MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA.

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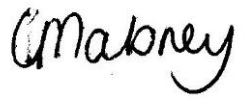
A dissertation submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of requirements for the degree of Master of Science in Nursing.

Johannesburg, June 2018

DECLARATION

I, Caroline Lilian Maloney, declare that this Thesis/Dissertation/Research Report is my own, unaided work. It is being submitted for the Degree of Master of Science: Nursing, at the University of the Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.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DEDICATION

Dedicated to

Margaret (Peggy) Ollivier

1942 – 2010

and

Petro Maloney

1948 – 2017

for always believing in me.

Also dedicated to

Julia Margaret Maloney

and

Jessica Petro Maloney,

our beautiful girls; reach for the stars!

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My husband in a million Rustie, just for being you, for your never-ending support, love and unfailing belief in me and my abilities. We love you so much.

And, our Lord God Almighty, for Your constant presence in our lives.

ABSTRACT

Background

The health care environment is a challenging place for all health care professionals. Nurses with high levels of resilience are known to cope better with the stressors of a constantly changing health care environment. Resilient nursing students are also more likely to complete their courses and remain in the nursing profession once qualified.

Methodology

Nursing students following the Baccalaureate Degree in Nursing at two educational institutions in South Africa formed the sample for this mixed methodology study. In the quantitative phase self-measurement of resilience levels was done using the Connor-Davidson Resilience Scale. In the qualitative phase of the study, volunteers from the student group were interviewed using a semi-structured questionnaire, to determine how best to improve resilience levels in student nurses. The quantitative and qualitative data were integrated to create a rich description of resilience levels of student nurses in South Africa, with ideas of how to improve their resilience levels.

Results

The total resilience scores for each institution were found to be very similar. The more senior students had higher scores than their first and second year counterparts and women had higher scores than men. Three main categories with intrinsic, extrinsic and combination factors were identified. The integrated findings suggest that most resilience- building factors can be developed and improved upon.

Conclusion

Creating resilient, and positive nurses should be a mandate of all nursing education institutions who should assist nursing students to build and sustain resilience levels.

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CHAPTER 1: OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Nursing students the world-over have to learn to cope with the usual challenges of student life, and also with the unique stressors of their chosen career (Stephens, 2013).

South African citizens are faced with daily challenges that are characteristic of living in a developing country surrounded by political instability, socio-economic stress and the legacy of apartheid. Unemployment rates for the second quarter of 2017 have risen to 27.7% (Statssa, 2017) and the HIV burden has been placed at just under 12% of the South African population (Statssa, 2017). A South African study, carried out by Mosavel, Ahmed, Ports & Simon (2015), focused on South African youths and how they cope in low income, urbanized communities, being exposed to violence and poverty on a daily basis. The study shows that the result is often negative, with drug dependence and teenage pregnancies being common (Mosavel et al., 2015).

Tertiary education brings its own stressors for many students, regardless of the career that they are hoping to enter or the country in which they are studying. The majority of undergraduate students complete the transition from adolescence to adulthood during their student years and, while this is often achieved without any major problems, this period of one's life can be fraught with low self-esteem and poor self-confidence (Oliver, Collin, Burns & Nicholas, 2006). These feelings are often coupled with peer pressure and emotional immaturity (Oliver et al., 2006) and students at tertiary institutions are also often physically distanced from supportive friends and family.

Some unique nursing student stressors include: dealing with death, being the patient's advocate, emotional exhaustion due to being with patients during their most vulnerable moments, long and understaffed shifts and a constantly changing work environment (Turner & Kaylor, 2015 and Sanders, 2015). The specific healthcare challenges that nurses, including student nurses, are faced with on a daily basis could inevitably wear them down and this makes nurses at very high risk for burn-out. When exhausted nurses also have to deal with any personal difficulties like financial woes or sick family members, it is easy to see why many nurses, including students, decide to leave the profession (Turner & Kaylor, 2015). Burnt-out and emotionally drained nursing staff will

be likely to display inappropriate and unprofessional behaviour in the workplace (Pitt, Powis, Levett- Jones & Hunter, 2014). Hostility at work is known to be a leading cause of stress, illness, and depression (Jackson, Hutchinson, Everett, Mannix, Peters, Weaver & Salamonson, 2011). This directly relates to poor quality nursing care and a lack of compassion for patients and family members.

In the South African context, Eyles, Harris, Fried, Govender & Munyewende (2015) have conducted research into how patients and health care providers respond to surviving within a constrained health system. The results show that individuals, whether the providers or receivers of healthcare, must learn to adapt to less than perfect circumstances. They will do this by using their available resources to endure whatever they are facing, resist failure and develop resilience (Eyles et al., 2015).

Resilience has been identified in the literature as being an essential trait for nurses practising in the current health care setting (Turner & Kaylor, 2015). This dynamic coping mechanism has been defined in the literature as "a combination of abilities and characteristics that interact dynamically to allow an individual to bounce back, cope successfully, and function above the norm, in spite of significant stress or adversity" (Tusaie & Dyer, 2004). Resilient people tend to have a positive self-image and be confident as well as being sociable, empathetic and more accepting of change (Turner & Kaylor, 2015). Research has shown that resilience is not a fixed trait that one is either born with or not, but rather a dynamic skill that can be learned and developed (Sanders, 2015; Tusaie & Dyer, 2004; Hodges, Keeley & Grier, 2005). Local literature shows that the concept of resilience has evolved over many years and various models of resilience have emerged as a result (van Rensburg, Theron & Rothmann, 2014). It was discovered in the process, however, that there was an insufficient understanding of how culture and context affected resilience processes (van Rensburg et al., 2014). A study by Oliver et al. (2006) shows how resilience can be built through individual, social and environmental protective factors, like social connectedness, participation and ownership of decision-making (Oliver et al., 2006).

Although international attention is being given to the subject of the health and well-being of nurses, especially relating to the retention and attrition of students (Priesack & Alcock, 2015), the subject of resilience amongst South African nurses, and students especially, does not appear to have been researched in depth thus far. Stephens

(2013) makes mention of the fact that young adults entering Baccalaureate nursing programmes globally are at very high risk of leaving their chosen profession due to the fact that they are faced with multiple stressors, have underdeveloped coping skills and insufficient experience to deal with these issues. The subject of self-efficacy and well-being in undergraduate nursing students is considered one worth investigating further (Priesack & Alcock, 2015). One of the factors that warranted investigation is why some students are retained whereas others leave when, essentially, and seemingly, they are subjected to the same stressors. One possible reason seemed to be that some student nurses are more resilient than others.

Nursing students in South Africa bring their own experiences and backgrounds with them when they enter the nursing profession. It was vital that resilience levels were assessed in a sample of these nursing students in order to understand their contexts and stressors and create empathy for their situations. It was also important to try to ascertain what the students themselves felt may assist to build resilience as they have firsthand knowledge and experience of the present health care arena. It is clear that, while South African nursing students' stressors cannot be completely removed, their ability to cope with these stressors can be improved upon.

1.2 PROBLEM STATEMENT

Resilience is needed amongst nursing students in order for them to cope with the many stressors in the health services. Low resilience levels can result in increased attrition.

Prior to this study being undertaken, the level of resilience among undergraduate nursing students was an unknown element. The available literature supported an assumption made by the researcher that academic pressure and a lack of social support may increase stressors for student nurses (Priesack & Alcock, 2015).

Research has also emphasised that resilience is not a fixed trait, but rather a dynamic skill that can be developed.

A baseline measurement of the current levels of resilience among South African undergraduate nursing students provides a starting point for understanding how resilient these students think that they are. In addition, an understanding of undergraduate nursing student's perceptions of how they can build resilience will assist in developing interventions at a later date.

1.3 RESEARCH QUESTIONS

The research questions were as follows: -

i) How resilient are undergraduate nursing students?

ii) What do undergraduate nursing students believe can be done to improve/ build resilience?

1.4 PURPOSE OF THE STUDY

The purpose of this study was to explore the degree of resilience among undergraduate nursing students in South Africa. The students' own perceptions of ways to build resilience was also investigated, in order to inform future interventions.

1.5 OBJECTIVES OF THE STUDY

The objectives of this study were: -

i) To determine and compare resilience levels of all four years of Baccalaureate nursing students at two sites in South Africa.

ii) To describe what strategies nursing students believe will assist in building resilience.

1.6 OPERATIONAL DEFINITIONS

- Student nurse: For the purpose of this study a student nurse is a person registered for an undergraduate nursing degree.
- Resilience: Resilience refers to the ability to 'bounce back' after adversity, to maintain function and recover rapidly. This is done in healthy, non-harmful ways. Resilience is a dynamic skill that assists people to function above the norm, despite stress and adversity (Siebert, 2005; Priesack & Alcock, 2015; Tusaie & Dyer, 2004).

1.7 CONCLUSION

The dearth of South African research available regarding resilience levels of undergraduate nursing students was the stimulus for this study. This study was, therefore, undertaken in order to better understand how resilient South African student

nurses feel that they are and also to dig deeper to find out how student nurses boost and maintain their resilience in the face of adversities.

This mixed methods research study will be presented under the following chapters -:

Chapter two: The literature review

Chapter three: Research methodology

Chapter four: Quantitative data analysis and discussion of findings

Chapter five: Qualitative data analysis and discussion of findings

Chapter six: Integration of quantitative and qualitative data analysis

Chapter seven: Conclusion, summary and recommendations

CHAPTER 2: THE LITERATURE REVIEW

2.1 INTRODUCTION

This chapter will discuss the literature relating to this study, specifically regarding nursing students in their context, their coping abilities and the concept of resilience.

Nursing is a challenging profession, regardless of what part of the world you live in. Student nurses are exposed to many difficult experiences in the clinical environment and are also required to cope with academic and clinical learning activities (Thomas & Revell, 2016). An issue that has been of interest to researchers in several countries is why some student nurses appear to cope with these challenges while others do not (Jenkins, Gunst, Blitz & Coetzee, 2015; Priesack & Alcock, 2015; Jackson, Firtko & Edenborough, 2007 and Aburn, Gott & Hoare, 2016). It would seem that an important factor is whether they have been assisted to develop resilience, which can be useful, not only for completing their programme successfully, but also in their future professional lives (Turner & Kaylor, 2015; Garcia & Calvo, 2012; Priesack & Alcock, 2015; Jackson et al., 2007; Mosavel et al., 2015 and Aburn et al., 2016). Thomas & Revell (2016) echo this by stating that enhancing resilience in student nurses should not merely socialise nurses into nursing but, rather, help to form or mould them into professional beings.

2.2 THE SOCIAL AND CLINICAL LEARNING ENVIRONMENT OF NURSING STUDENTS

Globally, student nurses are faced with difficult experiences on a daily basis. This is no different in South Africa where research shows the difficulties that student nurses encounter (Louw, 2015; Tenza, 2015 and Willemse, 2016). Some of the general challenges that nursing students face include the deaths of patients, infectious diseases and, of course, the many unique lifestyles of patient and family members (Thomas & Revell, 2016).

Cilliers & Terblanche (2014) point out that, because responsibilities in the health care environment are so vastly different from responsibilities in other working environments, hospitals are unique when compared with other institutions. The nature of the tasks required when dealing with illness, pain, death and dying have resulted in hospitals

having strict hierarchical lines and a culture of obedience and control (Cilliers & Terblanche, 2014). This can stifle the creativity and energy of younger nursing staff (Louw, 2015).

An issue raised by Bickhoff, Levett-Jones & Sinclair (2016) concerns the fact that nursing students are often either witness to, or feel forced to be a part of, the provision of poor nursing or medical care to patients. As a result of their junior status in the clinical environment, nursing students often do not feel equipped or confident enough to challenge or refuse to partake in the provision of poor nursing care (Bickhoff et al., 2016). The resultant poor nursing care and jeopardising of patient safety can cause continuous, debilitating stress to the student nurse (Bickhoff et al., 2016). Nursing students are, therefore, required to be bold enough to uphold patient advocacy and to display moral courage in the face of possible professional embarrassment and ostracism (Bickhoff et al., 2016). Some nurses may even lose their jobs or have their studies terminated for refusing to conform to the expectations of unethical senior staff in the clinical environment (Bickhoff et al., 2016 and Sanders, 2015).

Other sources of nursing stress are described in two studies by Jackson et al. (2007 and 2011) and include a lack of senior nurses, increased agency staff usage, constant change, and a hostile and violent nursing environment. This is echoed by Fornés-Vives, Garcia-Banda, Frias-Navarro & Rosales-Viladrich (2016) who state that nursing students are under a huge amount of stress, both academically and personally. Hart, Brannan & de Chesnay (2014) mention bullying and aggression between nursing staff as a barrier to preventing positive group behaviours.

In addition to the stressful working environment, South African youth are at high risk for developing negative coping strategies, including drug and alcohol abuse (van Rensburg et al., 2014 and Mosavel et al., 2015). The risk lies in the poor socio-economic circumstances that many South Africans are born into, namely violence, insufficient and poor education at school level, illness and/ or the death of a parent or care-giver and ineffective health care for themselves (van Rensburg et al., 2014). Other issues of poverty that exist in South Africa further compound this risk, including the estimated 18 500 000 HIV/ Aids orphans living in South Africa currently (United Nations International Children's Emergency Fund, 2017), and the approximately 150 000 children believed to be living in child-headed households at present (Unicef,

2017). Nursing students in South Africa may be socially and economically impoverished themselves and possibly be responsible for supporting an extended family, which compounds the challenges brought about by their academic studies and long working hours (Mosavel et al., 2015; Jenkins et al., 2015; Willemse, 2016 and Eyles et al., 2015).

Student nurses often experience stress when caring for patients who have distressing and severe illnesses and/ or dire social circumstances. It can be very upsetting for some student nurses, especially if they are young and emotionally immature, to accept that in some situations they may not be able to make a difference to the patient's health (Hart et al., 2014 and Deasy, Coughlan, Pironom, Jourdan & Mannix-McNamara, 2016). While this is clearly a global challenge for nursing students, the situation may be further compounded in the South African situation because many students enter their nursing careers from a background of abject poverty and minimal opportunities. It may also be a challenge for nursing students to provide care and understanding towards patients and family members when they may never have received the same kind of care and attention themselves (Mosavel et al., 2015; Jenkins et al., 2015 and Eyles et al., 2015). Willemse (2016) also makes mention of the fact that South African nursing students are often the only person working in the household and may, therefore, be financially responsible for their unemployed parents and siblings.

Other studies on the context of the South African student nurse indicate that there is a severe shortage of medical and nursing staff, especially in district (rural) hospitals, which makes effective teaching and learning a challenge (Rikhotso, Williams & de Wet, 2014). In her study Louw (2015) found that not one of the young Registered Nurses that she interviewed felt that their clinical supervision was adequate. These recently-qualified nurses, however, justified this by describing their units as having extreme staff shortages and very sick patients (Louw, 2015). A lack of equipment and medication, in addition to low levels of manpower, further challenges the student nurses during their training (Rikhotso et al., 2014).

Violence and crime are well-known concerns for the general South African population, with nurses being no exception to the rule (Eyles et al., 2015 and Jenkins et al., 2015). Student nurses have reported high levels of verbal abuse, discrimination and gossiping by fellow student nurses, and a lower, but still worrying, number of students have

reported physical assault by another student (de Villiers, Mayers & Khalil, 2014). There have also been reports of underlying tension between student nurses and their facilitators at some institutions, with both groups complaining of incivility and aggression by the other group (Rikhotso et al., 2014). This context of abuse is of grave concern as nurses are also often exposed to violence in the workplace, therefore any aggression in the health care and training institutions need to be urgently addressed and corrected (de Villiers, 2014).

In some rural hospitals in South Africa the poor relationship between nursing students and qualified nurses prevents quality nursing education and clinical support, as a result of neither trusting the other. This can lead to poor behaviour choices by both parties and can denigrate the relationship further, with patient care suffering the most (Rikhotso et al., 2014).

Due to extreme nursing shortages and changes to the academic nursing programmes, very large classes of student nurses are being taught in some areas of South Africa (Fakude, le Roux, Daniels & Scheepers, 2014 and Rikhotso et al., 2014). This results in challenges due to high volumes of noise in class and individual students struggling to have their questions answered (Fakude et al., 2014). The educator responsible also has more administration responsibilities with large classes, which can result in errors in recording of marks, challenges regarding marking and setting of assessments, and an inability to build effective relationships with their individual students (Fakude et al., 2014).

Poor education levels and literacy challenges can also be stumbling-blocks in the South African context, as most nursing students are required to study in English, which may not be their first language (Lack & Bruce, 2014; Roos, Fichardt, Mackenzie & Raubenheimer, 2016 and Willemse, 2016). Students entering university from poor and disadvantaged backgrounds often bring underdeveloped English language and writing abilities (Lack & Bruce, 2014), which can be seen as a legacy of Apartheid. This creates a situation where nursing students cannot cope with academic English, and, in addition, may struggle to communicate effectively with their colleagues and patients (Lack & Bruce, 2014 and Bhana, 2014). This inability to communicate effectively is a concerning factor in the health care environment, especially as the nurse-patient relationship relies upon effective communication (Bhana, 2014). Generation Y students

often prefer to communicate via technology and social networks, meaning that some of the students may not have an English language problem, as such, but rather an underdeveloped ability to communicate with people face-to-face (Bhana, 2014). Communication challenges can erode a student nurse's self-esteem, contribute to a high failure rate amongst student nurses and result in poor quality nursing care in the clinical environment (Lack & Bruce, 2014).

All of these factors create a challenging situation for nursing students in the South African context.

2.3 STUDENT NURSES' COPING ABILITIES

Several international studies done in the last five years have reported on coping skills amongst nursing students, all of which point to high levels of stress and a mixture of coping mechanisms (Fornés-Vives et al., 2016; Eyles et al., 2015; Leal & Santos, 2016; Priesack & Alcock, 2015 and Cilliers & Terblanche, 2014). A study done comparing student nurses' coping styles and strategies at the beginning and at the end of their training, found that 'emotional coping' is the strategy that the nursing students use most often to deal with stressful circumstances (Fornés-Vives et al., 2016). The term 'emotional coping' is used in the work of Folkman and Lazarus et al (1984) to describe how a person can use cognitive and behavioural efforts to assist in dealing

Further research shows that coping styles and strategies are varied amongst nursing students. Some of the more positive methods of coping include: maintaining optimism (Shaban, Khater & Akhu-Zaheya, 2012), sharing experiences with close family or friends (Reeve, Schmaker, Yearwood & Riley, 2013 and Nelwati, McKenna & Plummer, 2012), attending religious and spiritual events, learning how to relax properly, and taking their minds off stress by watching television or surfing the internet (Nelwati et al., 2012).

Not all coping strategies are positive, however. Some of the negative coping strategies that student nurses use includes "avoiding and accommodating conflict situations" (Pines, Rauschhuber, Norgan, Cook, Canchola, Richardson & Jones, 2012), procrastinating and avoiding academic work and also running away from any stressful situations (Nelwati et al., 2012). A study by Deasy et al. (2016) attempted to identify the factors that help to predict the emotional health of nursing and midwifery students.

The results of this study showed that almost half of the respondents assessed themselves as having “significant emotional distress”. Over 90% of the respondents reported that they consume alcohol regularly, with some of them reporting alcohol consumption on three or more days a week. A large number of the participants also reported smoking and an unhealthy diet as lifestyle patterns for them (Deasy et al., 2016).

Failure of student nurses to effectively deal with stress is known to contribute to the intention to leave nursing with the obvious and very real concern being that there will eventually be too few nurses in health care areas to provide quality nursing care to the people who need it. In an article written by Geyer (2016), the point is made that although the World Health Organisation (WHO, 2013) does not recognise South Africa as having extremely low numbers of nursing staff compared to some other countries, it is a growing reality that the nurse to patient ratio is too low for effective care to be provided. The attrition of student nurses is not only a growing concern for the health care environment and patients, it can be devastating for the individual student, who loses a chance to qualify and work as a nurse (Roos et al., 2016). The bigger picture also means definite financial losses for the country in which the student nurses undertake their training (Orton, 2011 and Geyer, 2016).

Zhang, You, Liu, Zheng, Fang, Lu, Lv, Wang, Wang, Wu, Zhu & Bu (2014) scrutinised the relationship between nurse burnout, job satisfaction and the intention to leave. In this study, the hospitals that were reported as having positive working environments had fewer dissatisfied and burnt-out nurses, and fewer intending to leave (Zhang et al., 2014). Hart et al. (2014) make mention in their study of the challenges that nurse managers are experiencing in not only the recruitment of nurses, but also in the retention of these health care providers in their hospitals. This is clearly a worldwide phenomenon (Hart et al., 2014), not specific to developed or developing countries.

Mokoka (2015) addressed the difficulties faced by the managers of a multigenerational nursing workforce and how getting this right could possibly reduce staff attrition. Supporting the needs, values and work ethics of each generation, in an environment of diversity and staff shortages can be hugely challenging (Mokoka, 2015 and Louw, 2015). In another recent South African study, it was shown that only 12% of doctors and 19% of nurses are retained in rural hospitals in South Africa (Jenkins et al., 2015).

This study examined the reasons for staying from the point of view of those who did not leave their jobs, even in the face of poverty and extremely stressful working conditions (Jenkins et al., 2015). Although this study did not focus solely on nurses, but rather health professionals in general, the results show that providers of health care can develop resilience when they feel that they share a common purpose with the rest of the health care team, with teamwork being vital in preventing attrition (Jenkins et al., 2015).

All efforts to retain student nurses and qualified nurses are necessary to ensure quality health care delivery.

If resilience can, as suggested by McDonald, Jackson, Wilkes & Vickers (2012); Jenkins et al. (2015); Jackson et al. (2007) and Turner & Kaylor (2015), assist in retaining nurses and if, as suggested by Yang, Bao, Huang, Guo & Smith (2015); Aburn et al. (2016); Gillespie, Chaboyer & Wallis (2007); Sanders (2015); Stephens (2013) and Hart et al. (2014), resilience can be learned, or developed, it is worthy of further research.

