roos et al. (2011) are also of opinion that one of the biggest contributions in the shortage of nurses in South Africa can be attributed to the attrition rate or dropout rate of nursing students during their 4-year programme at a university. Furthermore, an important aspect George, Quinlan, Reardon and George (2012) point out in their research, is that one of the most enormous challenges that South Africa is facing is to both train, attain and retain health care personnel (including nurses) with the required skills and ability that are in line with the constant-changing demands of the health-care sector as also mentioned by Armstrong et al. (2013). When looking at the suggestions and concerns of these authors through their research, it is therefore important to focus on the appropriate skills a student nurse may need to enrol for a nursing programme at a university, to help them cope during the programme and to help them complete it successfully (thereby minimising dropout) and eventually entering the profession as a newly registered nurse to address the shortage of nursing staff South Africa is facing in the profession. This research has thus given unique insights and made contributions as it focuses exclusively on these essential skills and competencies required from nursing students to be enrolled for a programme such as EQ as found by Cadman and Brewer (2001), as well as a construct that can further a student's consideration to drop out such as PS and finally a construct that can assist a student in coping if things become too difficult such as a PWB programme. As found in this study, these constructs are intricately related to one another and thus provides the individual as well as the university with a starting point as to what to focus on regarding EQ as it has been found that high EQ can lower PS as well as increase PWB.

Implications for management (University)

Cadman and Brewer (2001) point out that focusing on training interpersonal skills such as EQ during university, does not produce sufficient time to develop it quickly enough. It is therefore essential that nurse educators in universities create assessment strategies that will identify emotional intelligence already at the time of recruitment so as to ensure that the right candidates are selected for enrolling for the programme (Cadman & Bruwer, 2001). Papageorgiou et al. (2015) found during their research that the development of EQ leads to

extraordinary clinical performance. Since student nurses are expected to work practical hours in clinical work environments, the importance of addressing the aspect *EQ* in advance thus is clear as well as developing it during university studies. Furthermore, it has been found that *EQ* can protect nurses from a stressful environment encountered in the nursing profession (Papageorgiou et al., 2015). It is therefore important for universities to focus on the *EQ* of student nurses to protect them from lessening their *PS* as this can also have a detrimental impact on their *PWB*, as found in the results of this current study.

This study thus poses great aspects that universities should take into consideration, since focusing on *PS*, *EQ* and *PWB* can be beneficial to the individual, the university by ensuring the right candidates are selected and thereby minimising the dropout rate and thereby also contributing to the shortage of nurses South Africa currently is facing. When the students leave the university after their studies, it is possible that a given hospital will save money as they are no longer required to spend money on reducing the stress or addressing the *PWB* of newly appointed graduate nursing students.

Implications for the individual

The challenge a student nurse faces during their 4-year degree programme at a university is unquestionable. From the 40 hours of practical work during the week amounting to approximately 4 000 hours' practical work that needs to be completed over a stretch of four years (Van den Heever, 2017; Ramahlafi, 2015) – despite the academic requirements and coping as a first-year student with this new phase in your life. As already found by Akhuzaheya et al. (2015), the perceived stress of a nursing student can impact both their clinical and academic performances. It is thus important for a first-year nursing student to realise the implications of their perceived stress if not addressed. Barton (2016) contends that emotionality is one of the hugest challenges that student nurses face. Barton (2016, p.28) goes further by explaining this reason, namely that for a nursing student “...it may be viewed as inappropriate to demonstrate sadness, anger or emotional pain within the caring setting, however, this does not mean that student nurses are not experiencing these feelings or emotions”. *EQ* can therefore be deemed vital for a student nurse as this can help them to exercise control over these emotions – as early in their nursing profession as possible – as mentioned above, to protect them from the stressful environment they will face, be it the academic or practical work environment. *PWB* has also been shown to play a very important

role for a student nurse as it can assist in providing quality nursing practice and in reducing physical pain, chronic infections, influenza etc. (Al-hussami et al., 2014; Hamdan-Mansour & Marmash, 2007). With regard to the negative relationship between PS and PWB, it may be detrimental in the long haul for the student nurse not to focus on their stress levels as it can have a negative impact on their PWB. This research has further shown that should a nursing student place emphasis on developing their EQ, they are more likely to experience low levels of PS as well as high levels of PWB.

Limitations of the study and recommendations for future research

The population of first year nursing students at the relevant university was only ($N = 110$) and the sample size of participation was ($n = 88$). The small sample size may be deemed as a limitation. Recommendations for future research may be to conduct a similar study at two or more universities. Another limitation the size of the population may have is that it may be even more so sensitive to normality assumptions and may therefore also influence the statistical power of the ANOVA analysis that was used in this research.

Another limitation may be that we were not able to use Structural Equation Modeling (SEM) due to the size of the sample being too small for SEM. Instead of using SEM, this research focused on the correlation coefficients for investigating the relationships of PS, EQ and PWB with one another and for using effect sizes by dividing the participants up in different groups based on their EQ levels. The results were as expected, but for future research SEM is recommended with a view to determine whether these relationships as confirmed, actually cause changes in the other constructs, e.g. whether high PS causes changes in PWB and how practical these changes are. Future research can also be done with a larger sample which will enable them to use SEM to test the fit of a model based on Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA).

A further limitation that may be relevant to future research is that of the biographical dynamics and characteristics of the sample. The sample of participants was largely homogeneous; 87.5% of the participants were female. Although the profession of nursing is globally considered to be predominantly female (Rochmawati, 2011), it may be interesting to see whether results will differ if more male students are included within the sample. South Africa can be characterised by diversity and therefore recommendations can be made for

future research to use more universities which will include both more male and racially diverse participants.

A last recommendation could be to test for possible moderator or mediation models in future research, whereby EQ can be tested as a mediator to investigate whether it changes the strength of the relationship between, for example, PS and PWB (Hypothesis one). Another possible example may be to investigate whether EQ moderates the same relationship between PS and PWB. These recommendations will enable future research to investigate the exact strength of EQ between PS and PWB.

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CHAPTER 3

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

This final chapter provides the conclusions regarding the specific objectives of the study and discusses limitations of the study, followed by recommendations for the organisation and practice, and suggestions for further research.

3.1 CONCLUSIONS

The general objective of this study was to investigate different levels of emotional intelligence (EQ) among a sample of first-year nursing students in South Africa to determine whether they will experience higher or lower perceived stress (PS) and psychological well-being (PWB) in relation to their emotional intelligence (EQ). To delve into this general objective, it was necessary to study the relevant and existing literature with regard to how PS, EQ and PWB are conceptualised, whether relationships exist and what the nature thereof is among these constructs and finally to make recommendations for future research and practice.

Firstly, PS was conceptualised in accordance with the literature. Elaborating further on the current existing literature, it is undeniable that the nursing profession can be characterised as stressful and according to Koen, van Eeden, Wissing and Koen (2011), the South African context is no different and it accumulates already during education as the first-year nursing student has to balance work and academic and social life (Watkins, Roos and Van der Walt 2011). There appears to be quite a few factors that can lead to nursing students experiencing stress. Some of these factors, include as Watkins et al. (2011, p.3-6) put it: a “lack of autonomy” (not being able to work independently) with regard to their practical hours, “feelings of uncertainty”, “feeling under pressure” due to the academic and practice pressures; “challenging working environment” due to a lack of equipment etc. and an “incongruence between theory and practical training”. However, little research has been done that focuses on the PS of nursing students (Birks, Mckendree, & Watt, 2009; Jameson, 2014;

Jones & Johnston, 1999; Karaca, Yildirim, Ankarali, Açikgöz, & Akkus, 2017; Shayghi, Fallahchai, Branch, & Abbas, 2017; Thomas & Bhattacharya, 2012) and even less when it comes to South Africa specifically (Hall, 2004; Rothmann, van der Colff, & Rothmann, 2006; Watkins et al., 2011). PS, as found by Navidpour, Dolatian, Yaghmaei, Majd and Hashemi (2015) causes certain biological responses within our body and is followed by certain symptoms such as fear and anxiety followed by physical consequences such as headaches. Apart from the academic aspect of their programme, high levels of PS may be experienced by nursing students in the training environment due to the fact that nursing students are often placed in unfamiliar environments where they do not know the immediate staff, patients or the particular ward routines (Elliott & Cert, 2002). Karaca et al. (2017) state that even now in the year 2017 more research is needed for us to better understand PS and its causes among nursing students. This notion is supported by Mason (2014) who encourages that future research needs to be done related to the harmful effect stress-related experiences has on first-year nursing students. This study makes a valuable contribution to the sparse research regarding PS, specifically on first-year nursing students within South Africa. The results of the study have found many of these students experience PS, giving an indication of the need to research this construct further within the South African nursing context.