Resilience is much more than an individual coping skill, it is the sum of positive attributes, coping strategies and resistance to stress that benefits nursing students hugely, during their training and once qualified (Li, Cao, Cao & Liu, 2015). Resilience can be described as a construct that is vital in protecting all nurses against the reality of their working lives (Reyes, Andrusyszyn, Iwasiw, Forchuk & Babenko-Mould, 2015).

2.4 RESILIENCE – THE CONCEPT

The above discourse suggests that the global health care environment is very challenging and that nursing students often leave their chosen career as a result of not being able to cope with the demands and stressors being placed upon them on a constant basis. It is noted, however, that despite these challenges and demands, some nursing students choose to stay in their field and even find satisfaction and enjoyment, despite an environment of disharmony (Jackson, 2007). The obvious reason for this is that some nursing students must possess a strength and determination that allows them to survive and even flourish in a stressful health care setting (Aburn et al., 2016). One of the characteristics that fuels this strength and determination is resilience (Aburn et al., 2016).

The definition of resilience, according to The Oxford English Dictionary (2018) is “The capacity to recover quickly from difficulties; toughness”. This is an apt ‘everyday’ definition of resilience for nursing students, given that the health care environment can be a minefield of challenges and constant problem solving. Nurses certainly require the ability to recover quickly and to bounce back, even to be able to go back to work after an exhausting and constantly challenging shift the previous day. Despite much interest being shown in the concept of resilience, a standard definition has been impossible to achieve because resilience is very subjective and difficult to pigeon-hole (Stephens, 2013 and Jackson, 2007). Another reason that a fixed definition is elusive, is that resilience is a dynamic skill, not a static personality trait, which can be context dependent (Aburn et al., 2016).

Sanders (2015) explains that resilience has been studied outside of the nursing field for many years. Tusaie & Dyer (2004) refer to early resilience studies in psychology and sociology, with a focus on developmental changes of children and on stressful situations that can occur within the family unit, such as unemployment and divorce. This is echoed by Thomas & Revell (2016) who refer to research done in the 1970’s about resilience in the field of psychology. These studies focused on traits that people were thought to either be born with or not and included “intelligence”, “creativity”, “optimism” and even “physical attractiveness” (Tusaie & Dyer, 2004 and Thomas & Revell, 2016). About a decade later, researchers started to look at environmental effects on resilience (Thomas & Revell, 2016) and it became accepted that resilience could be affected by external influences, like family and community. In his seminal work of 1985, Rutter suggested that resilience was more of a “continuum”, with vulnerability at one extreme and resilience at the other (Jackson et al., 2007). This led to researchers proposing, by the early 2000’s, that resilience was a process rather than a collection of traits, and as such, was constantly evolving, with individualised coping when faced with similar challenges (Stephens, 2013 and Jackson et al., 2007).

This indicates that resilience, in all areas, can be developed and improved upon (Yang et al., 2015; Aburn et al., 2016; Gillespie et al., 2007; Sanders, 2015; Stephens, 2013 and Hart et al., 2014). The focus on resilience in nursing should be on improving the individual nurse’s (including nursing students) responses to every-day adverse situations, in order to strengthen their individual coping responses. This, in turn, should improve the retention of nurses and the delivery of quality nursing care globally.

2.4.1 Attributes of Resilience

Turner & Kaylor (2015) list some of the attributes of resilient people as “having an internal locus of control, pro-social behaviour, empathy, positive self-image and optimism”. Jackson et al. (2007) echo this by stating that qualities such as “resourcefulness, self-confidence, curiousness, self-discipline, level-headedness and flexibility” are closely related to the construct of resilience. Other studies assent by stating that the factors that should be enhanced in order to improve resilience include having a sense of positivity, being able to find humour in situations and being flexible and self-efficient (Thomas & Revell, 2016; Sanders, 2015; Stephens, 2013 and Hart et al., 2014). The ability to problem-solve has also been highlighted as an essential skill in resilient individuals (Jackson et al., 2007 and Gillespie et al., 2007).

2.4.2 Benefits of Resilience in Nurses

Stephens, in her 2013 study, makes an important point that student nurses, with the many stressors they face as students and health care providers, need to be able to grow from both positive and negative experiences. Sanders (2015) mentions that building resilience can aid nursing students to integrate adverse experiences into their context and this should help them to bounce back from negative situations in the future. Student nurses also need to be skilled at using resilience to understand the value of their experiences and to be able to adapt to the changes that occur virtually on an ongoing basis in the health care environment (Stephens, 2013).

Resilient nurses mostly use problem-focused coping strategies, which should strengthen their ability to cope with, and rise above, the challenges that they face in the health care environment (Gillespie et al., 2007). In this manner student nurses can build character and improve resilience further by using adversity to develop their coping skills (Gillespie et al., 2007). Bickhoff et al. (2016) echo this by highlighting the need for student nurses to have the confidence to be the patient’s, and their own, advocate, when necessary, by developing moral courage. Jackson et al. (2011) also acknowledge that student nurses require the ability to stand up for themselves and be able to resist possibly being side-lined and ignored during their clinical learning experiences. The empowerment of student nurses that comes from developing resilience and hardiness, reduces burnout and exhaustion in the clinical environment (Hart et al., 2014).

It is a well-known fact that one of the consequences of student nurses not being able to build resilience and self-confidence, will be an inability to attract appropriate candidates to the profession of nursing (Jackson et al., 2011).

2.4.3 Measurement of Resilience

Despite the assertion by various authors that resilience is a complex construct to accurately measure, and that the absence of a universal definition of resilience challenges measurement further, a number of resilience-measuring tools for adults exist (Gillespie et al., 2007; Smith-Osborne & Bolton, 2013; Burns & Anstey, 2010; Stephens, 2013 and Windle, Bennett & Noyes, 2011). Studies carried out by Smith-Osborn & Bolton (2013); Gillespie et al. (2007) and Windle et al. (2011) examined various resilience-measuring instruments and found that the majority of the tools use a Likert-type scale and are based on various coping theories or on qualitative findings on resilience obtained historically. The self-assessment options for response vary between 4 and 72 items (Smith-Osborn & Bolton, 2013; Gillespie et al, 2007 and Windle et al, 2011).

The Connor-Davidson Resilience Scale (CD-RISC) was identified as obtaining strong results when validated repeatedly and also as having test-retest reliability (Smith-Osborn & Bolton, 2013). The 25 items on the Connor-Davidson Resilience Scale (CD-RISC) were developed using Kobasa's research on 'hardiness' and made use of Rutter's and Lyon's resilience research (Connor & Davidson, 2003 and Windle et al., 2011). Windle et al. (2011) commented on the fact that, although the Connor-Davidson Resilience Scale was one of the scales that scored well in their evaluation, they criticised the scale for not basing the self-assessment items on more than the three authors' research (Windle et al., 2011).

2.4.4 Building Resilience

Resilience cannot be achieved at every moment in one's life (Aburn et al., 2016 and Gillespie et al., 2007) and, as such, is a dynamic, subjective, contextual skill that can be developed and improved upon over time (Yang et al., 2015; Gillespie et al., 2007; Sanders, 2015; Stephens, 2013 and Hart et al., 2014). It is futile to attempt to build resilience in student nurses by simply incorporating the subject of resilience into the nursing education curriculum and teaching it to the students as one would a subject

like anatomy or clinical nursing skills. Various ways of promoting resilience in nursing students have been explored with a range of facilitation methods being implemented and evaluated for success (Thomas & Revell, 2016; Sanders, 2015; McDonald et al., 2012; Jackson et al., 2007 and Hart et al., 2014).

In her 2015 article, Sanders suggests that student nurses can develop resilience by implementing self-improvement measures, like self-reflection and the development of reciprocal relationships with peers and nursing colleagues. Sanders (2015) also recommends mindfulness and being consciously aware of one's self via meditation. Role-modelling of resilience and support by senior nurses is a positive way in which resilience in student nurses can also be encouraged (Sanders, 2015).

Hart et al. (2014) echo Sanders regarding the use of self-reflection in student nurses, in an effort to develop problem-solving strategies in the nursing environment. Thomas & Revell (2016) also promote the skill of self-reflection by suggesting that Nurse Educators teach their students to reflect on their actions and the outcomes of their actions, thereby promoting self-awareness and resilience. They suggest that the skill of reflection be taught from day one of the nursing education programme and encourage the writing down of the students' feelings and concerns, with the Nurse Educator discussing these with the students individually afterwards (Thomas & Revell, 2016). Thomas & Revell (2016) also recommend debriefing and simulation as effective methods of teaching resilience to student nurses.

McDonald et al. (2012) developed a series of workshops for nursing staff in an effort to build resilience in the clinical environment. The participants were able to leave their working environments to attend the workshops and they were given formalised learning goals and outcomes to achieve. Participants evaluated the resilience-building workshops and reported that they felt more competent at using self-reflection activities and felt that they had grown in the areas of assertiveness and self-confidence (McDonald et al., 2012). They also reported that by being able to attend the workshops away from their clinical areas, they were able to concentrate more fully on their own development (McDonald et al., 2012). The participants also felt that the skills that they learnt would assist them to be more resilient on both a personal and professional level (McDonald et al., 2012).

2.5 CONCLUSION

It is clear that a nursing student must possess many positive qualities in order to achieve his or her goal of qualifying as a registered nurse and, no doubt, one of the most important of these qualities is the ability to be as resilient as possible. It is agreed upon in the literature that resilience is one of the most vital skills that a registered nurse must employ on a daily basis, in order to help them overcome challenges, adversity and many diverse stressors (Thomas & Revell, 2016). It has been established that resilience is not, as previously thought, a fixed trait that a person is either born with or not, but rather a dynamic skill that can be developed and built upon (Sanders, 2015; Tusaie & Dyer, 2004 and Hodges et al., 2005).

Resilience can help prevent attrition from nursing courses and, as such, should be encouraged and developed.

Chapter three will explain the research methodology used in the study.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 INTRODUCTION

In the following chapter, the research methodology utilised for this study will be described in detail. Research methodology refers to the way in which the researcher sought the answers to the research questions (Brink, van der Walt & van Rensburg, 2012). Creswell & Plano Clark (2011) also refer to the research methodology as the "process of research" and the way in which the study was carried out.

3.2 RESEARCH DESIGN

The two research questions posed in this study addressed different aspects of resilience and could only attempt to be answered by using two different methods of data collection. In an effort to overcome the limitations of a single design, a mixed method design was chosen for this study (Creswell, 2003). Using a mixed methods research design assists one to attain a deeper and broader comprehension of the topic at hand by combining aspects of quantitative and qualitative research approaches (Creswell & Plano Clark, 2011). Mixed methods research is also considered to be an intuitive way of performing research as this methodology mimics our everyday lives in complexity and integration (Creswell & Plano Clarke, 2011).

Quantitative research is defined by Creswell (2015) as a way of answering research questions through measuring variables and interpreting results via statistical analysis. In order to measure resilience levels in student nurses, a quantitative approach was needed as this provided a baseline for identifying how resilient a sample of undergraduate students felt that they were. This was achieved by the use of a self-administered questionnaire.

Qualitative research is defined by Brink et al. (2012) as an approach that is used when the research data cannot be quantified or measured or when an in-depth meaning of human phenomena is sought. A qualitative approach was required in addition to the quantitative approach in this study, as it allowed for the exploration of how the students felt regarding building resilience and could thus inform future resilience interventions. The qualitative aspect of the study was achieved by interviewing individual undergraduate Baccalaureate nursing students.

A concurrent embedded/ nested design was the type of mixed methodology used for this study. Creswell (2003) refers to concurrent embedded (nested) designs as indicating not only the timing of the two methods but also which of the two methods takes priority. This method, he suggests, is useful when the embedded method (in this study the quantitative aspect) addresses a different question than the dominant one (in this study the qualitative aspect). Qualitative dominant mixed methods research can be illustrated as QUAL+ quan research (Johnson, Onwuegbuzi & Turner, 2007).

Creswell (2003) refers to how the embedded quantitative data can augment the qualitative part of the study, leading to a greater understanding of the topic being studied. The nature of a concurrent method means that the qualitative and the quantitative data can be collected concurrently, with the aim of integrating the two methods during the data analysis and discussion phase.

3.3 RESEARCH SETTING

The site where research is undertaken is decided upon depending on the research question being answered and the type of variables that apply to the study (Brink et al., 2012). Two study settings were purposively selected for this study with both settings being universities in South Africa that offer a Baccalaureate Degree in Nursing.

University A is situated in Johannesburg (Gauteng) and offers students a Bachelor of Nursing Degree which is science based and uses a problem-based curriculum. Students are a culturally heterogenous group coming from all parts of South Africa.

University B, situated in Pietermaritzburg (Kwa-Zulu Natal) offers a Bachelor of Technology Degree in Nursing Science. This institution uses a community and case-based curriculum. University B has a more culturally homogenous group of students than University A, with the majority of students from University B coming from the rural areas of South Africa.

These two study settings were selected as, although both institutions offer a four-year undergraduate degree in Nursing, they differ in that they use different types of curricula and different manners in which their nursing degrees are facilitated. The assumption by the researcher is that this could affect stressors and, in turn, resilience levels and coping methods.

Graduates from both universities register with the South African Nursing Council as a Nurse (General, Community and Psychiatric) and Midwife on successful completion of their programme.

3.4 POPULATION

The whole, existing number of people or items that is of interest to the study makes up the research population. The people or items that make up the population will be of interest to the researcher as they all possess the required element/s for the particular research study (Brink et al., 2012). In this study, the population consisted of undergraduate nursing students following a Baccalaureate programme leading to registration as a Nurse (General, Community and Psychiatric) and Midwife in South Africa. (Regulation 425 of 22 February 1985) (N = 4046).

3.5 THE SAMPLING PROCESS

Polit & Beck (2004) refers to the sampling process as a way of choosing a smaller number of people or objects out of the wider population that one is interested in studying. This smaller group is easier to study and should be representative of the entire population.

3.5.1 Sampling Process for the Quantitative Aspect of the Study

The student numbers were as follows: Institution A had a total of 403 students, of which 149 students were registered for undergraduate programmes and 254 students were registered for postgraduate programmes. Institution B had a total of 581 students, of which 451 were registered for undergraduate programmes and 130 were registered for postgraduate programmes.

The total sample of undergraduate nursing students available from both institutions at the time of the data collection was n = 600 (149 from Institution A and 451 from Institution B). A realised sample size of 500 students participated in the study on the day/s of the data collection, of which 32 questionnaires had to be excluded due to being completed incorrectly (5 questionnaires were discarded from Institution A and 27 questionnaires were discarded from Institution B).

This resulted in a realized sample of n= 468 undergraduate nursing students across both educational institutions. This was an adequate sample size for this study according to the Raosoft calculations (Raosoft, 2017).

3.5.2 Sampling Process for the Qualitative Aspect of the Study

Purposive sampling was done according to a sampling framework. The criteria used for the sampling framework were: 1. The institution 2. The year of study. The researcher approached each of the nursing student groups at Institution A and Institution B and asked for at least 5 volunteers per year of study per institution.

Due to the fact that the data collection took place at two separate institutions and at different times, all the students who volunteered were interviewed, resulting in 49 participants being interviewed. Saturation was reached about midway in the process of the data analysis, but the researcher felt that, as the students had volunteered, it was ethically correct to include all of the interviews in the data analysis.

3.6 SAMPLE

3.6.1 Sample Calculation for the Quantitative Aspect of the Study

Roasoft Sample Size Calculator was used to determine the number of participants required for the quantitative aspect of the data collection for the study. The calculation was done based on the known population size of 4046, with a 5% margin of error and 95% confidence level and the result was that a sample size of 351 participants was needed for this part of the study (Raosoft, 2017).

The required sample of 351 participants was achieved as the total quantitative sample for both institutions together was 468 students. The researcher received a total of 500 completed questionnaires, but 32 questionnaires were spoilt and had to be discarded. The spoilt and discarded questionnaires were either incomplete or answered incorrectly.

The total number of unspoilt questionnaires received per year of study per institution were as follows:

Table 3.1 Number of unspoilt questionnaire for Institutions A and B

	Institution A	Institution B	Total A and B
First year	27	72	99
Second year	41	96	137
Third year	35	93	128
Fourth year	21	83	104
Total	**124**	**344**	**468**

3.6.2 Sample Calculation for the Qualitative Aspect of the Study

Five students from each of the four years of study at both institutions were purposively selected and interviewed by the researcher. Twenty-five students were interviewed at Institution A and twenty-four students from Institution B were finally interviewed, to ensure that all years of study were represented.

3.7 DATA COLLECTION

The data collection process involves the gathering of information with the goal of answering, or attempting, to answer the relevant research question being asked in the study (Creswell & Plano Clark, 2011 and Polit & Hungler, 1997).

3.7.1 Data Collection for the Quantitative Aspect of the Study

The researcher used the Connor-Davidson Resilience Scale (CD-RISC) (Annexure 1) with permission from the developers, Drs Jonathan Davidson and Kathryn Connor in the United States of America. The developers granted permission (Annexure 2) once the required fee was paid.

The researcher arranged with the Nurse Educators of each class at both institutions to talk to the students regarding the self-assessment questionnaire, where it was explained that participation was voluntary and anonymous. The students were each given an information letter regarding the data collection and the questionnaire (Annexure 3) and they were each provided with a consent form for the survey (Annexure 4). The students were also given the opportunity to ask any questions about

the research. The researcher asked the students who agreed to participate to complete the consent form and the Connor-Davidson Resilience Scale. A box was provided with a one-way opening for the students to insert their completed questionnaires and it was explained to the students that, should they not wish to participate they should insert a blank questionnaire into the box. The consent forms were collected by the researcher and kept separate from the questionnaires.

The researcher utilised the 25 item Connor-Davidson Resilience Scale (CD-RISC-25) which contains 25 statements relating to resilience with the total score possible for the questionnaire being 0 to 100 (refer to Annexure 1). The questionnaire consists of a Likert Scale where the higher the score the participant achieves, the higher their resilience level is calculated to be. A demographic information sheet was attached to the front of each questionnaire for statistical purposes and the students were asked to complete this section before completing the survey.

The researcher collected the quantitative data at Institution A between January and March 2017. Institution B was visited by the researcher over two days in early March 2017 and all of the quantitative data was collected over these two days.

Each questionnaire was identified with the letter AA or BB to indicate which university it was from. The year of study and the number of the questionnaire per year of study were identified with numbers.

3.7.2 Data Collection for the Qualitative Aspect of the Study

The researcher developed a semi-structured interview guide for the qualitative part of the data collection process (Annexure 5). The guide consisted of two main questions with several probes per question. The interview guide was designed for individual, face-to-face interviews with the participants. The questions were created in order to find out what the students feel improves and boosts resilience in undergraduate nursing students. The researcher decided to use semi-structured individual interviews, rather than focus groups, in order to give each student the opportunity to share their opinions without feeling intimidated or influenced by other participants. The researcher anticipated that some sensitive information may be shared during the interview process and wanted to assist the participants to feel relaxed.

The researcher discussed the qualitative data collection process with the student groups during the quantitative data collection sessions. A request was made for four to five students to volunteer as participants per group at each institution. Once the volunteers had made themselves known to the researcher, a WhatsApp group was created by the researcher for each group of volunteers, for communication purposes. Dates were established for the interviews to take place and communicated to the participants and their Nurse Educators. The researcher explained to the participants that taking part was voluntary and anonymous and they were each given an information sheet (Annexure 6), consent form to be interviewed (Annexure 7) and a separate consent form agreeing to be digitally recorded (Annexure 8).

The researcher then arranged to interview the students during their lunch or tea break or after class. All five students per institution, per year, arrived on the allocated days apart from one fourth year student from Institution B. Each student was interviewed alone, in a closed room, and the interview was voice-recorded on the researcher's cell phone and tablet. The participants were not identified by name at any stage during the data collection process.

The researcher collected the qualitative data at Institution A between January and March 2017. Institution B was visited by the researcher over two days in September 2017 and all of the interviews were done during this period.

Each interview was identified with either the letter A or B to demarcate the institution, a number for the year of study (1 to 4), and a number was allocated to each participant who was interviewed for that year of study.

3.8 DATA ANALYSIS

3.8.1 Quantitative Data Analysis

During the data analysis phase comparisons were made between two samples (pairwise comparisons) and between more than two groups. The techniques used for these comparisons were the Welch t-test and the Analysis of Variance (ANOVA).

The Welch t-test was used due to the size difference between the samples across the institutions as Institution B had a far greater number of participants than Institution A.

ANOVA is a generalisation of the t-test to multiple samples. It tests whether the variation between the groups due to actual differences is significantly greater than the variation within the groups due to random variation.

Descriptive statistics were used to analyse the socio-demographic data. Descriptive statistics summarise and describe data, no inference is made (Brink et al, 2012).

3.8.2 Qualitative Data Analysis

Creswell (2009) suggests that there are three stages to analysing qualitative data viz. preparing the data, reading through the transcribed interviews and then coding the data and identifying categories and sub-categories from the data. All of the verbatim transcripts of the interviews were subjected to this thematic content analysis. A person experienced in content analysis acted as a second coder in this process.

Creswell & Tashakkori, (2007) suggest that results of mixed methods studies can be used to make "identifiable inferences or conclusions" and that the results of the two strands should be combined to make "coherent conclusion or inferences that are more comprehensive and meaningful than those of the qualitative or quantitative strands alone." On the basis of this recommendation, the two aspects of this study, i.e. the quantitative and the qualitative data, were matched during the chapter on data analysis integration. This was done by means of a template analysis whereby the categories of the qualitative data were used as a template. This process was done with the assistance of a co-coder to reduce subjectivity. The mean score of each construct was also calculated and the mean score for each construct ranked according to the other constructs. The integration of the qualitative and qualitative data was then presented and discussed along with the rank order of each construct.

3.9 RIGOUR

3.9.1 Validity and Reliability of the Connor- Davidson Resilience Scale

3.9.1.1 Validity

Validity is described by Macnee (2004) as how precisely the measuring tool gives information about the topic being investigated, which in this case is resilience. This means that a measuring tool can only be considered valid if it, in fact, correctly measures what it is supposed to measure. Brink et al. (2012) also highlight the fact

that the results of a study cannot be given meaning if the tool used for measurement in the study does not accurately measure what the researcher has set out to investigate. The Connor-Davidson Resilience Scale has been tested for validity and the results were published in an article in 2003 by the developers of the tool: Dr K. Connor and Dr J. Davidson. The validation study was undertaken with 828 participants in total (Connor & Davidson, 2003). The authors compared the resilience scores with existing, validated scales measuring the following -: hardiness (Kobasa Hardiness Scale; Kobasa et al., 1979), perceived stress (Perceived Stress Scale [PSS-10]; Cohen, Kamarck & Mermelstein, 1983), stress vulnerability (Stress Vulnerability Scale [SVS]; Sheehan et al., 1990), disability (Sheehan Disability Scale [SDS]; Sheehan et al., 1983) and social support (Sheehan Social Support Scale [SSSS]; Sheehan, 1990) (Connor & Davidson, 2003).

The results of this study showed a negative correlation when compared to the Perceived Stress Scale (Cohen et al.,1983) which means that participants with less perceived stress scored higher on the CD- RISC Scale (Connor & Davidson, 2003).

A negative correlation was also found when the CD-RISC Scale was compared to the Sheehan Stress Vulnerability Scale (Sheehan et al., 1990) showing that participants with lower levels of stress vulnerability scored higher resilience levels (Connor & Davidson, 2003). A further negative correlation was found in the comparison of the CD-RISC Scale and the Sheehan Disability Scale (Sheehan et al., 1983) (Connor & Davidson, 2003). A significant correlation was also found when compared with the Sheehan Social Support Scale (Sheehan, 1990) in that less disability and greater social support was found with higher resilience scores (Connor & Davidson, 2003).

A positive correlation was found when comparing the CD-RISC scores to the Kobasa Hardiness Scale (Kobasa et al., 1979) which indicates that higher resilience scales is associated with more hardiness (Connor & Davidson, 2003). These comparisons show that the CD-RISC Scale is a valid measurement tool for the purposes of this study.

Drs Connor and Davidson have also compiled a manual for use with their Resilience Scale (Connor & Davidson, 2015) which cites many further studies on resilience, done in many countries, by a variety of authors, that have used the Connor-Davidson Resilience Scale as the data collection instrument.

3.9.1.2 Reliability

Brink et al. (2012) state that reliability refers to the ability of the data collection tool to provide consistent results when used more than once. This includes the use of the same tool on the same person/ people over time or two different researchers using the tool (Brink et al., 2012).

Connor and Davidson's 2003 study mentioned above also reported on the reliability of their tool as measured by the researchers (Connor & Davidson, 2003). Test- retest reliability was examined using 24 subjects from the 828 total participants. These participants were chosen as they had little or no clinical changes seen between the first and second assessments (Connor & Davidson, 2003). The results showed a high degree of reliability at the first and second assessments with an "intraclass correlation coefficient of 0.87" (Connor & Davidson, 2003). Brink et al. (2012) state that the closer the correlation is to 1, the higher the reliability of the tool.

Connor and Davidson (2003) also examined the internal consistency of their tool, this being an important characteristic of reliability (Brink et al., 2012). Internal consistency is only relevant when the tool is evaluating one concept at a time (Brink et al., 2012). The Connor-Davidson Resilience Scale was designed to measure resilience and this means that each statement on the tool must measure resilience at all times (Brink et al., 2012). Connor and Davidson used Cronbach's alpha coefficient to evaluate internal consistency of their tool (Connor & Davidson, 2003). This statistical test is effective for determining internal consistency in a quantitative data collection tool (Brink et al., 2012). Connor and Davidson used Cronbach's alpha for the item-total and total scores for 577 of the participants of their study (Connor & Davidson, 2003). The results showed that "Cronbach's alpha for the full scale was 0.89 and item-total correlations ranged from 0.30 to 0.70 (Connor & Davidson, 2003).

3.9.2 Trustworthiness of qualitative aspect of the study

According to model Lincoln and Guba (1985) the four criteria for ensuring trustworthiness or rigour in a qualitative study are credibility, dependability, confirmability and transferability (Brink et al., 2012).

Credibility, or ensuring truth of the data and its' interpretation, was ensured in this study by interviewing sufficient participants and until data saturation was reached (Brink et al., 2012). This resulted in rich data being gathered (Brink et al., 2012). The data credibility was also ensured by using mixed methodology with the data being collected via quantitative and qualitative means, allowing for differing descriptions of the participants information (Brink et al., 2012). The data was also collected at two educational sites which allowed for a variety of participants from different provinces in the country to voice their opinions. (Brink el al., 2012).

Dependability, or "the stability of data over time" (Brink et al., 2012), refers to the fact that similar findings would be evident if the same or similar participants in the same or similar environment were used in a repeat study (Brink et al., 2012). Dependability was ensured in this study by the detailed description of the methodology used and the planning and implementation of this methodology during the data collection. Dependability was also ensured by the use of more than one educational institution and the use of mixed methodology (Brink et al., 2012).

Confirmability, according to Brink et al. (2012) refers to the confirmation that the data presented reflects the participants' voices and not the researcher's opinions or perceptions. In this study, confirmability was ensured by providing a detailed description of the data collection techniques and methodology, in order for an audit trail to be established. Confirmability was also ensured by the use of a voice recorder during the interviews and also by employing an external assistant to type the interviews verbatim.

The final criterion, **transferability**, refers to the application of the findings of one study to other participants or different environments (Brink et al., 2012). Transferability is ensured by providing detailed and rich descriptions within the

study (Brink et al., 2012). This was achieved in this study by ensuring that sufficient data was collected by interviewing a large number of students and by describing the results in detail. Transferability is also ensured by interviewing participants until data saturation is reached or when no new information is yielded by the participants (Brink et al., 2012). The researcher interviewed a large number of students across two different educational institutions, and also across the four different years of study per institution. This also ensured rich and thick descriptions (Brink et al., 2012).

3.10 ETHICAL CONSIDERATIONS

The researcher was guided during this study by the two main ethical principles which are -: beneficence, which means “the requirement to do good” and non-maleficence which means “to do no harm” (ed. van Rensburg, 2004).

According to Pera and van Tonder (eds. 2005) three specific factors must be considered when ethical principles are applied to research. These are: the participant/s, the institution/s and the research process/ researcher him or herself.

3.10.1 The Participants

The researcher considered the protection of the participants’ rights to be of the utmost importance during this study.

3.10.1.1 Informed consent and the right to autonomy

This was achieved by providing an information sheet for the students to read in order to be fully informed of the data collection process and their right to decline participation in the study (Annexures 3 and 6). The students were also given a consent form to sign and submit if they wished to partake in the study (Annexures 4 and 7). The volunteers for the interviews were also required to sign an additional consent form which was for the digital recording of the interview (Annexure 8). The researcher made it clear, during the explanation and in the content of the information sheet, that there would be no negative consequences for any student who declined to participate in the study or decided to terminate participation during the process.

The participants who took part in the data collection were volunteers and, although there would be no obvious immediate benefit to participation, the researcher structured the process in a manner that was intended to enrich the participant.

3.10.1.2 Confidentiality, privacy and anonymity

Anonymity and confidentiality were ensured by not having any names or distinguishing comments on the questionnaire and by not mentioning student names during the interview process. All data collection forms were coded to only indicate the institution and the year of study.

Confidentiality was further ensured by the fact that the interviews were conducted in private, in a closed room. The volunteers who were interviewed were not filmed and only the voice recorders were used for accuracy purposes. For the survey the students were given a box in which to insert their questionnaires and were asked to submit a blank form if they did not wish to participate, so that they were not seen by the rest of the students to not be partaking in the study.

The researcher also collected all of her own data and did not use the services of a research assistant. In this way, the researcher further ensured confidentiality and privacy for the participants.

3.10.2 The Institutions

The researcher provided the institutions' ethics committees with the proposal of the study and requested ethical approval prior to any data being collected. Institution A approved the study and issued The Human Research Ethics Committee (Medical) certificate number M160425 (Annexure 9). Institution B also approved all data collection to take place at the Institution (Annexure 10).

The institutions' rights were protected by not being referred to by name in the study but rather being coded as Institution A and Institution B. The Nurse Educators of the students concerned were also informed of the data collection processes and the researcher ensured that the data collection would not impinge on class time or disadvantage any individuals or groups of students.

3.10.3 The Research Process and Researcher

The researcher became familiar with the Connor-Davidson Resilience Scale by reading the information supplied by the developers of the tool when permission was granted. The instructions on the use of the tool and the scoring system was also internalised by the researcher before the tool was administered to the participants.

The researcher developed the semi-structured questionnaire under the guidance and approval of her supervisor. The researcher and the supervisor interviewed the first 5 participants together to ensure that the researcher was able to manage the interview process effectively.

In order to preserve the scientific integrity of the study, a large number of books and articles were accessed, and the researcher gathered as much information on the topic of resilience as possible. All books and articles used in this study were referenced, in the text and in the bibliography, in order to prevent plagiarism. The researcher's supervisor and co-supervisor oversaw the study.

3.11 CONCLUSION

This chapter described the mixed methodology used in this study and explained why a concurrent, nested (embedded) mixed methods design was specifically chosen. The sampling, setting and data collection were discussed in detail with ethical considerations being highlighted as a vital aspect of this study. The data collection tools were also unpacked, and the validity, reliability and trustworthiness of the instruments were detailed.

Chapter four will deal with the quantitative data analysis and chapter five will deal with the qualitative data analysis. Chapter six will go on to integrate the qualitative and quantitative data analysis.

CHAPTER 4: RESULTS OF THE QUANTITATIVE DATA COLLECTION PHASE

4.1 INTRODUCTION

The results of the quantitative data gathering phase will be presented in this chapter. These results include the socio-demographic data and the Connor-Davidson Resilience Scale scores, for both Institution A and Institution B. Comparisons across the two institutions and across the years of study will be presented.

An example of a completed Connor-Davidson Resilience Scale is attached (Annexure 12).

A discussion on the integration of the quantitative and the qualitative data results will be presented in Chapter six.

4.2 SOCIO-DEMOGRAPHIC DATA

Descriptive statistics were used to analyse the socio-demographic data collected during the quantitative data-gathering phase and will be presented in this section.

4.2.1 Gender

The number of male and female participants were measured at both institutions. The results are displayed below, separately for each institution, and then as a whole.

Table 4.1: Participant Gender Institution A

Gender	Number	Total participants Institution A	% of total participants at Institution A
Male	21	124	16,94
Female	103	124	83,06

Table 4.2: Participant Gender Institution B

Gender	Number	Total participants Institution B	% of total participants at Institution B
Male	87	344	25,29
Female	257	344	74,71

Figure 4.1: Gender distribution for Institutions A and B (in percentage)

The number of female participants was much higher than the number of male participants, at both Institution A and Institution B.

Table 4.3: Total gender in percentage

Gender	Number – Institutions A & B	Total participants – Institutions A & B	% of total participants at Institutions A and B
Male	108	468	23,08
Female	360	468	76,92

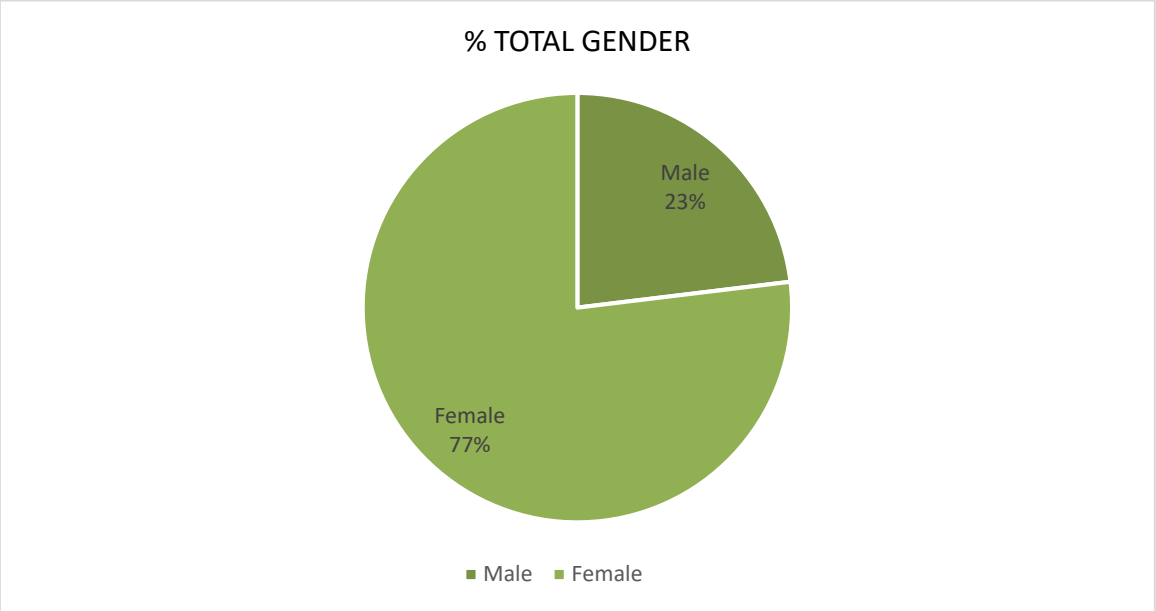


Figure 4.2: Total gender distribution (in percentage)

It is a well-known fact that nursing tends to be a female dominated profession. The above demographic data, relating to gender distribution of participants from Institutions A and B, illustrates this clearly.

4.2.2 Age

The age of the participants, at the time of the data gathering process, was also measured. The results are presented below, per institution, and then as a whole.

Table 4.4: Participant Age Institution A

Age	Number	Total participants Institution A	% of total participants at Institution A
<18 years	4	124	3,22
18-20 years	65	124	52,42
21-25 years	55	124	44,45
>25 years	0	124	0

Table 4.5: Participant Age Institution B

Age	Number	Total participants Institution B	% of total participants at Institution B
<18 years	7	344	2,03
18-20 years	99	344	28,78
21-25 years	216	344	62,79
>25 years	22	344	6,40

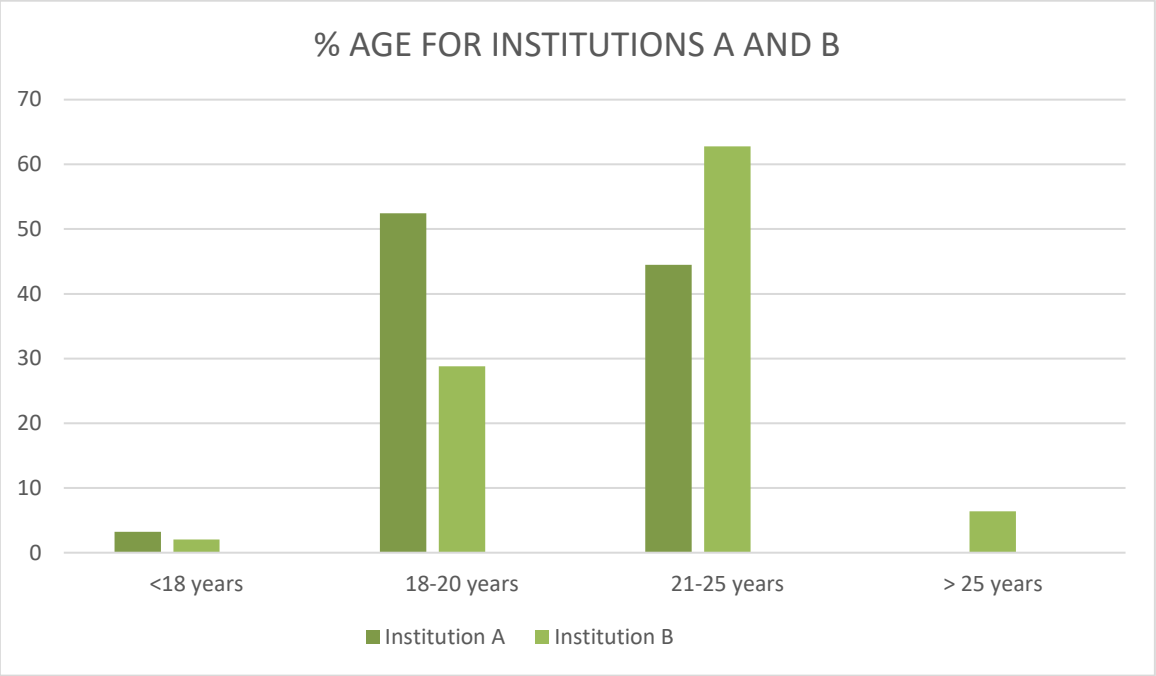


Figure 4.3: Age distribution for Institutions A and B (in percentage)

Participants in the age group of 18-20 years were in the majority at Institution A while participants in the age group of 21-25 years were in the majority at Institution B. Institution A had no participants in the age group above 25 years whereas Institution B had 22 participants (6,4%) above the age of 25 years.

Table 4.6: Total age in percentage

Age	Number - Institutions A & B	Total participants – Institutions A & B	% total participants at Institutions A and B
<18 years	11	468	2,35
18-20 years	164	468	35,04
21-25 years	271	468	57,91
>25 years	22	468	4,70

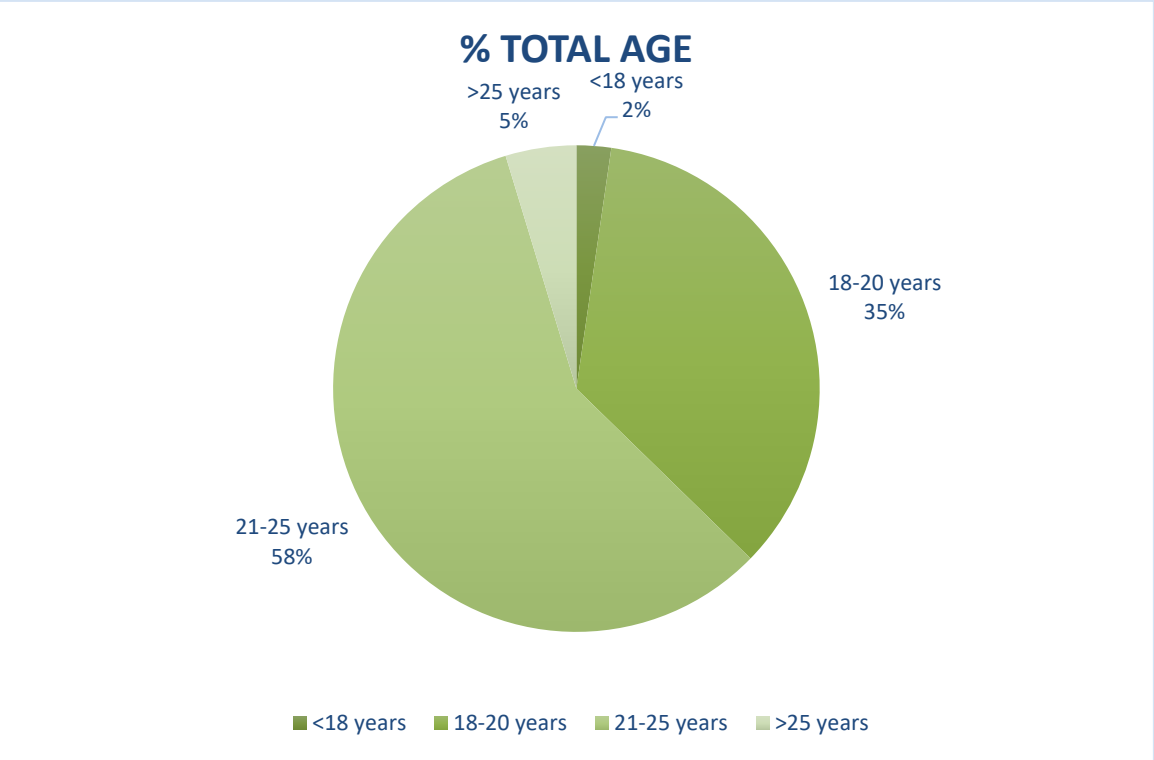


Figure 4.4: Total age distribution (in percentage)

The age category of 21-25 years had the highest number of participants in totality. The age category of 18-20 years had the next highest number of participants, while there were very small numbers of participants in the categories of younger than 18 years and above 25 years of age.

4.2.3 Language

The participants' home language was the final socio-demographic variable measured. The results are displayed below, for Institutions A and B, and as a whole.

Table 4.7: Participant home language Institution A

Language	Number	Total participants Institution A	% total participants at Institution A
isiZulu	25	124	20,16
isiXhosa	17	124	13,71
isiNdebele	3	124	2,42
Setswana	15	124	12,10
Siswati	2	124	1,61
Tshivenda	6	124	4,84
Xitsonga	2	124	1,61
Pedi	15	124	12,10
Sesotho	11	124	8,87
English	17	124	13,71
Afrikaans	2	124	1,61
Other	9	124	7,44

Table 4.8: Participant home language Institution B

Language	Number	Total participants Institution B	% total participants at Institution B
isiZulu	291	344	84,59
isiXhosa	19	344	5,52
isiNdebele	1	344	0,29
Setswana	0	344	0
Siswati	7	344	2,03
Tshivenda	1	344	0,29
Xitsonga	0	344	0
Pedi	0	344	0
Sesotho	6	344	1,74
English	18	344	5,23
Afrikaans	1	344	0,29
Other	0	344	0

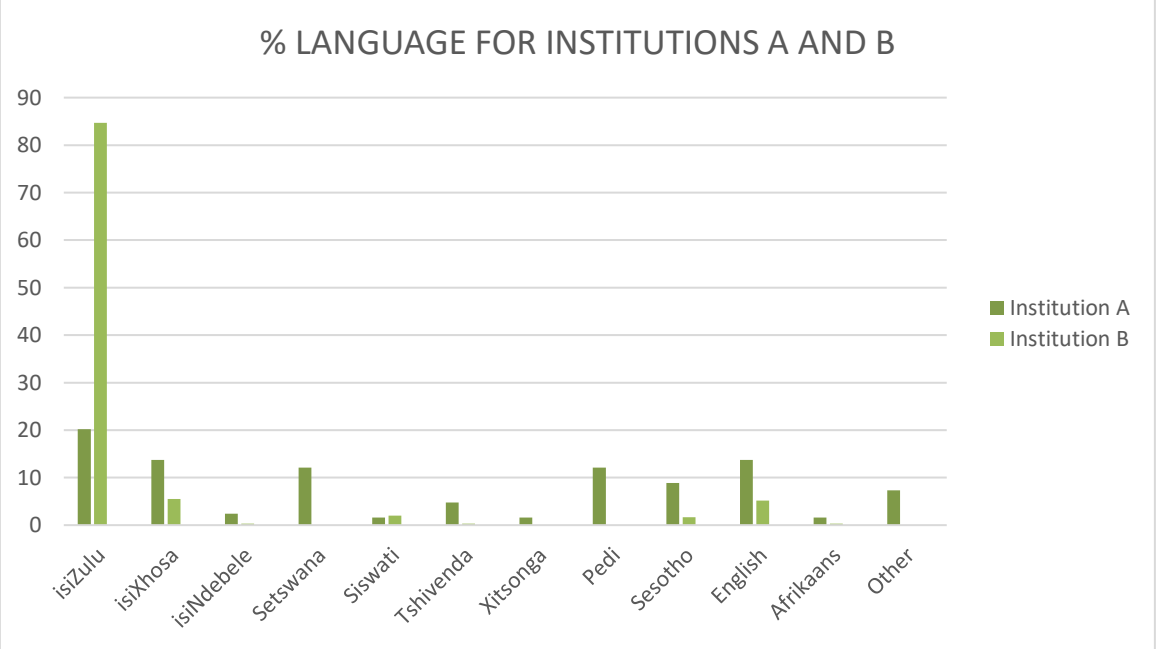


Figure 4.5: Language distribution for Institutions A and B (in percentage)

The language categories were spread quite evenly across Institution A although isiZulu was the most common home language spoken by the participants. IsiZulu was also the most widely spoken language for Institution B, with the other language categories being less represented across Institution B.