According to Yekta and Abdolrahimi (2015), the concept *EQ* was not investigated before the year 2000 in any of the nursing fields throughout literature; therefore the concept and idea of the influence of EQ in the nursing profession. As with stress, there too exists overwhelming amounts of research today with regard to EQ for nursing students internationally (Mcqueen, 2004; Shayghi et al., 2017; Smith, 2017; Montes-Berges & Augusto, 2007; Namdar, Sahebihagh, Ebrahimi, & Rahmani, 2008; Vishavdeep, Sharma, Das, Malhi, & Ghai, 2016) to name a few. Very little research has, however, been conducted on student nurses in South Africa on EQ (De Lange, 2016; Morrison, 2008; Towell, Nel & Muller, 2015). Kaya, Emine and Bodur (2017) are of opinion that EQ can be considered a vital trait seeing that it can increase their quality of work, clinical decision-making, critical thinking as well as their knowledge to be used in practice. Furthermore, EQ has been found to be a qualities that can be seen as essential for students to be accepted in the nursing programme at a university (Cadman & Brewer, 2001; Watson, Deary, Thompson, & Li, 2008). This study thus contributes to the little research that exists covering the EQ of nurses and nursing students in South Africa. Based on the highlighted important role EQ plays in the nursing profession, this research can help the individual, as well as the university, to realise its value when the

development thereof is focused on. Based on the results generated by the study, the difference EQ can make in a nursing student's life is something to consider investing in.

In terms of the construct *PWB* literature is also rich in availability for nursing students internationally (Barton, 2016; Ranjha & Shujja, 2010; Ratanasiripong, Ratanasiripong, & Kathalae, 2012; Shaheen & Shaheen, 2016). In South Africa the *PWB* of nursing students remains a concern due to a lack of psychological support services made available to them (Dlamini & Visser, 2017). Research shows that students who demonstrate high levels of *PWB* are more likely to better balance their work and academic and social lives (Gipson-Jones, 2009). This may be deemed essential for a first-year nursing student since students are expected to work 40-hours a week in clinical practice apart from academic responsibilities and social activities. Furthermore, demonstrating high levels of *PWB* can lessen symptoms caused by stress, as mentioned earlier (Al-hussami, Darawad, Saleh, & Hayajneh, 2014; Hamdan-Mansour & Marmash, 2007). Ratanasiripong, Ratanasiripong and Kathalae (2012) make an important statement by mentioning that the more psychologically healthy a nursing student is, the more likely they are to flourish, graduate and register as an enrolled nurse, to be productive and ultimately to contribute to the nursing profession. It is therefore essential for *PWB* of nursing students to be focused on – either by the students themselves or via the university. Since *PWB* and *PS* have been found in this study to have a negative correlation, it may be possible that enhancing the *PWB* of student can hinder the negative impact *PS* has on them. This research thus makes a valuable contribution to the limited research of *PWB* within South Africa in the nursing professions and more specifically nursing students. It is important for a university as well as the individual nursing student to realise how important *PWB* is, what it can mean to them on a healthy level and more important how detrimental it can be when low.

The second objective of this study was to determine the relationship between the *PS* and *PWB* among the first-year nursing students. In this study, it has been found that a relationship exists between these constructs. This result thus confirmed hypothesis one, meaning that a negative relationship exists between *PS* and *PWB*. This may mean that students who experience increased levels of perceived stress may be likely to experience low levels of *PWB*. This result concerning the relationship between *PS* and *PWB* has also been found in similar studies (Degges-White, Myers, Adelman, & Pastoor, 2003; Skok, Harvey, & Reddihough, 2006; Shayghi et al., 2017). An important aspect to focus on is that although a negative relationship exists between these two constructs, it may also mean that first-year