Table 4.9: Total home language in percentage

Language	Number - Institutions A & B	Total participants – Institutions A & B	% total participants at Institutions A and B
isiZulu	316	468	67,52
isiXhosa	36	468	7,69
isiNdebele	4	468	0,85
Setswana	15	468	3,21
Siswati	9	468	1,92
Tshivenda	7	468	1,50
Xitsonga	2	468	0,43
Pedi	15	468	3,21
Sesotho	17	468	2,99
English	35	468	7,48
Afrikaans	3	468	0,64
Other	9	468	1,92

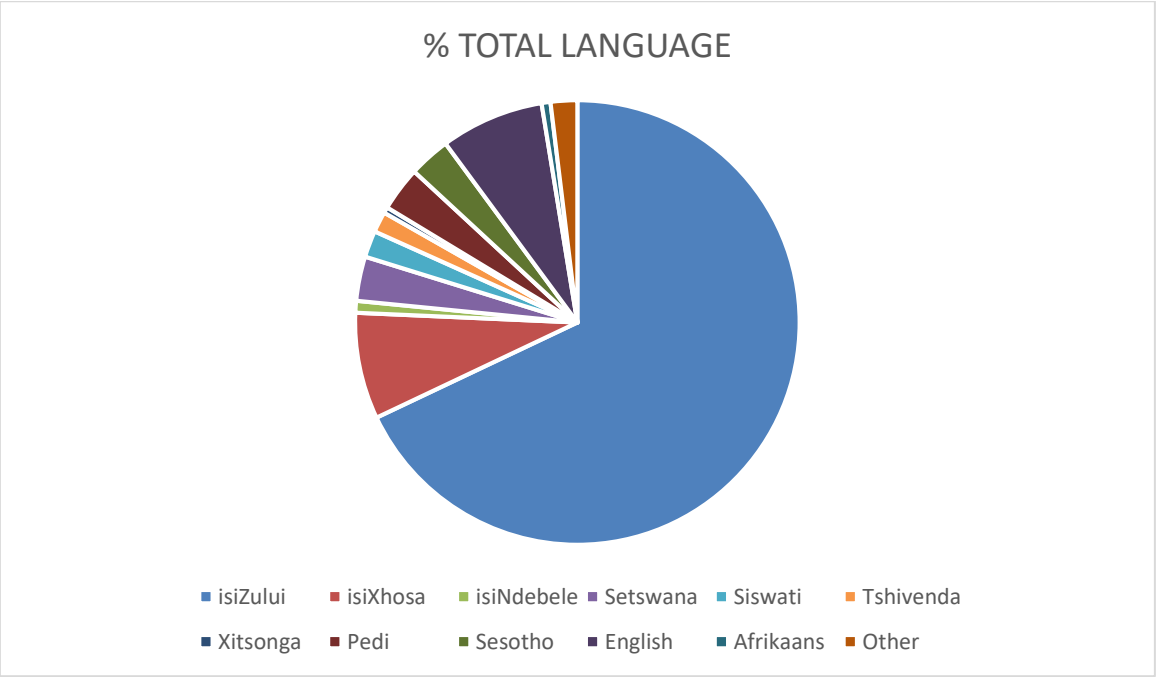


Figure 4.6: Total language distribution (in percentage)

IsiZulu-speaking participants dominated both Institutions A and B separately, and also when measured as a whole. IsiZulu speakers were the majority participants at Institution B by far, indicating a possibly high level of homogeneity, which might be expected at an educational institution in Kwa-Zulu Natal. IsiZulu speakers also had the highest number of participants at Institution A, but the actual number of isiZulu speakers was much lower than at Institution B. There were also many other languages spoken by participants at Institution A besides isiZulu, possibly indicating a higher level of heterogeneity, which might be expected at an educational institution in Johannesburg.

4.3 THE CONNOR-DAVIDSON RESILIENCE SCALE SCORES

Inferential statistics were used to analyse the Connor-Davidson scores and the relating socio-demographic data that will be presented in this section. Total scores according to the Connor-Davidson Resilience Scale, across the institutions and years of study, will be presented. The results of each of the constructs of the Connor-Davidson Scale will also be presented in the section that follows. An analysis of these constructs will be presented in Chapter six.

It is important to note that there was a marked difference in the number of participants across the two institutions, as a result of the difference in size of the student populations at these institutions. Institution A had a total participant sample of 124 nursing students and Institution B had a total participant sample of 344 nursing students.

Table 4.10: Nursing student numbers for Institutions A and B

	Total nursing student numbers (Baccalaureate nursing degree)	Questionnaires received and response rate	Spoilt papers	Participants in this study
Institution A	149	129 (Response rate = 86,6%)	5	124
Institution B	451	371 (Response rate = 76,28%)	27	344

Student's t-test is normally used to calculate whether two data sets are noticeably different from one another (Boslaugh,2012). In this study, Welch's t-test was used instead of Student's t-test, due to the two institutions having very different participant numbers. The reason for this is that Welch's t-test is considered to be more reliable than Student's t-test when markedly different sample sizes are being compared (Boslaugh, 2012).

Analysis of Variance (ANOVA) was also used in this study to test the groups to determine whether there is a difference between them (Creswell, 2014). The ANOVA test attempts to determine whether the variation between groups (due to actual differences) is significantly greater than the variation within groups (due to random variation). In this way the ANVOA test assists one to decide whether "to reject the null hypothesis or accept the alternate hypothesis" (Creswell, 2014).

The null hypothesis is the "commonly accepted fact" in a research study, which the researcher is attempting to disprove in deference to the "alternate hypothesis"

(Creswell, 2014). The assumption of the null hypothesis in this study is that there is no difference in the scores from two or more groups.

The p-value, or calculated probability, is used during the proving or disproving of the null hypothesis (Creswell, 2014). A low p-value (below 0.05) allows one to reject the null hypothesis, and a p-value that is above, or greater than, 0.05 prevents one from rejecting the null hypothesis (Boslaugh, 2012). A quartile is a point or value that divides your data into four equal parts or quarters (statisticshowto,2018).

4.3.1 Comparison 1: Total Connor-Davidson Resilience Scores within each Institution across the four years of study

Comparisons of the total resilience scores were conducted within each institution across the four years. Initial data analysis was conducted before comparisons were made using analysis of variance, assuming normal theory.

Initial data analysis, summary statistics and box plots for each of the institutions for each year as shown in table 4.11. below. The values are divided into quantiles (referred to here as 1st, 2nd and 3rd quartiles) where the first reflects values between the smallest and the median, the second the median and the third the values above the median.

Table 4.11: Total resilience scores within Institutions A and B across the years of study

Institution and Year	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum
A1	38.00	68.50	74.00	72.04	80.00	94.00
A2	48.00	68.00	79.00	74.98	84.00	95.00
A3	41.00	71.50	77.00	75.31	82.00	91.00
A4	64.00	70.00	75.00	75.43	81.00	90.00
B1	54.00	68.00	74.00	74.32	81.00	97.00
B2	42.00	65.00	75.00	72.47	81.00	94.00

Table 4.11 Continued: Total resilience scores within Institutions A and B across the years of study

B3	54.00	72.00	77.00	77.18	82.00	93.00
B4	40.00	69.00	75.00	73.63	80.50	93.00

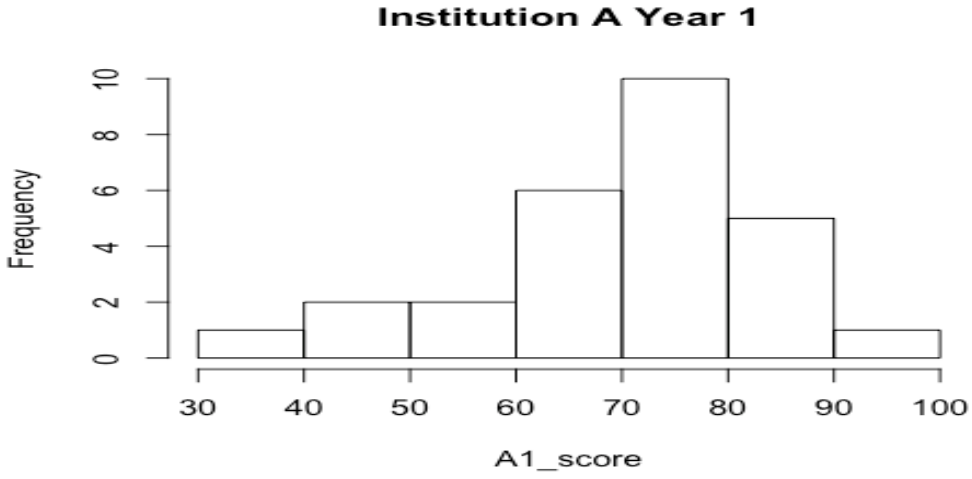


Figure 4.7: Institution A Year 1

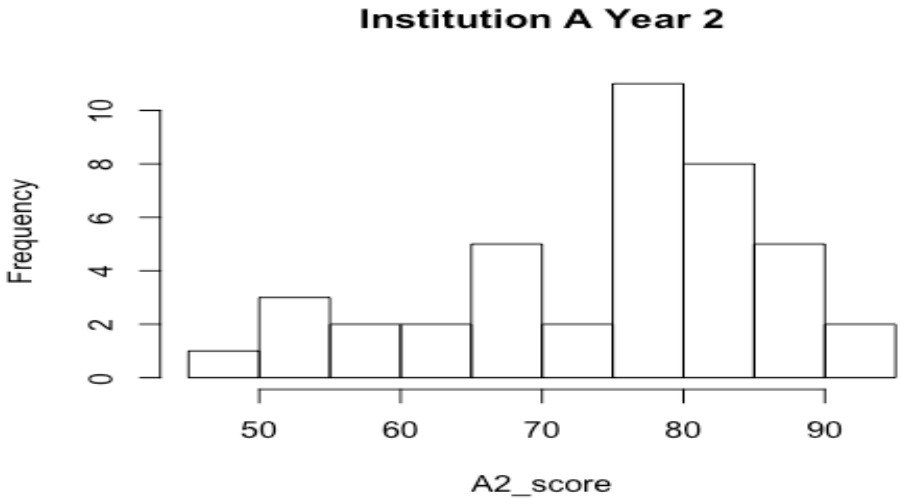


Figure 4.8: Institution A Year 2

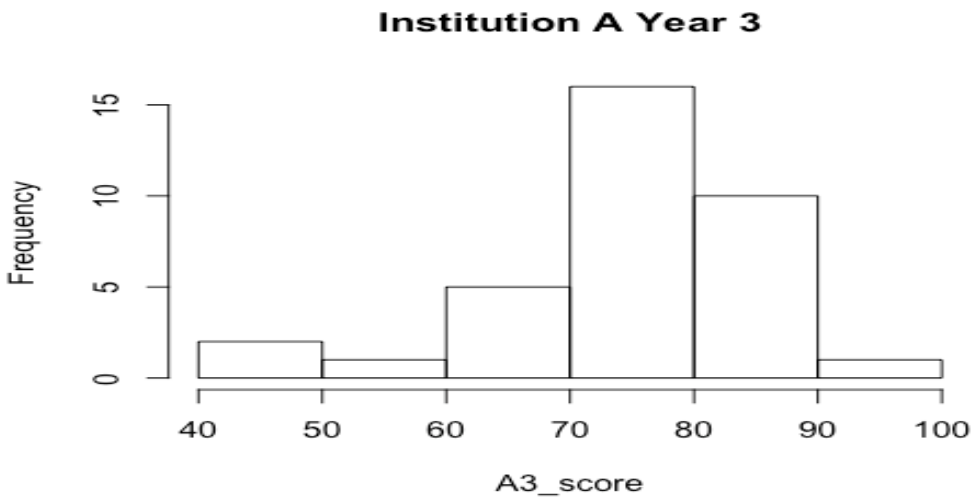


Figure 4.9: Institution A Year 3

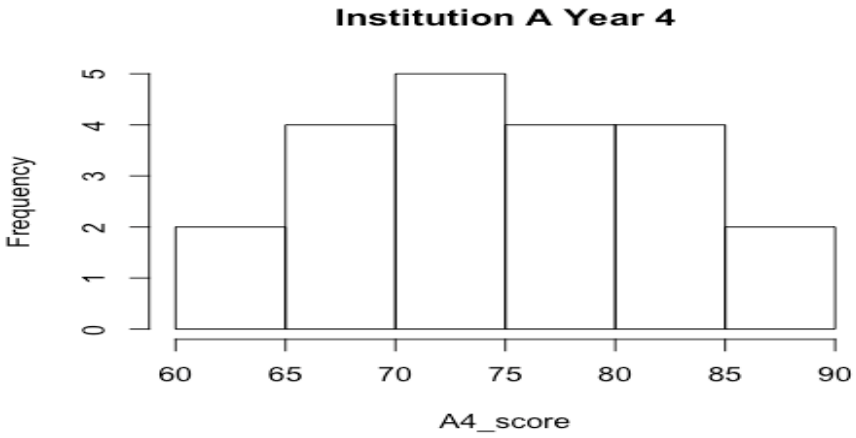


Figure 4.10: Institution A Year 4

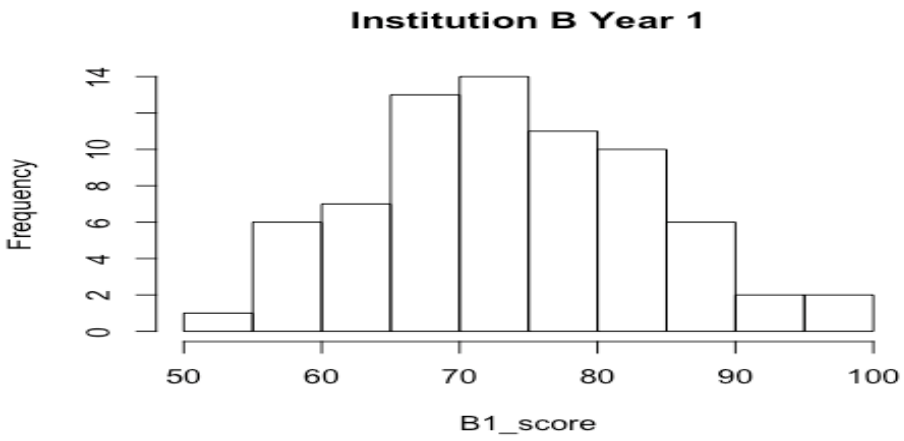


Figure 4.11: Institution B Year 1

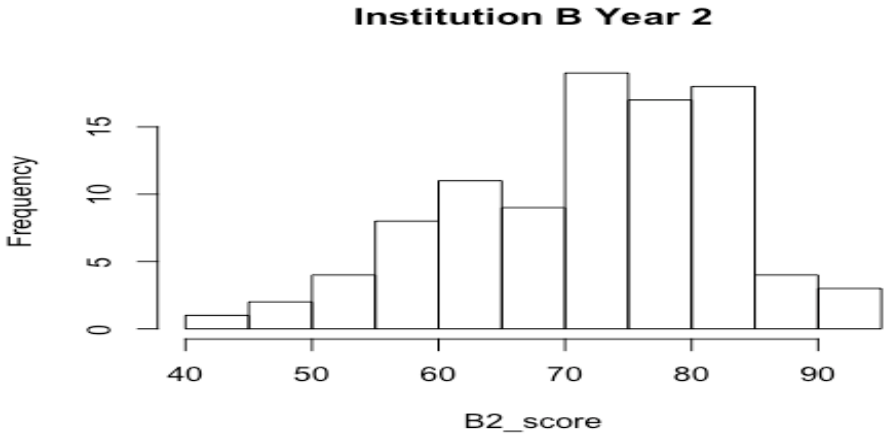


Figure 4.12: Institution B Year 2

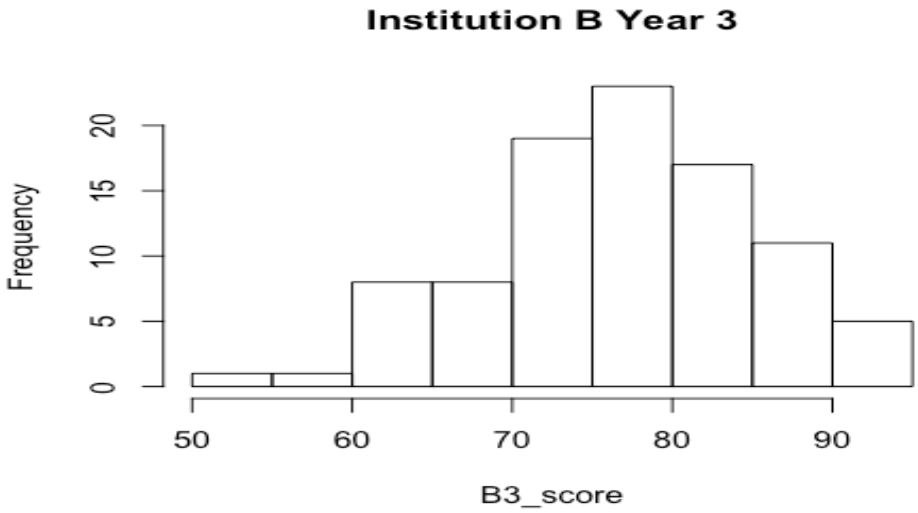


Figure 4.13: Institution B Year 3

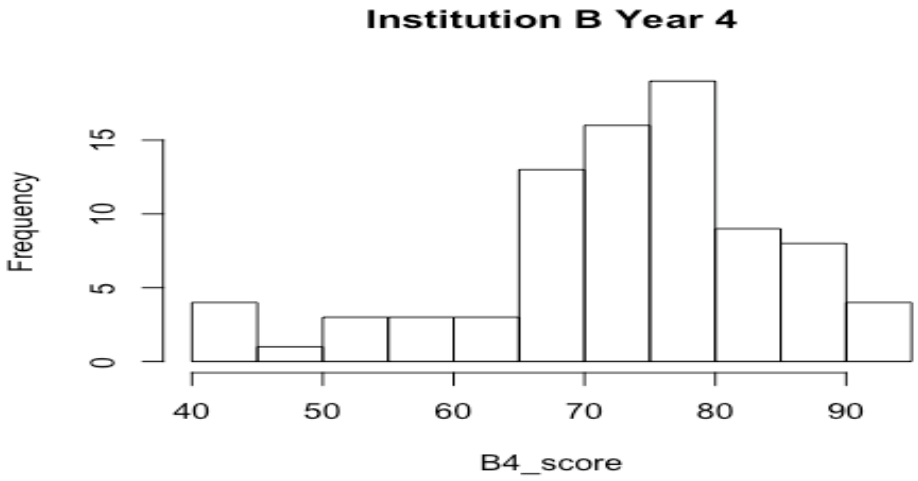
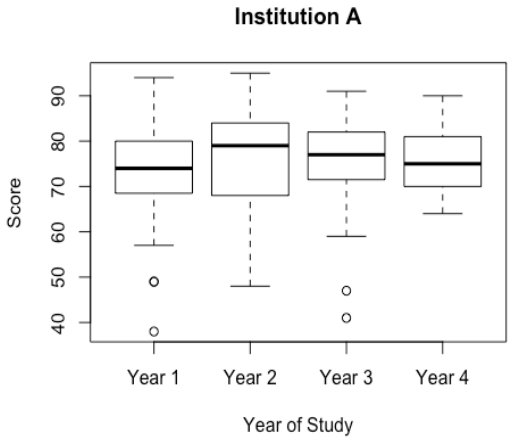


Figure 4.14: Institution B Year 4



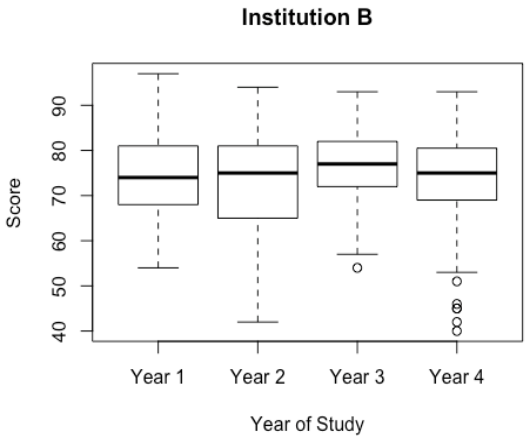


Figure 4.15: Institution A **Figure 4.16: Institution B**

As is evident from the histograms, the distributions of the total scores for each year in each institution was roughly normally distributed, although there were elements of non-normality (A2, B2 and B4 showing the most obvious negative skewness).

An analysis of variance was used to compare the variation within each year and across each year to ascertain whether there were differences between each year. The ANOVA tests the null hypothesis of equal means (no difference in the means) against the alternative hypothesis of there being some difference in the means of each year within each institution. The results were as follows:

Table 4.12A: Analysis of variance (ANOVA) within each year and across each year for Institution A

Institution (method)	"Treatment" sums of squares	"Error" sums of squares	Degrees of freedom	Observed F-statistic	p-values
A (normal theory)	214.3676	14876.62	3, 120	0.5763879	0.6316237 (p-value is > than 0.05)
Conclusion: As the P-value is greater than 0.05, there is insufficient evidence to reject the null hypothesis. Therefore, we cannot conclude a difference in total scores between the years in institution A and accept that the scores for Institution A are very similar.					

Table 4.12B: Analysis of variance (ANOVA) within each year and across each year for Institution B

Institution (method)	"Treatment" sums of squares	"Error" sums of squares	Degrees of freedom	Observed F-statistic	p-values
B (normal theory)	1128.333	35394.87	3, 340	3.612889	0,01355627 (p-value is < 0.05)
Conclusion: As the p-value is less than 0.05, there is sufficient evidence to reject the null hypothesis of equal means. Therefore, there are some difference in total scores between the years in Institution B.					

4.3.2 Comparison 2: Total Connor-Davidson Resilience Scale Scores across the institutions

The second comparison was done between the total scores across Institution A and Institution B. The histograms of the scores in each institution show rough normality, to the point that normal theory can be used to perform a Welch t-test for comparisons across samples of different sizes. The institutions were roughly composed of the same proportion of students per year, which prevented the effects of confounding in the data and allowed a clear comparison to be made.

Table 4.13: Institutions A and B total scores

Institution	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum
A	38.00	69.00	76.50	74.51	81.25	95.00
B	40.00	68.00	75.00	74.41	81.00	97.00

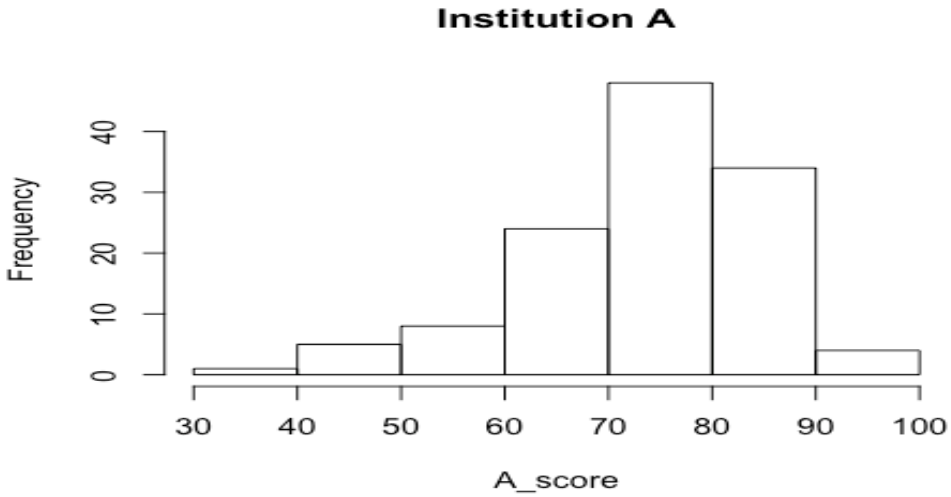


Figure 4.17: Total scores Institution A

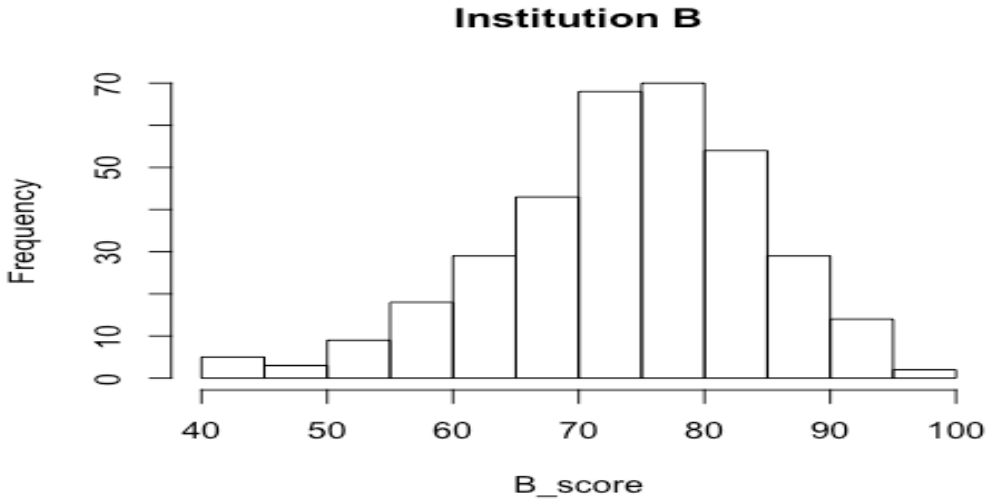


Figure 4.18: Total scores Institution B

The boxplots and summary statistics show that upon initial observation we did not expect there to be a significant difference in the scores between the institutions.

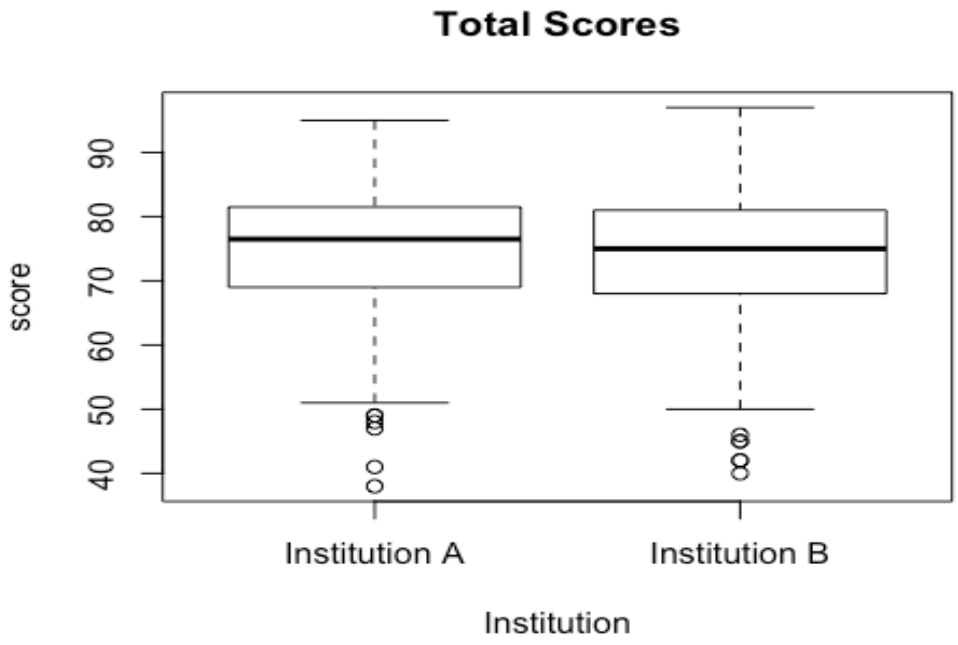


Figure 4.19: Total scores Institutions A and B

The null hypothesis of the mean of scores in Institution A being equal to the mean of the scores in Institution B was tested and the following result was obtained:

The p-value = 0.9314 (greater than 0.05), which suggests that there is very little evidence to reject the null hypothesis. This means that there is insufficient evidence to oppose the idea that the mean scores observed in institutions A and B were equal. This means that the total scores of the resilience scales were very similar for Institution A and Institution B.

4.3.3 Comparison 3: Total Connor-Davidson Resilience Scale Scores within years of study across Institutions

The third comparison was made within the years of study but across institutions. Because of the slight tendency towards non-normality for some of the subsets of scores (see Figures 4.15 and 4.16) both a t-test of the null hypothesis of equal means within years of study and across institutions was done. The results are summarized in the table below:

Table 4.14: Years of study across Institutions A and B

Year (method)	t-stat	Degrees of freedom	p-value
A and B year 1 (normal theory)	-0.84339,	38.043	0.4043 (p-value > than 0.05)
A and B year 2 (normal theory)	1.1568	67.219	0.2514 (p-value > than 0.05)
A and B year 3 (normal theory)	-0.92606,	50.988	0.3588 (p-value > than 0,05)
A and B year 4 (normal theory)	0.91138	54.123	0.3661 (p-value > than 0.05)
Conclusion: In all four calculations, the p-value is above 0,05, meaning that we cannot reject the null hypothesis. This means that the resilience scores for the years of study across the Institutions are very similar.			

4.3.4 Comparison 4: Average Connor-Davidson Resilience Scale Scores across Gender

Since no significant differences between the institutions was found, the groups of males and females were grouped across institutions, in order to compare the average scores across genders. Since the sample sizes were comfortably big enough for the central limit to apply we could use normal theory. Summary statistics, box plots and histograms suggested that there may have been a significant difference between the scores between males and females, especially evident in the middle 50% of the data and the differences in the mean.

Table 4.15: Total scores according to gender across Institutions A and B and across the years of study

Gender	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum
Males	46.00	65.00	72.00	71.84	78.25	93.00
Female	38.00	69.50	77.00	75.22	82.00	97.00

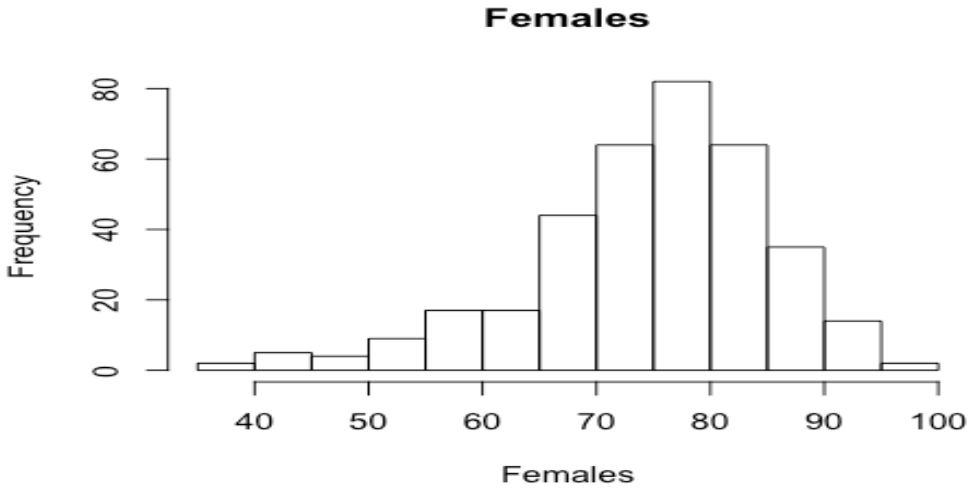


Figure 4.20: Total scores for females

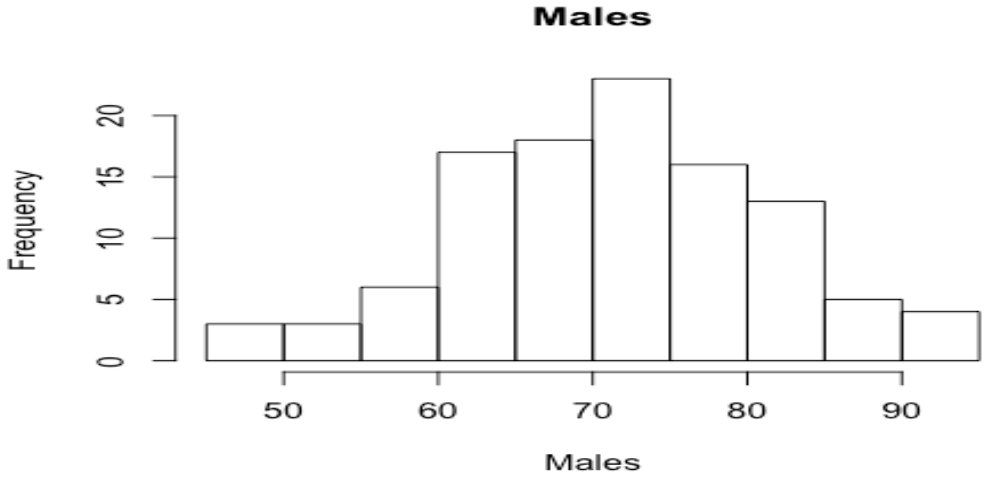


Figure 4.21: Total scores for males

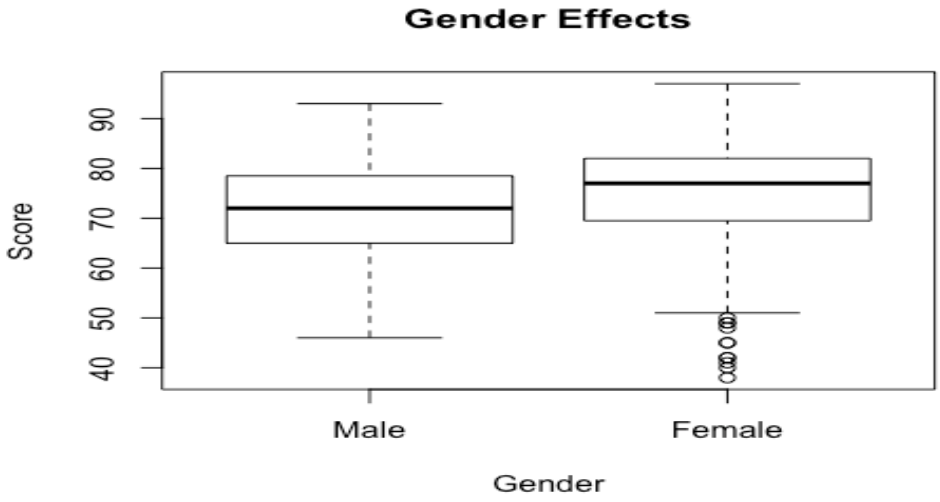


Figure 4.22: Gender effects on resilience

The null hypothesis of equal means was tested giving a p-value of 0.002355 (p-value < 0.05), which suggests significant evidence to reject the null hypothesis of equal means and conclude that on average female students have higher levels of reported resilience.

4.3.5 Comparison 5: Average Connor-Davidson Resilience Scale Scores across age Categories

The same motivation as above that was used to justify grouping of genders was used to group the ages across the institutions. The summary and boxplot of the various age groups gave an indication that there may have been a difference in the means observed across age groups.

Table 4.16: Total scores according to age across Institutions A and B and across the years of study

Age Group	Minimum	1st Quartile	Median	Mean	3rd Quartile	Maximum
<18	38.00	68.00	72.00	69.55	79.00	86.00
18-20	42.00	68.00	75.00	73.51	81.00	97.00
21-25	40.00	69.00	76.00	75.09	81.75	97.00
>25	59.00	71.25	78.50	75.77	82.75	88.00

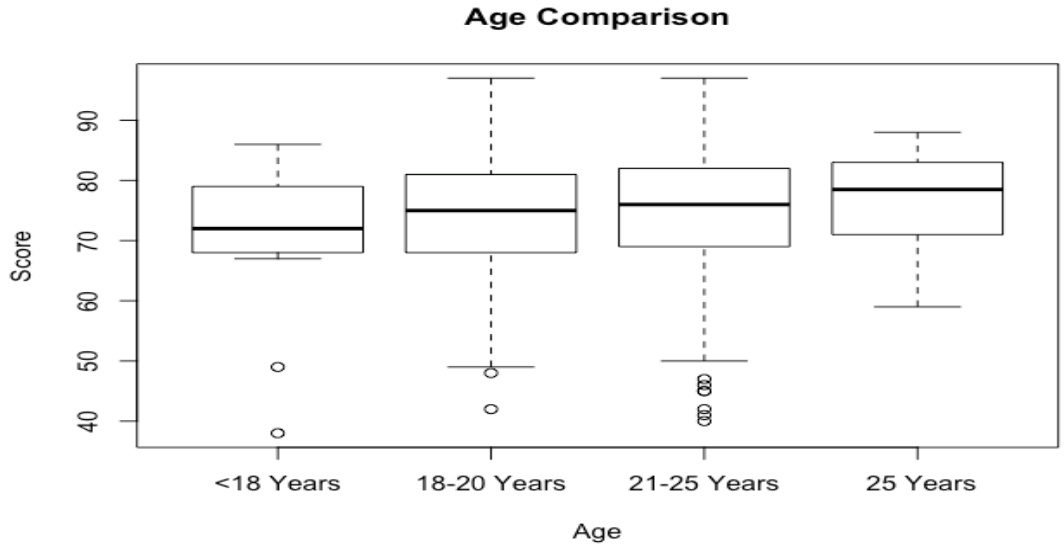


Figure 4.23: Age effects on resilience

Table 4.17: Age across Institutions A and B and across years of study

Subset	"Treatment" Sums of Squares	"Error" sums of squares	Degrees of freedom	Observed F-statistic	p-values
Age	560.6169	51054.27	3, 464	3.612889	0.01330652 (P-value < 0.05)
Conclusion: The p-value is less than 0.05 which means that there is sufficient evidence to reject the null hypothesis of equal means across all ages. This suggests that there is a difference in means across at least one pair of ages. The resilience scores increased with age. Although there were a low number of participants aged 25 and above, it is clear that resilience levels were highest in this age group.					

4.3.6 Comparison 6: Average Connor-Davidson Resilience Scores across Language Categories

It was not possible to carry out a comparison between the languages because the sizes of some of the language groups were not large enough and there was too great an imbalance in the sample sizes. This was especially true regarding Institution B, at

which the majority of the participants were isiZulu-speaking. There were also a few languages that had very small sample sizes which may have produced erroneous results (e.g. it is much more likely to have 5 out of 5 very resilient participants who speak Siswati, who happen to attend a university, than it is to have the same chance of such a result with 200 isiZulu-speaking participants). This is why the comparisons between the languages has been omitted.

4.4 ANALYSIS OF SEPARATE CONSTRUCTS OF THE CONNOR-DAVIDSON RESILIENCE SCALE

The constructs of resilience according to the Connor-Davidson Resilience Scale were measured separately and the means were calculated for each construct. The Likert-type scale ranged from 0 to 4 with the following descriptions being attached to each possible value:

0 = Not true at all

1 = Rarely true

2 = Sometimes true

3 = Often true

4 = True nearly all the time

Table 4.18: Means of constructs of the Connor-Davidson Resilience Scale for Institutions A and B and combined

		Mean scores		
No.	**CONSTRUCT OF THE CONNOR-DAVIDSON RESILIENCE SCALE**	**A**	**B**	**Combined**
1	I am able to adapt when changes occur.	70.97	67.08	69.03
2	I have at least one close and secure relationship that helps me when I am stressed.	85.28	70.64	77.96
3	When there are no clear solutions to my problems, sometimes fate or God can help.	87.9	86.34	87.12
4	I can deal with whatever comes my way.	65.72	63.95	64.84
5	Past successes give me confidence in dealing with new challenges and difficulties.	83.27	81.69	82.48
6	I try to see the humorous side of things when I am faced with problems.	63.1	63.66	63.38
7	Having to cope with stress can make me stronger.	68.95	72.31	70.63
8	I tend to bounce back after illness, injury, or other hardships.	80.44	71.8	76.12
9	Good or bad, I believe that most things happen for a reason.	85.89	87.35	86.62
10	I give my best effort no matter what the outcome may be.	75.2	80.23	77.72
11	I believe I can achieve my goals, even if there are obstacles.	87.01	92.51	89.76
12	Even when things look hopeless, I don't give up.	78.63	83.58	81.11
13	During times of stress/crisis, I know where to turn to for help.	70.97	72.09	71.53
14	Under pressure, I stay focused and think clearly.	61.49	59.96	60.73
15	I prefer to take the lead in solving problems rather than letting others make all the decisions.	69.35	.71.58	70.47
16	I am not easily discouraged by failure.	70.77	77.25	74.01
17	I think of myself as a strong person when dealing with life's challenges and difficulties	81.65	84.08	82.87
18	I can make unpopular or difficult decisions that affect other people, if it is necessary.	61.9	52.83	57.37
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	66.73	68.82	67.78

Table 4.18 continued: Means of constructs of the Connor-Davidson Resilience Scale for Institutions A and B and combined

No.	CONSTRUCT OF THE CONNOR-DAVIDSON RESILIENCE SCALE	A	B	Combined
20	In dealing with life's problems sometimes you have to act on a hunch without knowing why.	65.32	60.9	63.11
21	I have a strong sense of purpose in life.	82.26	85.1	83.68
22	I feel in control of my life.	66.03	77.98	72.01
23	I like challenges.	60.89	58.43	59.66
24	I work to attain my goals no matter what roadblocks I encounter along the way.	82.66	84.01	83.34
25	I take pride in my achievements.	89.52	85.25	87.39

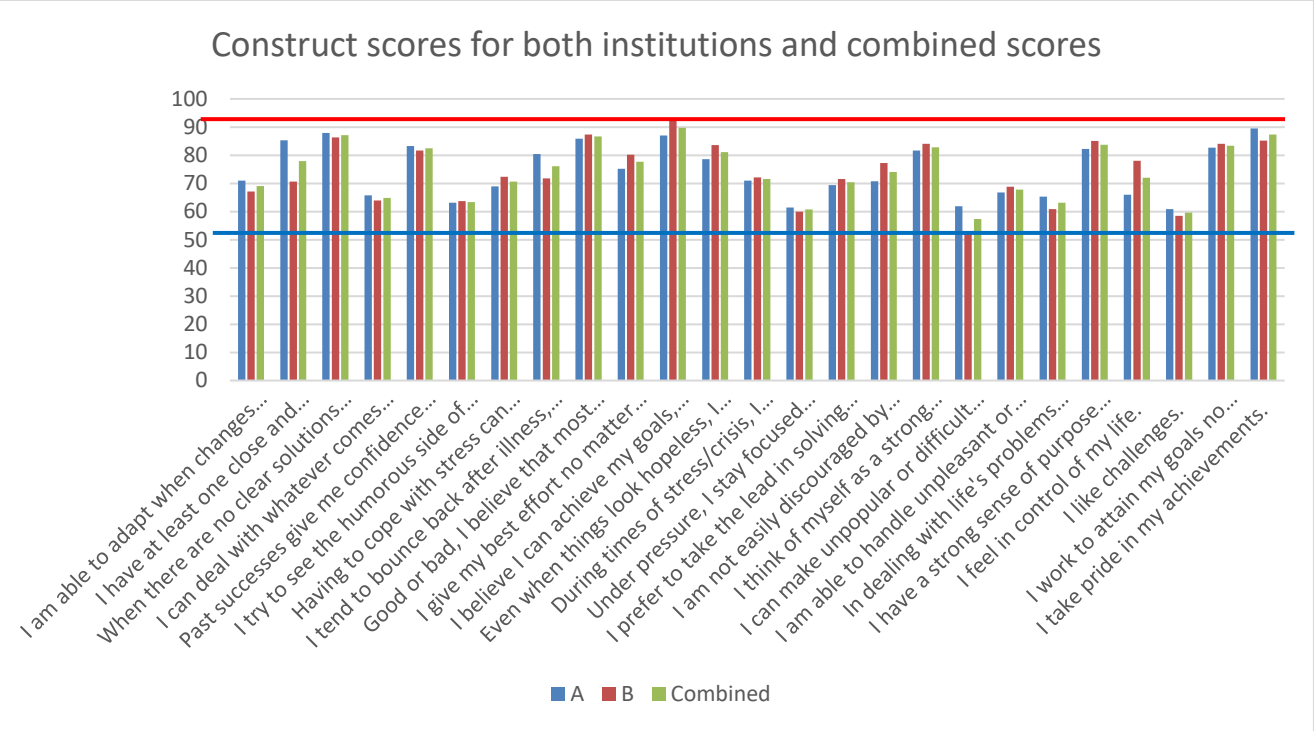


Figure 4.24: Means of constructs of the Connor-Davidson Resilience Scale for Institutions A and B and combined

Each of the constructs of resilience have been examined individually, and the mean of each construct calculated per institution and for the two institutions in combination. The Connor-Davidson Resilience Scale user manual dictates that the higher the total score,

the more resilient the participant is presumed to be. The problem with this is that this total score does not provide any insight into the actual constructs that lead to resilience, according to the Connor-Davidson Resilience Scale. The total scores also do not specify which areas are acceptable and which areas need to be given attention, in terms of resilience. The constructs that the participants scored the highest were number 11: “I believe I can achieve my goals, even when there are obstacles” and number 25: “I take pride in my achievements”. The constructs that scored the lowest by the participants were number 18: “I can make unpopular or difficult decisions that affect other people, if necessary” and number 23: “I like challenges”.