nursing students with high levels of PWB may experience low levels of PS. In the third place, the objective was to determine whether a relationship exists between PS and EQ of first-year nursing students within South Africa. More specifically, the study investigated whether this relationship between PS and EQ is negative concerning hypothesis two. Based on the results of this study, the second objective has been achieved in that a relationship does exist between these two constructs along with hypothesis two, meaning this relationship is negative. In practical terms, those that appear to experience high levels of PS may tend to experience low levels of EQ. This is also consistent with previous research (Birks et al., 2009; John & Al-sawad, 2015; Ranasinghe, Wathurapatha, Mathangasinghe, & Ponnampereuma, 2017). However, Birks et al. (2009) mention that the students' level of PS is rather dependent on their level of EQ and they are of opinion that there may be individual differences concerning the behaviour and stability of EQ that may need to be further investigated, which may add to the contribution of this study. The fourth objective of this study was to investigate whether a relationship exists between the constructs *EQ* and PWB of these first-year nursing students. The research showed that a relationship does indeed exist between these two constructs and even more so that a positive correlation also exists and thereby confirming hypothesis three. This result is also supported in similar studies pertaining to the positive correlation between EQ and PWB (Ranjha & Shujja, 2010; Shaheen & Shaheen, 2016; Shayghi et al., 2017). Practically it may mean that students with high levels of EQ may be more likely to demonstrate high levels of PWB, which is also supported by Kaya et al. (2017). Shayghi et al. (2017) found a crucial result within their study that EQ strategies predict significant PWB. From the discussions above, it is clear that to a certain extent it may seem that the constructs of PS and PWB pivots around the level of EQ, thereby accepting the fifth and sixth objective of this study.

The fifth objective of this study was to investigate whether first-year nursing students experience low levels of PS with high levels of EQ as opposed to those with low levels of EQ. This hypothesis (hypothesis four) was also supported based on the results. Students with high levels of EQ may indicate low levels of PS, based on the means of PS ($\bar{x} = 2.78$ (low EQ) compared to $\bar{x} = 1.53$ (high EQ)). Furthermore, the results also indicated that the differences between these groups with different EQ levels were significant in that there is an 89% chance that a first-year nursing student who experiences low PS in the low EQ group and a 76% chance from the moderate EQ group, will be chosen randomly. Shayghi et al. (2017) found that students with high levels of EQ can better regulate their emotional stress

and negative emotions in stressful situations. This may mean that students with high levels of EQ are more likely to cope better in stressful situations. Lastly, the sixth objective was to investigate whether first-year nursing students experience high levels of PWB with high levels of EQ compared to those with low levels of EQ. The results indicated an affirmation of hypothesis five that students demonstrated high levels of PWB with high levels of EQ compared to low EQ, based on the means of PWB ($\bar{x} = 24.92$ (low EQ) compared to $\bar{x} = 32.73$ (high EQ)). Furthermore, the results also indicated that differences between these groups with different EQ levels were significant in that there is a 93% chance that a first-year nursing student who experiences high levels of PWB in the low EQ group and an 80% chance from the moderate EQ group will be chosen randomly. These two objectives contribute greatly to the existing literature concerning these constructs but even more so to the limited research available in South Africa specifically on these constructs and sample. As mentioned above, it appears that PS and PWB relates strongly to EQ and therefore causes reason to invest in the EQ of first-year nursing students as it can decrease stress and increase well-being.

The last objective of this research was to outline recommendations for future research and practice which will be discussed in the next section along with the limitations of this research.

3.2 LIMITATIONS OF THE RESEARCH

Limitations of a study reflect the shortcomings of a research. The study did indeed make new and valuable contributions with regard to these constructs that can be applied in future research. However, some limitations are worth mentioning.

The first limitation of this study was the small population size. The population of first-year nursing students at the specific university was only ($N = 110$) while the actual sample size of these students who participated during the research was ($n = 88$). This was deemed a possible limitation, because in a quantitative study the more participants, the better the reliability and validity of the results.

Another limitation that may be worth noting is that of the biographical dynamics and characteristics of the sample within this study. From the results, it has been found that the

sample of participants was homogeneous to a large extent in that 87.5% were female participants. It therefore may be worth investigating whether results will differ if more male student participants participate in a similar study, even though nursing is considered to be female dominated (Rochmawati, 2011).