The individual constructs were also examined in order to illustrate any similarities, or differences, between the years of study and also between the institutions. A detailed discussion on the constructs of the Connor-Davidson Resilience Scale will be presented in Chapter six, the chapter on the integration of the quantitative and qualitative data.

4.5 CONCLUSION

The socio-demographic data that was analysed and presented in this chapter illustrated the distribution of gender, age and language of the participants at the two institutions used for this study.

The quantitative data obtained from the Connor-Davidson Resilience Scale that was presented in this chapter gave a variety of results according to the institution, year of study, gender, and age of the participants. The results also suggest that resilience is a complex phenomenon and one that should be examined from a variety of angles. The qualitative data will be presented in chapter five and the integration of the Quantitative and Qualitative data will be presented in chapter six.

CHAPTER 5: RESULTS OF THE QUALITATIVE DATA COLLECTION PHASE

5.1 INTRODUCTION

In this chapter the findings of the qualitative part of the study will be presented, along with the supporting literature, in order to provide an integrated and comprehensive view of this phase.

The participant codes used during this chapter are explained as follows:

The letter A or B indicates which institution the participant is a student of.

The number in brackets indicates the year of study of the participant.

The final number indicates the number allocated to the participant during the interviewing process.

Example: A (1) 1.

One completed transcript has been attached (Annexure 11).

5.2 CATEGORIES AND SUB-CATEGORIES

Three categories and nine sub-categories were identified during the analysis of the qualitative data and are listed below in Table 5.1.

Table 5.1: Nursing students' perceptions of how to improve resilience.

CATEGORY	SUB-CATEGORY
A. Intrinsic factors	1. Mindfulness
	2. Personal attributes
	3. Being organised and planning ahead
B. Extrinsic factors	1. Professional guidance
	2. Peer and family support
	3. Physical exercise
C. Combination factors	1. Spirituality/ Religion
	2. Motivation
	3. Managing stress (including information finding, decision-making and conflict management)

5.3 INTRINSIC FACTORS

Intrinsic factors were categorised as any items that were internal and part of the person's inner being. Most of the participants offered insights into internal factors that assist them to cope with stressful experiences relating to their career choice. They were able to identify that many of the issues relating to coping and improving their ability to be resilient lie in the individual person him/ herself and that one is not necessarily dependent on other people to "save" them.

5.3.1 Mindfulness

The definition of mindfulness, according to the Oxford English Dictionary (2018) is "The quality or state of being conscious or aware of something". The importance of nurturing one's inner being when caring for other people's health was a point that was raised by many of the participants. The ability to find balance, and even peace, was also mentioned, with the participants explaining that if one does not care for oneself, one cannot effectively care for others. The participants also mentioned the benefits of being aware of one's own good and bad points. A student nurse's ability to be mindful of him or herself is vital, and he or she can employ mindfulness as a protective factor during times of stress.

Participant A (2) 2 explained the importance of being aware of one's own strengths and weaknesses, as follows: *"Because if you have found yourself then you will be able to help others.".* Participant A (1) 4 echoed this by saying: *"...I think in order to deal with challenges in nursing, first you must be able to know yourself as a person that when something bad does actually come up then you are able to like handle because if you stay whole as a person then nothing for me seems to like get in my way…".*

A few of the participants spoke about the importance of finding balance in a challenging health care environment. Participant B (3) 4 explained the following regarding the importance of having friends and taking time out from one's academic responsibilities: *"...and you have to make sure that you have spare time to be with your friends, have some fun...".* Participant B (3) 1 discussed the importance of finding balance in activities outside nursing *"For example, being involved in exercise, meditation and stuff like that." and "They help you get your mind off things for a while."* The importance of

achieving a healthy work-life balance is echoed by the American Nurses Association who defines a healthy nurse as “one who actively focuses on creating and maintaining a balance and synergy of physical, intellectual, emotional, social, spiritual, personal and professional wellbeing.” (ANA, 2018).

The available literature echoes the participants’ sentiments regarding how vital it is to know oneself fully and to be mindful of oneself. Rees, Heritage, Osseiran-Moisson, Chamberlain, Cusack, Anderson, Terry, Rogers, Hemsworth, Cross & Hegney (2016) found that nursing students with high levels of mindfulness were less likely to burn out. Macdonald et al. (2012) discuss the importance of understanding oneself, in the journey towards developing and sustaining resilience. According to the authors, self-awareness is an integral part of caring for oneself and for others (Macdonald et al., 2012). Priesack & Alcock (2015) and Stephens (2013) mention self-efficacy, or mastery, as a vital component of resilience. This is described by the authors as one’s own belief in one’s abilities to effectively cope with environmental pressures. This is achieved by organising one’s skills in such a way as to gain control over stressful situations (Priesack & Alcock, 2015). In consensus with the above, a number of studies found that assisting to improve student nurses’ belief in an internal locus of control and improving their ability to be self-efficient, may empower them to be healthier and gain more functional coping skills (Deasy et al., 2016 and Rees et al., 2016). Macdonald et al. (2012) discuss the importance of nurses having the ability to achieve a sense of well-being within themselves, especially when surrounded by chaos and challenges. These authors highlight the essential need for nurses to be able to reward themselves intrinsically and to employ self-affirmation strategies (Macdonald et al., 2012). Sanders (2015) encourages student nurses to engage in meditation, in an effort to increase mindfulness and in the long run, improve resilience.

5.3.2 Personal Attributes

Some of the participants mentioned that being in possession of certain intrinsic attributes or character traits was useful in assisting one to bounce back from stressful circumstances in nursing. These participants felt that attributes like altruism, empathy, having a passion for, and a commitment to, the profession of nursing, having a positive outlook and using humour to help diffuse stressful situations, helped to protect student nurses from stressful circumstances. The participants also highlighted the need for

student nurses to utilise the skill of self-reflection regularly, and also to build their confidence, especially in the clinical environment.

A number of the participants interviewed spoke about helping other people and finding joy in doing things for others. This was interpreted as altruism with participant B (3) 1 saying: *"I think maybe you feel good about yourself that you helped someone, it makes you feel good to see someone better."*. Participant A (2) 2 said: *"..you finally see that actually, you know what, you have actually found a way to make a person come out of that situation, it actually makes your soul feel better …".*

Being empathic towards other people, especially one's patients, was another important personal attribute verbalised by the participants involved. The participants in this study have potentially been in similar situations to their patients or have had relatives or community members sick or dying in hospital and so, many of them have experienced sickness and suffering first-hand. Participant B (4) 3 stated: *"We have lost a lot of our relatives so, yes, it gives me, what I do to patients is exactly what I would like..."*. Participant A (3) 2 added onto this by saying: *" I don't know how but it is something, it is a beautiful phenomenon when you stop worrying about yourself and worry about the next person then it helps you and that what helps me and maybe if something happens you can remember, "Oh, so and so had such an experience and they went through this so at least I am better off".*

Passion for their chosen career, or career commitment, was emphasised by Participant A (2) 4 who explained how nursing is a calling and not merely an occupation or job. He/ she stated *"…I have a really deep need, almost, it's a kind of calling, it's definitely a calling, to help people…".* Participant B (4) 3 appeared to feel that passion for nursing is what is needed to help student nurses bounce back from stressful experiences and explained this by saying: *"...nursing needs a passion, for you, to be passionate to do nursing. So, if you knew very well that from the first time you did nursing on purpose, maybe that will help you to bounce back and rise again from a stressful situation..."*

Participant A (3) 1, along with other interviewees, mentioned humour as being a very important personal attribute to have in nursing, especially as a calming strategy during stressful encounters. He/ she stated: *"Humour does help, definitely. Um it helps to lighten the things, especially, like, with our job, dealing with lives and very sickly patients and stuff. So, a little bit of humour does add to it."*

The importance of possessing a sense of positivity was mentioned by participant B (3) 5 who stated that: *"I think having a positive mind-set because sometimes when you encounter certain challenges you find that sometimes you will tend to feel down about it but then if you have a positive mind-set then you can think "okay, I can improve on this", even though you felt like this is where I went wrong and those are my faults you know in the future that is what you are going to improve on."*

A few of the participants spoke about the informal reflection that takes place between peers and about reflection as an individual activity. Participant B (2) 2 explained: *"…before I even fall asleep, I think about what happened during the day, what I should have done, what I should have said…".* Participant A (2) 5 also made mention of self-reflection by saying *" Even when I am in the wards and there is a bad experience, which happens a lot to me, I always cry on the day or whatever but even sitting here I will look back at that moment and be, like, "Wow, that shows me, I am never going to be that kind of nurse" or that shows me "Wow, I am going to speak to my student nurses one day exactly how that nurse addressed me" so definitely reflective."*

Another positive personal attribute mentioned by a number of the participants was the ability to build confidence in oneself, especially with regards to clinical exposure. Participant A (4) 2 stated: *"They (student nurses) should be having more clinical exposure, the more clinical exposure they get the more easier [sic] it becomes." And "The more you do things right the more confident you get."*. This building of the students' confidence contributes to them being able to defend themselves against stressful experiences in nursing, as they achieve competence in basic tasks and can then focus on learning more difficult tasks and skills as they become more senior. The confidence that they possess should go very far in helping student nurses to be assertive, when necessary, and also towards understanding where they need to improve themselves.

The literature echoed many of the sentiments that the participants raised about important personal attributes of nursing students. Shahriari, Mohammadi, Abbaszadeh & Bahrami (2013) refer to altruism as a vital ethical value for nurses to possess, stating that altruism is the ability of nurses to view their patients as human beings, first and foremost, and to provide the highest level of care possible for these patients and their families. According to Pitt et al. (2014) the ability to display empathy is amongst the

desired qualities that a student nurse should possess in order to become a successful nurse.

The importance of high levels of commitment to one's chosen career were echoed by Orton (2011) who states that low attrition rates are seen with student nurses who possess high levels of commitment to their chosen career. Fornés-Vives et al. (2016) are of the opinion that if a student nurse is not fully committed to his or her career, then stressful circumstances have a greater effect on his or her life than once they have made a full commitment to nursing.

Thomas & Revell (2016) support the opinion of the participants that humour is an important stress-reliever, when appropriate. The authors identify humour as a factor that can protect student nurses by boosting resilience during stressful times (Thomas & Revell, 2016). Stephens (2013) lists a sense of humour as one of main traits that resilient nurses display. One American University asked their online degree students what they felt were the attributes or traits needed to succeed in their studies (Concordia University, 2017). One of the attributes that was considered a "foundation characteristic" was the ability to be optimistic and maintain a positive mind-set. This was further explained by stating that a student is more likely to invest time and energy in their studies if they feel strongly that they will succeed. Optimism has also been described as a protective factor against stress for student nurses and can assist with the building of resilience (Thomas & Revell, 2016 and Stephens, 2013).

The literature echoes the importance of reflection for nursing students and Thomas & Revell (2016) encourage reflection to be taught as a formal part of the curriculum as early in the nursing training course as possible. Macdonald et al. (2011) included reflective learning activities in their work-based educational intervention, specifically as a way of assisting their participants to make abstract concepts, like reflection, less threatening and more concrete. According to Hart et al. (2014) the ability to "critically self-reflect" assists nurses to find solutions to their problems and to find ways of handling the real world of nursing.

In echoing the participants' responses regarding the importance of building and maintaining clinical confidence, Orton (2011) and Galvin, Suominen, Morgan, O'Connell & Smith (2015) reported that the most stressful clinical placement for the students was their first placement, with their main stressors stemming from feeling

under-prepared for the clinical environment. Heydari, Kaveshki & Armat (2016) found in their study that the more often a clinical skill is used, the more competent the nurse was found to be in that skill.

5.3.3 Being Organised and Planning Ahead

The practice of looking ahead and organising one's life according to the demands and realities of what lies in the future can assist one to be prepared for even the unlikeliest of circumstances. The fact that one is organised and well-prepared could provide one with a measure of control over whatever situation arises.

Some of the interviewees mentioned how being organised and planning ahead can help nursing students protect themselves against stress and can also help them to bounce back. As participant A (2) 2 said: *"…you already have a sort of preconceived idea of how difficult it is going to be but to protect yourself against stressful dilemmas I think it is, you have to plan ahead, cos planning ahead is very helpful."* When questioned further about this, the participants explained that stressful situations often arise as a result of being inadequately prepared for whatever might happen. By being prepared and knowing how to handle situations as they arise, the students are making an attempt to exercise some control over their environment. This may suggest that the participants possess insight into preparedness, and the unpredictability of the health care environment. This may also show that they understand that by being able to exert some control over certain aspects, they may be able to handle unexpected situations more easily, thereby experiencing less stress. Another aspect of planning was explained by participant A (4) 1 in relation to academic preparedness "*…if I don't plan my work then I will be swamped..."*.

Concordia University (2017) concurs with the above, stating that being organised is one of the ways that a student can ensure that their studies are enjoyable rather than stressful. Being organised helps students to think ahead and plan for the future, handling any potential stumbling blocks with ease (Concordia University, 2017). This sentiment is echoed by Kuh, Kinzie, Schih & Whitt (2011) who state that the more prepared a student is and the more energy that they invest in their studies, the more likely it is that success will follow.

5.4 EXTRINSIC FACTORS

Extrinsic factors were categorised as any items that helped the student to be resilient via external resources. Whilst many of the participants showed the ability to look inward for resilience and strength, many also acknowledged that external resources were vital to their journey as nursing students.

5.4.1 Professional Guidance

Many of the participants, across both institutions and all levels of training, offered information regarding formal assistance that is available to them within their universities. The participants explained that professional counsellors, psychologists and student support departments offer this formal guidance.

Formal support is also offered to the students via an orientation programme during the first week of their first year. During this period the students are informed of how and where to seek professional support at their institution. As participant A (4) 4 said: *"During 'O Week' (orientation week) they kept on telling us about Student Support, "The Student Support is there, these are the programmes they offer, if you feel like you are depressed come to Student Support, if you feel like you need help with your school work, come to Student Support" so I know exactly where to go."*

Some of the students acknowledged that they had been to see a psychologist at the institution and that discussing their concerns and stressors with a professional helped them. Participant B (4) 4 stated *"…if the problem is maybe psychologically you can go for psychologist…"*. Participant B (2) 1 explained that there was an appointed, 'on-duty' period during their first year of study for the psychologist to visit their class and discuss any concerns or issues. The participant explained the following *" …first years have classes in between, we used to have, I am not sure about the first years now, we used to have a psychologist every Wednesday in the afternoon."* This appears to have been an extremely useful method of assisting students with areas of concern as they were able to use the allocated time to have a group discussion with the psychologist regarding areas of mutual concern. Individual students could also access the psychologist during this time, in order to make a future appointment or to ask for guidance on areas of concern.

Participant A (4) 3 said: *"...my first reference point is student support 'cos they are very objective."* This suggests that some of the nursing students have insight into the objectivity and professional advice given by their student support departments. This also gives an indication that it is important for the students to feel that they are taken seriously and that their information will be kept confidential.

On a more informal level, some of the participants explained that they often turn to their lecturers for professional support. The participants also mentioned the support that they receive from their clinical educators and the qualified staff in the clinical environment.

The participants explained that being able to access their lecturers was important to them as they feel that they can trust them, and their lecturers are often easier and quicker to access than formal avenues of support. Participant B (1) 3 said *"…it is helpful that there is the other lecturer whose door is open…"*. Other participants indicated that having a positive relationship with a lecturer helps one to feel comfortable with that person when seeking guidance, with participant A (4) 5 saying: *"...if there is one lecturer that is a little more concerned about you as a person, not just as a student, you could go to that person and talk to them…".* Regarding support from the clinical staff, participant A (4) 2 said *"...the more communication (one) has with the professionals at the hospital the more you get to know the professionals more and that will decrease the anxiety of, you know, meeting a professional and feeling scared."*

The relevant literature supports much of what the participants discussed regarding the formal and informal support available to them at their institution and clinical area. Deasy et al. (2016) describe how important it is for nursing students to be aware of the support and understanding that is available to them via their educators, in order for them to endure the varied sources of stress that they face on a daily basis. This is echoed by del Prato, Bankert, Grust & Joseph (2011) who state that clinical educators and lecturers are in the perfect position to create an environment of harmony and respect for themselves and for their students. This supportive atmosphere allows students to grow and also allows the individuals involved, both the student and the teacher in this case, the opportunity to learn from each other (del Prato et al., 2011). The Clinical Model in South Africa (National Department of Health, 2012) highlights the need for clinical learning environments to be conducive to learning and states that it is

the responsibility of the Nursing Education Institution to ensure that clinical areas achieve this goal. It is also vital that clinical preceptors and qualified staff working in the clinical environment embrace their teaching responsibilities fully and provide support for all nursing students in the highly stressful environments in which they carry out their clinical training (National Department of Health, 2012 and Rees et al., 2016).

The importance of an effective orientation programme is highlighted by Cuddy (2015) and she explains that without it, nurses cannot be expected to be successful in their new placements. Another important function of the orientation period is to make the new recruits feel welcomed into the fold (Cuddy, 2015). Charleston, Hayman-White, Ryan & Happell (2007) explain how important the orientation programme is for first year student nurses in creating a starting point for future well-adjusted and competent nurses, with longevity in the field of nursing.

The fact that the participants volunteered information about seeking help from professionals appears to be a positive sign, as Galvin et al. (2015) and Crawford, Burns, Chih, Hunt, Tilley, Hallett, Coleman & Smith (2015) discuss the fact that it is known that nursing students generally tend to avoid seeking formal, professional support when feeling anxious and under stress. Crawford et al. (2015) and Galvin et al. (2015) posit that one of the reasons that nursing students prefer not to ask for professional help is that they feel that they should be able to deal with all of their problems effectively without help. In some instances, a definite stigma is still attached to seeking help from a psychologist or psychiatrist (Crawford et al., 2015). Some nursing students also presume that feeling under pressure is merely part of the training programme and they may fail to identify an escalation to a pathological inability to cope with the emotional and physical stress they face during their studies (Crawford et al., 2015, Galvin et al., 2015). Galvin et al. (2015) also state that nursing students have reported to prefer to seek assistance from peers or family rather than from psychologists or counsellors.

5.4.2 Peer and Family Support

Peer, friend and colleague support and seeking guidance from the Student Representative Council was mentioned by the majority of the participants of this study as an effective way of dealing with stress and staying resilient. Participant A (1) 1 explained that *“because like nursing is such a, it’s a stressful course, I think the best*

way to, like, build yourself up is to surround yourself with people that are also doing the same degree. They are in the same shoes as you and, like, study groups for example and you just build yourself up and you talk…" Some of the students mentioned that talking to peers helped them to create solutions to their problems as participant B (1) 3 stated *"normally when we have problems we do talk and find solutions on how to solve those problems."*. Participant B (2) 3 echoed this by saying: *" I think I would go back to the group thing, that is the only way I think that helps because when we came here we were told that nursing is all about group work so that is the only way to help a nursing student to bounce back, to connect with the group because you cannot do anything alone, by yourself and consulting the lecturers, that's the only way to do it."*.

The consensus amongst the participants seemed to be that just sharing with a friend or having the opportunity to talk to a senior student or a peer in their class, goes a long way in helping them to remain positive and resilient. The participants spoke quite a lot about being able to connect with people who are going through the same experiences as they are as this helps them to realise that they are not the only one facing challenges of this nature. Participant B (4) 2 said*: "Usually you have got [sic] friends that will always support you, telling you, through whatever challenges, they will be there for you then I believe you can, because I believe no-one was forced to be in this profession."*. Participant A (4) 1 spoke about the importance of reflection and debriefing with peers, and said "*...I remember my first death, one of the patients died, I told one of my colleagues who had also gone through it so we talked about it and how we coped and it helped and I think it helps with peers as well, not just seniors."*.

Another important aspect of collegial support identified by the participants was the support that they receive from more senior nursing students. They added that this support can be provided on a formal, academic level or even just on an informal, friendly level. Participant A (1) 2 explained this by saying: *"I think if you have someone that tells you nursing is worth it like if you know someone that is already in nursing and someone that enjoys it…"*. And participant B (4) 2 echoed this by saying: *"One of the things that we have to do is just to be around people who, especially people who have more experience because most of the stress we have usually got is in our working environment so I think if you familiarise yourself with people who are more experienced in the working environment I think you can be able to overcome the stress."*. Participant A (1) 5 spoke about a formal programme that is already in place at his/ her institution

where senior students meet with first year students and help to guide them through the stages of being at university specifically in first year. The programme continues throughout the year and aims at helping first year students assimilate university culture as easily as possible. This participant explained: *"...people in third or fourth year, they help the first-year students with their experiences and then they give them advice on how to get through it."* and *"...it's a meeting, they always have meetings every Tuesday during lunch...".*

It was also mentioned that a more formal way of gaining support from colleagues or from other students is to access the Student Representative Council for assistance with student concerns. This was explained by participant B (4) 4 who said: *"…you can even go to the SRC if it is a problem that needs some of their interventions, ja, they can help…".*

Institution A also normally holds a camp for the first-year students and this was commented on by the students, as they felt that this camp was a positive way to meet people who could become your support and friends during your training. Participant A (3) 3 said the following *"...like, the camp, for instance, that we, that happens for the first years, it also adds an element of external support, like, it opens doors to external support from your peers…"*

Family members also provide support according to the participants. The students who mentioned their family as a support structure explained that family members are oftentimes more trustworthy than friends. Participant B (2) 5 said *"…my Aunt, I prefer her because I don't trust, really, other people like friends and whoever."* Other students shared that parents often give good advice because they are older and have experienced more in life than the student has. Participant B (1) 4 said: *"I don't usually talk to friends of mine about my issues, I usually speak to my spiritual mother, and with my father, I will speak to him because he knows about stuff...".*

Much of the available literature regarding resilience in nursing student highlights the importance of support from peers, friends, colleagues and/or family members (Hart et al., 2014, Stephens, 2013, Leal & Santos, 2016, Thomas & Revell, 2016, Hsieh, Hung, Wang & Chang, 2016, Jenkins et al., 2015, Priesack & Alcock, 2015 and Jackson et al., 2011). Support from peers and colleagues can assist nursing students to band together against many forms of oppression in the health care environment, giving the

students a unified sense of belonging (Jackson et al., 2011 and Grobecker, 2016). This sense of belonging can assist the students to learn to be advocates for each other and find ways, as a group, of dealing with perceived or real injustices during their training course (Jackson et al., 2011). Hart et al. (2014) mention the need to maintain relationships, or to reconnect with old friends and family, in order to allow the students to remain true to their values and to invest energy into something other than their stressful vocation. This connection with old friends and family has been found to boost resilience (Hart et al., 2014 and Thomas & Revell, 2016). Student nurses have been found to be more likely to seek familial or friendship support when experiencing stress than to seek support from formal support structures (Crawford et al., 2015 and Galvin et al., 2015). It is important to note that the notion of family does not necessarily only relate to blood ties but rather encompasses the people who have your interests at heart and support you through all experiences in life (Erlingsson & Brysiewicz, 2015, Mosavel et al., 2013). This is especially relevant in South Africa where the concept of Ubuntu often socialises youngsters into a communal way of life with the spirit of family and connectedness being vital to all (Erlingsson & Brysiewicz, 2015 and Mosavel et al., 2015).

Current literature also discusses senior peer mentoring as an effective way of boosting resilience, mainly for the junior students or mentees, but also for the senior students or mentors (Demir, Demir, Bulut & Hisar, 2014). The benefits of mentoring for the mentees includes facilitating an understanding that, even as junior students, they have certain responsibilities to fulfil and, as such, can develop problem-solving skills and an understanding that they possess an internal, rather than an external, locus of control (Demir et al., 2014). This is echoed by Raymond & Sheppard (2018) whose study shows that a formal peer mentorship programme was effective in helping to improve junior students' feeling of belonging and reducing their feelings of isolation. There were also benefits for the institution as peer mentoring also showed a reduction in student attrition rates (Raymond & Sheppard, 2018). Benefits for peer mentors include improving confidence and building the ability to teach and impart skills to junior students, with a possibility that the senior students may go on to become nurse educators in the future (Rosenau, Lisella, Clancy & Nowell, 2015).

5.4.3 Physical Exercise

A number of participants spoke about the importance of having hobbies and pursuing activities like exercise as a way to cope with, or prevent, stress. Participant B (3) 1 explained how using exercise can help take one's minds off the problems at hand:" *For example, being involved in exercise, meditation and stuff like that.".* Participant A (2) 3 stated: *"...they have gym, they have, like, extramural activities which really help and which is something I want to try this year 'cos you can't be solely focused on work and school…".*

There is insufficient literature available to provide a definite link between emotional health in student nurses and physical exercise, but Hawker (2012) found that nurses who engage in exercise are more likely to be better adjusted and have fewer emotional disorders, like depression. Jackson et al. (2007) state that engaging in physical activities while studying to be a nurse is vital in that it brings balance and a change in perspective to the students' lives. Blake, Stanulewicz & Mcgill (2017) found that although exercise had perceived physical and emotional health benefits for nursing students, various barriers prevent them from accessing physical activity. These include a lack of time and scheduling conflicts with shift-work, thus making it more difficult for student nurses to improve their health and resilience in this manner (Blake et al., 2017). Galvin et al. (2015) also reported that nursing students felt too tired to access the gym during their training courses.

5.5 COMBINATION FACTORS

Combination factors included any items that could not easily be compartmentalised as intrinsic or extrinsic, or factors that had both internal and external components or influences to them.

5.5.1 Spirituality/ Religion

Spirituality and religion were mentioned by numerous participants and, although it is obvious that this is a very important factor for the students, it is clear from the discourse that this can take different forms for each of them. Some of the students spoke about religion as being faith-based and turning to God for support during stressful times. Participant A (1) 5 explained *"…cos I'm a 'God freak' I depend on God a lot...".* Participant A (1) 4 stated: *"...I come from like a very religious family so like I use my*

faith to like ground myself." Other participants spoke about the spirituality that accompanies religion and faith and mentioned how nursing is also spiritual in its essence. Participant A (2) 2 said: *"Just that nursing is a very, it's a very spiritual thing, it's a spiritual journey..."*. Participant A (4) 2 sounded philosophical when he/ she said: *"Religion helps. Religion helps because it is good to believe in something that is spiritually feeding because in this world we can't just, you know, be in a physical form but we need to believe in a higher power that will direct you to the right place."* Prayer was the most importance aspect for some of the students, with participant A (1) 1 saying *"I am a very religious person so my first, like turn, is always, like, to God and I feel like prayer, for me, like, really relaxes me and calms me so that I don't stress about something".* Participant B (1) 4 echoed these sentiments by saying: *"...you keep on praying".*

Another important factor relating to religion and resilience was highlighted by the following statement made by Participant B (2) 5: *"…go to church, things like that."* and *"I am a very religious person, so I believe that going to church helps.".* It is clear from this statement that the act of attending church assists with maintaining spirituality and provided emotional support.

The available literature concurs with the statements of the students, in terms of the importance of spirituality, and/ or religion, for student nurses. Cilliers & Terblanche (2014) and Abbasi, Farahani-Nia, Mehrdad, Givari & Haghani (2014) highlight the fact that being healthy comprises much more than merely being physically and mentally well and, as such, spiritual health is a vital component of overall health. Religious belief is known to improve resilience and can be seen to be a buffer against workplace and societal violence (Hsieh et al., 2016 and Bennett, Chepngeno-Langat, Evandrou & Falkingham, 2015).

Regarding nurses, Abbasi et al. (2014) make the point that since nurses are the providers of holistic nursing care and are with their patients for more hours per day than any of the other health care providers, they need to be able to relate to their own spirituality in a positive manner, in order to provide acceptable spiritual care. The benefits of worshipping in a group and attending church with other people is echoed in the literature by Bennett et al. (2015) and Eyles et al. (2015) who show that

communality and social networks afforded by religious groups can improve the resilience of the members.

5.5.2 Motivation

The word motivation is defined as “a reason or reasons for acting or behaving in a particular way” and “desire or willingness to do something; enthusiasm” (Oxford English Dictionary, 2018). Student nurses need to feel motivated at most times during the course of their study programmes. They need to feel motivated to arrive at class as scheduled, and to fulfil their clinical requirements, even in the face of challenges. Nursing students also need to feel motivated to provide the highest standard of care possible, on an ongoing basis, despite any stressful circumstances they may be experiencing in their student lives or even in their personal lives.

The participants raised the topic of motivation during the interviews. They spoke about what or who motivates them to continue with their studies and to fulfil the requirements of a challenging course. A number of the students volunteered the fact that their family motivates them, either because they want to please them or because many sacrifices had been made in order for them to study nursing. Participant B (2) 2 simply said: *“We think about home, the sacrifices they made for you to be here.”* while participant A (4) 5 explained *“...especially in second year I was just, there was a time when I was, like, “I want to leave this” I think mostly my family. I think that they have so much expectations and everything and I felt, like, “you know what, they believe in me and I must believe in myself, so I can do this”.*

Participant B (2) 1 said *“...what is your aim, it is just to draw up a plan of goals that this is what I want to achieve...”* and participant B (3) 1 echoing this by asking: *“Do you have a goal at the end?”.* This may suggest a certain level of maturity regarding goal-motivation. Some of the students appear to have practical goals that motivate them, with participant A (1) 4 explaining*: “Well, my motivation is that I don’t want to fail, cos for my like, financially I need to be stable so like I have like a sister, so I want to be able to like support my family so if my parents are gone at least I and my sister will still be able to live.”* Participant B (2) 4 also explained his/ her goal motivation from an economic perspective by stating*: “I am from a very, very poor back-ground, like I am the first person to be here at a tertiary level.”.*

A number of the participants spoke about being intrinsically motivated with participant B (3) saying*: "…ask yourself why you are truly here; if it is your calling and if it is something that you really love then you will stick to it and learn to bounce back."* Participant A (3) 2 simply said*: "…believe in "why" rather than "how". If I have a strong "why I am here" I am able to face anything that I come across, if my "why" is strong enough then I will stay..".*

Participant A (1) 3 described how he/ she motivates him/herself on a daily basis, stating: *"…motivate yourself every day, that is what I do. I write things on the wall or something because I know when I am down I look at them and I am like, one day after four years, I will be that."*

The literature echoes the fact that one's family can often heavily influence one's motivation by the sacrifices and unconditional love that they render their family member, the nursing student (Erlingsson & Brysiewicz, 2015).

Another important extrinsic motivation factor for nursing students found in the literature was the actual ultimate end goal – actually becoming a nurse (Nilsson & Warrén Stomberg, 2008).

Commitment to one's chosen vocation of nursing also contributes to motivation and resilience, according to Turner & Kaylor (2015). Nilsson & Warrén Stomberg (2008) mention that intrinsic motivation of nursing students can also stem from a sense of altruism and wanting to assist others in their time of need, which may also have been their initial reason for entering the nursing profession.

Jackson et al. (2007) state that resilient nurses tend to feel motivated and continue to be purposeful in their careers. The literature presented and the statements from the interviewees of this study fosters a sense that being motivated improves resilience and being resilient contributes to, and improves, motivation. This highlights the fact that resilience is never static and, as such, is a constantly developing process that can be improved upon and developed (Yang et al., 2015; Aburn et al., 2016; Gillespie et al., 2007; Sanders, 2015; Stephens, 2013 and Hart et al., 2014). The participants' responses suggest that they have a certain amount of insight into their ability to motivate themselves and to deal with stressors, which keeps one motivated. This appears to be a positive and mature way of coping under stressful circumstances.

5.5.3 Managing Stress

Although stress management is a wide and varied topic, a number of the participants spoke about the variety of ways that they go about trying to manage the stress that they are exposed to. The three areas that came up regularly during the interviews were finding/ accessing information in order to reduce stress, conflict management and how to go about managing conflict appropriately, and the benefits and challenges of decision-making in the health care environment.

The participants spoke about how, if they are able to find and access information themselves, they should be able to tackle most situations and even problem solve, for themselves or even to assist other students. Unsurprisingly, the majority of the interviewees spoke about using the internet and Google specifically, to search for any kind of information. Participant A (4) 2 said simply: *"...the first one as a student is Google…*" and participant B (1) 3 said: *"I love to watch the YouTube videos, research something when I am stressed "How can you deal with this and that?".*

Other participants said they would find information from their seniors, either their lecturers or senior students, with participant B (3) 5 explaining how he or she deals with stressful situations as: *"...sometimes I will get information, like maybe from even my lecturers at times…"*

Conflict management was raised a number of times by the interviewees. Health professionals are required to deal with conflict on a regular basis which means that even very junior student nurses are faced with having to manage conflict or, at the very least, be a witness to conflict. A number of the participants said that calming down, and not becoming angry, was the most important first step when dealing with conflict situations. Participant A (1) 1 explained: *"…take a step back and actually think things through before you, like, open your mouth and start saying things. And, like, always allow, like, the other person to talk as well so that you don't clash."*

A number of participants spoke about avoiding conflict altogether- they said that they don't really know how to deal with conflict, so they make sure they are not around if and when there is conflict to manage. Participant B (2) 3 said simply: *"I just run away from those things"* and participant A (1) 5 concurred, saying: *"I don't have much experience with conflict 'cos I try to run away from it."* It was noted that these participants were in first and second year, and their junior status may have added to

their reluctance to get involved with conflict. Another junior student, participant A (1) 2, however, spoke about standing one's ground in conflict situations *"…I feel like now it's so early, like first year. So I feel like it's also like it's just like your focus is to avoid conflict but to also stand your ground like sometimes you need to do things that you are not so happy with or don't understand…".*

A point that was raised by two of the participants was regarding anger management and conflict. Both participants said that they avoid conflict because this can make them angry. Participant B (2) 3 said: *"Yes, I do stay away from the things that will make me angry"* and participant B (3) 2 concurred, saying *"...I think a nursing student should basically look at ways of how to cope with anger issues because I think that conflict comes if you are not, like, able to deal with anger within yourself, like you have to control yourself just so you can, um, prevent conflict, ja, and stuff. And also, looking at the reputation, cos you are in nursing school, so you are representing not only yourself but a nursing programme as a whole.".*

Effective communication between parties was identified by a few of the participants as being vital in conflict management. Participant B (1) 2 volunteered the following: *"...by knowing that a nurse shouldn't be involved in conflict issues, I think it is better to talk about the issues instead of fighting, in order to settle down the issues, you talk about it and reach an agreement..."* and participant B (3) 1 echoed these sentiments by saying: *"…communication, let people talk about their feelings, different views..".*

Participant B (3) 5 said the following regarding group work and conflict: *"...we get a lot of group activities and sometimes you find that there is conflict with interest with regards to the work, sometimes people don't agree with your views and stuff like that, sometimes you need to find, like a common ground, you need to put away, like your feelings aside and you just need to think about the goal at hand, I think.".*

Participant A (2) 2 echoed this by saying*: "Although you don't agree with what they are saying you have to find ways to understand or to deal with it so that you can be able to move on and be able to do your job 'cos you have to do your job at the end of the day."* The benefits of formal team building opportunities were also discussed with a view to conflict resolution or prevention, especially during group work situations. Participant B (1) 5 stated *"…we do get on well in class because last semester we went for team-building so that we can be able to understand each other and accept each*

other for who we are and how we operate and we went for team-building so I think that has made a difference. And again, in fact, we did have those conflicts of people not understanding each other and then after team-building these became better.".

Participant A (2) 1 summed up conflict management by saying: *"...one of the big conflicts in this day and age is, obviously the strikes at the University. I feel like, if you decide to participate or not to participate, it is still very important for you to keep studying. I mean, you might not be going to classes or being in clinical, but you need to still keep your mind going."* This was a seemingly mature statement to make, especially for a student in second year.

During the interviews, the participants were also probed about their involvement in decision-making, and the results of them being involved in making decisions, both clinically or regarding academic matters. The aim was to find out whether allowing nursing students to be involved in decision-making adds more stress to their lives as students or if it boosts students by allowing them to take on a higher level of responsibility. The participants, on the whole, indicated positive outcomes as a result of being involved in decision-making. A number of them indeed mentioned a sense of responsibility that being involved in decision-making gives a nursing student with participant B (4) 4 saying *"it gives you that responsibility or ability to face your situations on your own and think of better solutions to meet the problems that you encounter so it does help...".* Another senior student, participant A (4) 5 echoed this by saying: *"...but being more involved it, you feel like you have put input into, maybe, that patient's care and everything and you feel more powerful, like, "I can do this more often."*.

Participant B (3) said: *"..we have to make, like, lots of decisions because we are now given, sort of, our own independence now because we are now seniors and lecturers will not follow us as much as they did " and "since we are given our independence we are able to make the decision whether we as nurses are going to go to the facilities, it is for our own benefit to experience" and "it actually assist us [sic] in bouncing back…".* Participant A (4) 4 echoed the opinion that decision-making helps with resilience by stating: *"...so I think that the process of decision-making also helps us to be more confident in ourselves as practitioners and that builds up our confidence and that will build up our resilience…".*

Some of the more junior participants also appeared to understand the significance of being involved in making decisions and how one must learn to accept the consequences of one's choices. As participant A (1) 2 explained "*…you know that situation, you made your bed now lie in it...I chose to work on this day, so you come in more prepared, also psychologically."* Another junior student even expressed the sense of enjoyment that he/ she felt when being given the opportunity to make decisions: participant A (1) 1 said *"I feel like giving us a chance to make a decision or something like that allows us to actually enjoy what we are doing…."*

Participant B (1) 1 took it back to reflection by saying: *"I feel like if you did make a decision, if it turned out bad or turned out good, you are able to reflect on it that, okay, "this is what I have, this is how I am supposed to deal with it…".*

The literature concurs with the need for information to be available and accessible for health care workers. Garcia & Calvo (2012) state that in order to make staff feel more comfortable and less anxious in their work environment, as much information as possible should be provided for them. This is in the belief that knowledge brings a feeling of control and a reduction of the fear of the unknown (Garcia & Calvo, 2012). Regarding technology, many of the students currently undergoing nursing training are Generation Y babies and, as such, technology is always at their fingertips (Bhana, 2014). Most nursing students, therefore, are able, and keen, to access information at any time of the day or night with technology influencing every sphere of their lives (Bhana, 2014).

The literature available regarding conflict management styles of student nurses concur that nursing students use a variety of strategies to manage conflict in the work place (Pines et al., 2012; Labrague & McEnroe-Petitte, 2017 and Chan, Sit & Lau, 2014). It is beyond the scope of this study to present detailed findings on this topic but, suffice it to say, that the relevant literature encourages formal training on conflict management in nursing education courses (Pines et al., 2012; Labrague & McEnroe-Petitte, 2017 and Chan et al., 2014). The literature goes on to say that conflict management training should be done in order to equip student nurses for the realities of the health care environment (Pines et al., 2012, Labrague & McEnroe-Petitte, 2017 and Chan et al., 2014). Regarding possible conflict in groups, Bhana (2014) confirms in her study that learners belonging to Generation Y (as most of these nursing students do) work

cohesively in teams and are able to be compliant with group norms but can be assertive when necessary.

Being involved in decision-making, in a secure and well-supported clinical environment could assist student nurses to achieve their goals successfully and to assist with the integration, and also the retention of, qualified nurses once the training period is over (del Prato et al., 2011; Rees et al., 2016 and Rikhotso et al., 2014). It is widely documented that student nurses experience many challenges when they complete their training and enter their nursing careers, as a result of clinical care environments being complex and newly-qualified nurses oftentimes not feeling adequately prepared for their roles (Rees et al., 2016 and del Prato et al., 2011). Del Prato et al. (2011) mentions that student nurses often feel unable to make decisions effectively and experience “helplessness” whilst training, which can further compound the stress experienced when transitioning from student to qualified nurse.

It is clear from the above discourse that stress management techniques are invaluable in assisting nursing students to be successful during their training. It is also obvious that accessing formation effectively, managing conflict appropriately, and effective decision making can assist in the transition from student to qualified nurses.

5.6 CONCLUSION

The participants were able to identify the many ways in which they attempt to build themselves up and improve their resilience levels in the face of stress. There were many commonalities in the participants’ answers, across both institutions, which leads the researcher to the conclusion that certain ways of building resilience help the students more than others. The participants’ answers are invaluable in helping to inform a resilience-building programme in the future.

This chapter presented a discussion of the results of the qualitative part of the study, along with the relevant supporting literature. Chapter 6 will present the integrated data analysis and discussion of findings of the study.

CHAPTER 6: INTEGRATED DATA ANALYSIS AND DISCUSSION OF FINDINGS

6.1 INTRODUCTION

The quantitative data that was gathered via the Connor-Davidson Resilience Scale was examined and the findings were presented in Chapter four. The qualitative data that was gathered via the semi-structured interviews was categorised and compared to the literature in chapter five. In this chapter, the quantitative and qualitative findings will be integrated and discussed, in an effort to provide a holistic and meaningful view of the self-assessed resilience levels of the participants, and their recommendations on how to build resilience in undergraduate nursing students in South Africa. As this study is making use of mixed methodology, it is vital that the two methods used are presented as a whole, as well as separately and, in doing so, illustrate the complexity of the concept of resilience, which cannot be given a single definition (Aburn et al., 2016).