Another limitation was that we were not able to make use of Structural Equation Modeling (SEM) due to the small sample size. The present study thus focused on investigating correlation coefficients to determine the relationships of PS, EQ and PWB with one another and to use effects sizes and this was done by dividing up the first-year nursing students based on their levels of EQ. Furthermore, SEM could not be used to test the fit of a model using Comparative Fit Index (CFI), Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA). Once again due to the small sample size, possible moderator or mediation models could not be used to test whether EQ, for example, changes the strength between PS and PWB (hypothesis one). It was not used as the changes were too great so that the results would demonstrate non-significant values. It was for this reason that the first-year nursing students were split up in groups, based on their EQ levels.

3.3 RECOMMENDATIONS

Regardless of the limitations of this study, it can be seen as recommendations for future research and practice along with the value this research provides.

3.3.1 Recommendations for the organisation (University)

The main objectives of this study were to explore the relationship between the PS and PWB experienced by a sample of first-year nursing students based on different levels of EQ; how these constructs are conceptualised and to determine the strength and nature of the relationships of these constructs with one another. Hence, from the literature review in this study it is clear what type of role these constructs play for a first-year nursing student and how important PS, EQ and PWB is for both the student and the university at which the student is enrolled.

In summary, first-year nursing students experience high levels of PS within the university due to the fact that they often are placed in working environments still unfamiliar to them where they do not know the staff, patients or the ward routines (Elliott & Cert, 2002). Since stress appears to be inevitable for nursing students, it is recommended that universities focus on stress management techniques as well as stress prevention strategies specifically focussing on symptoms of PS. Furthermore, according to Watkins et al. (2011), it is important for the first-year nursing students to maintain a healthy balance between their clinical practice, academic responsibilities and social activities as a first/year nursing student. It is therefore essential for the university to realise that they play a crucial role in all three aspects that a student must balance within their first year. In relation to this balance that these students should attain, Gipson-Jones (2009) has found that the PWB of these students are largely dependent on their ability to find a balance regarding their clinical practice, academic responsibilities and social activities. Higher levels of PWB in turn lead to better patient care as well as a greater healthy working environment, which leads to improved retention of nursing students (Brunault et al., 2014; Dlamini & Visser, 2017). As mentioned earlier with regard to South Africa facing a shortage of nurses in the profession, it is thus recommended that universities address the PWB aspect of first-year nursing students with serious concern. Further recommendations may also be for universities to look into providing first-year nursing students access to psychological support services in order to enhance their PWB as also suggested by Dlamini and Visser (2017).

EQ is one of the most important qualities and traits universities should focus on. EQ can be considered a reliable conjecturer of success in both the clinical and academic requirements of a nursing student, which needs to be measured during the selection process of potential nursing students (Cadman & Brewer, 2001; Smith, 2017). It is therefore recommended that universities focus their attention on EQ by measuring it during the recruitment of prospective nursing students as this also may hold the potential of increasing attainment of nursing students and of decreasing drop-out rates, since it is a predictor of success – thereby ensuring that the right candidates are chosen. It is also recommended that universities include EQ training within their curriculum.

3.3.2 Recommendations for future research

It can be recommended that future studies in this research field focus especially on attaining larger samples of participants. As can be seen in this study, due to a relatively small sample, quite a few limitations arose because of it. It is therefore recommended that future research be conducted by using two or more universities to recruit participants when conducting a similar study. When future research is conducted in a similar study with more first-year nursing students, it will provide more culturally diverse participants. However, due to the differences in representation of Black, Coloured, Indian and White students at the various university nursing education institutions, stratified random sampling should be used for future research, as also recommended by Meyer, Nel and Downing (2016). Working with two or more universities in future research in South Africa will also provide a valuable opportunity for including more male students. A recommendation may also be for future research to look into individual differences based on language, ethnicity and race etc. concerning PS, EQ and PWB. This will thus make a valuable contribution to the limited research available in South Africa on nursing students.

A further recommendation may be to use Structural Equation Modeling (SEM) to test the fit of a theoretical model as it can determine whether certain variables cause changes within other constructs, for example how practical the change in PWB is which is caused by high levels of PS experienced by nursing students.

Furthermore, it can be seen, based on the results of this study, that EQ plays an important role in the nursing student's life as well as in the balance of PS and PWB; hence it can be recommended that future research investigate EQ as a mediator/moderator, for example to test whether EQ changes the strength of the relationship between PS and PWB.

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