6.2 INTEGRATION OF THE QUALITATIVE CATEGORIES AND THE CONSTRUCTS OF THE CONNOR-DAVIDSON RESILIENCE SCALE.

As explained in chapter three, the constructs of the Connor-Davidson Resilience Scale were aligned with the findings of the qualitative aspect of this study i.e. with the categories and sub-categories. This was done with the assistance of a co-coder and was done in order to answer the research questions of how resilient the undergraduate nursing students are, and what the students believe can be done to build or improve resilience. Essentially, the quantitative data provided answers to the first question of how resilient they are, and the qualitative data provided information on how the students believed in can be improved. By matching the qualitative and quantitative data it is possible to understand how students believe each construct can be improved upon which will assist in making recommendations.

To assist the explanation of the process of integration, the table originally provided as Table 5.1, which showed a summary of the categories and sub-categories derived from the qualitative data, is provided below as Table 6.1.

Table 6.1: Nursing students' perceptions of how to improve resilience

CATEGORY	SUB-CATEGORY
A. Intrinsic factors	1.Mindfulness
	2. Personal attributes
	3. Being organised and planning ahead
B. Extrinsic factors	1. Professional guidance
	2. Peer and family support
	3. Physical exercise
C. Combination factors	1. Spirituality/ Religion
	2. Motivation
	3. Managing stress (including information finding, decision-making and conflict management)

The tables that are presented in the following subsections, labelled 6.2, 6.4 and 6.6 show how the Connor-Davidson Resilience Scale were aligned with the categories and sub-categories, starting with the intrinsic factors, followed by the extrinsic factors and lastly, the combination factors.

6.2.1 Intrinsic Factors – Qualitative and Quantitative Data

Intrinsic factors were regarded as any internal qualities or self-driven aspects of the students that helped them to improve and reinforce resilience within themselves. The fifteen constructs of the Connor-Davidson Resilience Scale that were aligned to the intrinsic factors are listed in the table below

Table 6.2: Qualitative categories combined with constructs of the Connor-Davidson Resilience Scale – Intrinsic

No.	Category- **INTRINSIC**	Sub-category
1	I am able to adapt when changes occur.	Being organised and planning ahead
4	I can deal with whatever comes my way.	Mindfulness
5	Past successes give me confidence in dealing with new challenges and difficulties.	Personal attributes
6	I try to see the humorous side of things when I am faced with problems.	Personal attributes
7	Having to cope with stress can make me stronger.	Personal attributes
8	I tend to bounce back after illness, injury, or other hardships.	Personal attributes
11	I believe I can achieve my goals, even if there are obstacles.	Personal attributes
14	Under pressure, I stay focused and think clearly.	Mindfulness
15	I prefer to take the lead in solving problems rather than letting others make all the decisions.	Personal attributes
16	I am not easily discouraged by failure.	Personal attributes
17	I think of myself as a strong person when dealing with life's challenges and difficulties.	Mindfulness
18	I can make unpopular or difficult decisions that affect people, if necessary.	Mindfulness
20	In dealing with life's problems sometimes you have to act on a hunch without knowing why.	Personal attributes
22	I feel in control of my life.	Mindfulness
25	I take pride in my achievements.	Mindfulness

As stated in the literature review in chapter two resilience is a fluid and dynamic concept and, as such, one cannot possess exactly the same resilience levels during all stages of one's life (Aburn et al., 2016 and Gillespie et al., 2007). It is also an accepted fact that resilience is made up of a multitude of factors and that personality is just one aspect of resilience (Aburn et al., 2016). The intrinsic factors identified in

this study through the semi-structured interviews, however, showed that certain personality traits, characteristics and even conscious thoughts were helpful in building and retaining the intrinsic aspects of resilience. Much of the available literature echoes the fact that these attributes and actions can positively influence resilience (Turner & Kaylor, 2015; Jackson et al, 2007 and Gillespie et al, 2007). It has also been shown that these attributes can be taught and improved upon in an effort to build resilience (Yang et al., 2015; Gillespie et al., 2007; Sanders, 2015; Stephens, 2013 and Hart et al., 2014).

In an attempt to make the constructs of the Connor-Davidson Resilience Scale more meaningful in integrating them with the qualitative factors, each construct has been ranked according to their mean score. The ranking is illustrated by the table below. Each construct is then discussed according to the result, the rank and the qualitative intrinsic factors.

Table 6.3: Mean scores of intrinsic results with rank order

No.	Construct	Mean score Institutions A and B	Rank order of construct (out of 25)
1	I am able to adapt when changes occur.	69,03%	18th
4	I can deal with whatever comes my way.	64,84%	20th
5	Past successes give me confidence in dealing with new challenges and difficulties.	82,48%	8th
6	I try to see the humorous side of things when I am faced with problems.	63,38%	21st
7	Having to cope with stress can make me stronger.	70,63%	16th
8	I tend to bounce back after illness, injury, or other hardships.	76,12%	12th
11	I believe I can achieve my goals, even if there are obstacles.	89,76%	1st
14	Under pressure, I stay focused and think clearly.	60,73	23rd
15	I prefer to take the lead in solving problems rather than letting others make all the decisions.	70,47%	17th
16	I am not easily discouraged by failure.	74,01%	13th

Table 6.3 continued: Mean scores of intrinsic results with rank order

17	I think of myself as a strong person when dealing with life's challenges and difficulties.	82,87%	7th
18	I can make unpopular or difficult decisions that affect people, if necessary.	57,37%	25th
20	In dealing with life's problems sometimes you have to act on a hunch without knowing why.	63,11%	22nd
22	I feel in control of my life.	72,01%	14th
25	I take pride in my achievements.	87,39%	2nd

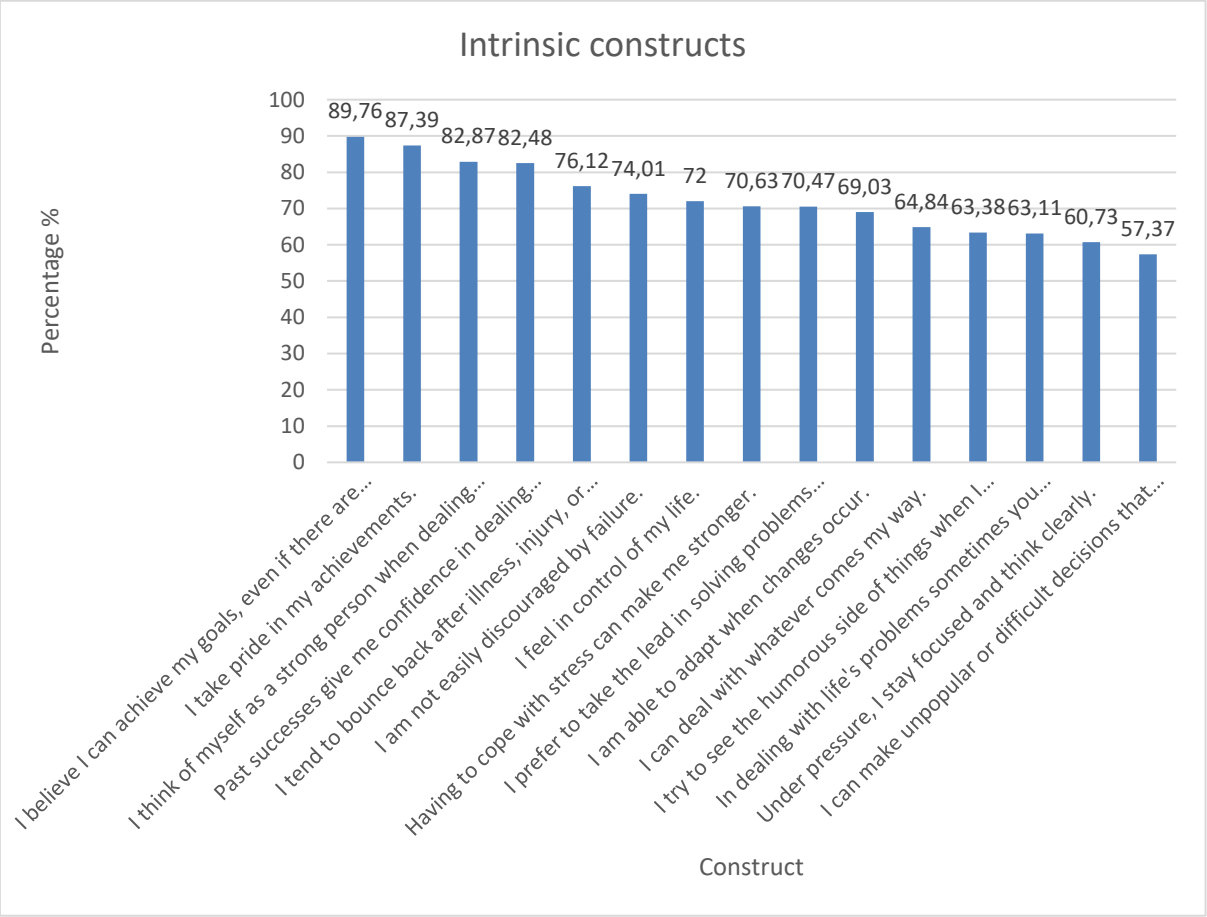


Figure 6.1: Rank order of intrinsic constructs

As the participants are of the opinion that mindfulness, personal attributes and being organised are useful in building the internal constructs of the resilience scale, it is useful to note that many require a nursing student to have 'personal attributes'. Whether personal attributes can be developed or not is a contentious point, but mindfulness could be practised and, therefore, used to build resilience. This raises the question about the selection of students – should personal characteristics be considered as one of the selection criteria, to improve the chances of a nurse coping with the rigours of nursing?

The constructs that were ranked 1st and 2nd out of the 25 constructs belonged to the Intrinsic category. The very last ranked construct, however, also belonged to this category. The mean scores for the first and second ranked constructs were very high, with both being well over 80%. The participants' scores allocated construct number 11 to the 1st position, which suggests that the participants generally have a strong belief in their ability to achieve their goals. While this appears to be a positive finding, it is important that nursing students are not only determined to reach their goals but are also equipped to handle any real obstacles that they encounter along the way. This finding also suggests that having a positive outlook in life and a strong self-belief can go a long way in boosting resilience.

The second position was occupied by construct number 25. This construct was also scored very high across the board by the participants, which suggests that it is very important for nursing students to be able to take pride in what they have achieved. Taking pride in one's achievements is vital for all people, as this may be the impetus for further achievements by encouraging one to persevere when inevitably faced with challenges. Being aware of one's achievements suggests a sense of knowing that one has previously risen above challenges in order to reach a goal, meaning that this can be replicated, and new goals can, therefore, be achieved. This construct also suggests a sense of mindfulness about one's strengths and weaknesses, which was also a topic that was introduced, during the interviewing process, by the participants themselves. Being mindful implies that one can develop insight into one's good and bad points and can use that information to assist with the attainment and building of resilience (Hart et al., 2014).

Constructs number 17 and number 5 were ranked 7th and 8th respectively during scoring by the participants. These constructs scored above 80%, suggesting that these were considered to be very valuable constructs to the participants. Construct 17 refers to one thinking of oneself as a strong person when dealing with life's difficulties, which suggests an element of mindfulness and a positive outlook. Being mindful of one's abilities and inabilities and having a positive outlook in life, suggests that the participants think of themselves as being able to achieve any goals set, despite obstacles, as per construct 11, discussed above.

Construct number 5 indicates that past challenges and goals achieved provides one with the confidence one needs when dealing with new challenges. This suggests a link with construct number 25 (taking pride in one's achievements) by combining pride and the fact that confidence is built when difficult experiences are handled well. The available literature makes mention of the fact that the first clinical placement is generally the most stressful placement during a student nurse's training (Orton, 2011 and Galvin et al., 2015). This extreme stress during their clinical placement oftentimes dissipates as the students continue in their training and are exposed to further clinical placement and clinical skills. In accordance with construct 5, the literature and the participants of the semi-structured interviews, it seems that the more one repeats tasks and overcomes challenges, the more confident one becomes (Heydari et al., 2016). This confidence can also lead to an improvement in resilience for the nursing students.

The intrinsic constructs which will be discussed next were scored by the participants as fairly low when compared with many of the other constructs. This may suggest that nursing students use intrinsically-motivated skills in an attempt to build resilience but, as the scores are generally quite low, it is possible that the students are not able to utilise these skills well at all times. These include construct number 8 and construct number 16 which rank at 12th and 13th respectively. Construct number 8 refers to the ability to bounce back after setbacks, which the participants may understand the importance of being able to do, but they equally may be unsure of how to do this successfully. It is an accepted fact that the ability to, in the words of construct number 8 of the Connor-Davidson Resilience Scale, "bounce back after illness, injury and other hardships" forms the backbone of resilience (Hart et al., 2014). The fact that this construct was not scored amongst the higher constructs by the participants may

suggest that nursing students' resilience, or certainly their ability to bounce back, is not at a very high level under certain circumstances.

Construct number 16 refers to one not being easily discouraged when one encounters failure. This was ranked 13th on the scale by the participants and it appears to lead on directly from construct number 8, which was discussed above. Being able to pick oneself up and dust oneself off after failing strongly suggests the ability to bounce back from challenges. It follows then that the participants failed to score construct number 16 any higher than construct number 8. This ability to bounce back or to not be discouraged by failure seems to be an ability that not all of the student nurses naturally possess, and it seems likely that this should be included in resilience-building programmes (McDonald et al., 2012).

The constructs that were ranked even lower were construct number 22 which was ranked 14th, number 7, which was ranked 16th and number 15 which was ranked 17th. Construct number 22 refers to feeling in control of one's life. This result suggests that the participants feel that they are faced with stressors that are outside their control. This may well be the case for them as they are students and have to contend with university life, deadlines for academic work and also socio-economic stressors that many South Africans face on a daily basis (as discussed in chapter two). Nursing students may also feel that they have much of their training "dictated" to them, from when to attend classes to when to attend their clinical training and when and where to work during their clinical hours. This suggests that it may be worthwhile to examine the resilience scores of newly qualified registered nurses to identify if the participants feel more in control of their lives once they have gained some experience and are afforded more choice. Turner & Kaylor (2015) refer to resilient individuals as having an internal, rather than an external, locus of control.

Construct number 7 refers to the notion that having to deal with stress can contribute to building strength in a person. The participants have ranked this construct closer to the lower end of the scale, suggesting that they do not feel that this statement applies to them. This may be related to the fact that when one is faced with extreme stress and merely trying to survive, one may not be able to comprehend that there could be benefits to experiencing, and surviving, stress. This may be stimulated by the poor socio-economic status of many of the participants in this study and by the challenges

that they face, academically and clinically, during their training. This could be another aspect of improving the ability to bounce back that could be included in a programme for building resilience.

Construct number 15 refers to leadership abilities and the preference to take the lead during problem-solving. The ability to problem-solve has been identified as an essential skill in resilient individuals (Jackson et al., 2007 and Gillespie et al., 2007). Problem-solving is also a vital skill that nurses are required to be competent in within their work environment (Vijayabanu & Philip, 2013). The ability to take the lead and be competent in solving problems in the health care environment often requires years of training. The feeling of being competent and confident in their problem-solving abilities may also only come with experience.

The following six constructs that were linked to intrinsic factors all scored below 70%, which is a low score when compared with other higher-ranking constructs. Construct number 1, ranked 18th according to the Connor-Davidson Resilience Scale, refers to the ability to adapt to change. Change is constant in the health care environment, especially regarding issues like technology, new strains of diseases, resistance to drugs and the development of new medication. These constant changes can be very stressful and the low scores for this construct alludes to the fact that the participants possibly also find constant change difficult to adapt to. Adapting to change, or being flexible, is another attribute of resilience (Jackson, 2007), and this may mean that the participants are lacking in this area of resilience. Adapting to change is also a skill that is possible to learn with time, but it is important to note that some individuals constantly struggle with being flexible, which will possibly reduce their ability to remain resilient (McAllister & McKinnon, 2008).

Construct number 4, which was ranked 20th, refers to being able to deal with whatever one is faced with. This suggests that, as a nurse, one should be able to handle a broad spectrum of potential stressors, as nurses are faced with many stressors, every day. The participants scored this construct amongst the lowest, suggesting that they do not always feel able to cope with everything that they are faced with. This may link with the ability to problem-solve and develop confidence and, as students, they may feel that their problem-solving skills and confidence is still in it’s infancy. This may warrant

further investigation in an attempt to develop the students' problem-solving skills and confidence in dealing with challenges as they present themselves.

Construct number 6 was ranked 21st and refers to trying to see the humorous side when faced with stress. This aspect of resilience-building was mentioned by a number of the participants during the semi-structured interviews. Humour is also listed by many sources as a personal characteristic of resilient individuals (Thomas & Revell, 2016; Sanders, 2015; Stephens, 2013; Ghaffari, Dehghan-Neyeri & Shali, 2015 and Hart et al., 2014). This suggests that humour, when used appropriately, can diffuse stressful and serious situations, providing the people involved with an outlet for their stress. The fact that this construct scored low may suggest that the participants feel overwhelmed by their circumstances and may struggle to see the humour in their situations. This is a grave concern as people who are consistently faced with stressors and have no positive outlet for their stress, like using humour, could in all likelihood end up burnt-out (Ghaffari et al., 2015). In the student nurse context, this could also lead to students feeling overwhelmed and possibly leaving their studies, increasing attrition levels.

Construct number 20 was ranked 22nd and describes the ability to act on a hunch, without knowing why at times, during problem-solving. In the health care environment, it can be important to problem-solve in a scientific and informed manner, rather than just going with a "feeling". The participants, as students, have, no doubt, been taught this and that may be why the participants scored this construct low according to the Connor-Davidson Resilience Scale. There is scope, however, as one becomes more experienced in nursing and health care, to act on a hunch even when one knows that there is possibly no scientific reason behind one's actions. The literature describes this as heuristic thinking and the intuitive approach which involves the employment of reasoning skills (Croskerry, 2009). This involves the ability of experienced health care practitioners to recognise patterns during clinical decision-making and to make their decisions based on the probable outcome (Croskerry, 2009). As the participants are still in the process of completing their undergraduate nursing training, they are more likely to act in a concrete manner with evidence to back up their decisions. It is expected that they will develop insight into their decisions based on a hunch or on their experience as they spend more time in the health care environment.

Ranked 23rd, construct number 14 refers to the ability to remain focused and think clearly when under pressure. This is a vital skill that all nurses must master, and one that should be developed and nurtured during the undergraduate training course. Being able to think clearly and to deal with problems when under stress is, in essence, what nurses are required to do every day in the health care environment. It is a concern that the participants scored this construct so low (third to last according to the Connor-Davidson Resilience Scale) and the hope is that the ability to remain calm and think clearly under pressure will develop further as the students are exposed to further clinical experiences.

Lastly, construct number 18, ranked 25th, refers to the ability to make unpopular or difficult decisions that may affect other people. This was the construct that scored the lowest out of the 25 constructs of the Connor-Davidson Resilience Scale. This means that the participants potentially feel unable to make difficult decisions and take responsibility for these decisions, as they may affect other people. The apparent unwillingness to do this is a concern as all nurses, at some stage, will have to make decisions that affect others. One of the reasons for this hesitancy to be involved in making these difficult decisions, may be that the profession of nursing is steeped in altruism, and the participants may feel that they do not want to play a part in hurting another person. This is short-sighted however, as any decisions that must be made in the nursing arena that may affect other people, should be made for the greater good. Resilient individuals are normally level-headed and self-confident (Jackson, 2007), which both lend themselves to making decisions that may, in the short term, affect people, but in the long term, should be the right decision for the patient/ family/ unit/ hospital. Another possible reason for the reluctance in making unpopular decisions is that the participants in this study, being undergraduate nursing students, may feel “out of their depth” if the results of these unpopular decisions affect peers or even senior staff. Health care environments are still largely managed in a hierarchical manner, and so the students cannot be blamed for not wanting to be a part of making difficult decisions. The hope is that the participants of this study will, over time and with experience, develop the ability to be able to assess each situation individually and to find the confidence to make decisions, regardless of how difficult or unpopular, as long as the results are ultimately for the greater good. It is true, however, that in general,

people would rather not have to be involved in making unpopular or difficult decisions that affect other people.

6.2.2 Extrinsic Factors - Qualitative and Quantitative Data

Extrinsic factors were identified as any support that was provided to the nursing students from sources outside of themselves. The participants who were interviewed spoke at length about the importance of professional, peer and family support as being a vital component in their ability to remain resilient in the face of extreme stress. The two constructs of the Connor- Davidson Resilience Scale that mentioned extrinsic support are listed in the table below.

Table 6.4: Qualitative categories combined with constructs of the Connor-Davidson Resilience Scale – Extrinsic

Item	Category **- EXTRINSIC**	Sub- category
2	I have at least one close and secure relationship that helps me when I am stressed.	Peer/ family support
13	During times of stress/crisis, I know where to turn to for help.	Professional guidance and peer/ family support

It is possibly significant to note that there were only two constructs out of the twenty-five on the Connor-Davidson Resilience Scale that mentioned extrinsic or external support. This may be due to the fact that the Connor-Davidson Resilience Scale was not specifically designed to measure resilience in nursing students but is rather a generalised scale that had been utilised to measure resilience in a variety of groups of people, including patients and sportspeople. (It has also been used to measure resilience in nurses in previous studies).

Much of the available literature highlights the importance of having peer, family and professional support for nursing students, and nurses in general (Hart et al., 2014; Stephens, 2013; Leal & Santos, 2016; Thomas & Revell, 2016; Hsieh et al., 2016; Jenkins et al., 2015, Priesack & Alcock, 2015 and Jackson et al., 2011). The participants who were interviewed for this study also emphasised how helpful it was to them to have support from professionals, peer and senior colleagues and, of course,

family and friends. They explained that the support that they receive from these people assisted them to bounce back and to remain resilient in the face of severe challenges in the workplace.

The extrinsic constructs are listed in the table below with their ranked places according to the Connor-Davidson Resilience Scale.

Table 6.5: Mean scores of extrinsic results with rank order

No.	Construct	Mean score Institutions A and B	Rank order of construct (out of 25)
2	I have at least one close and secure relationship that helps me when I am stressed.	77,96%	10th
13	During times of stress/crisis, I know where to turn to for help.	71,53%	15th

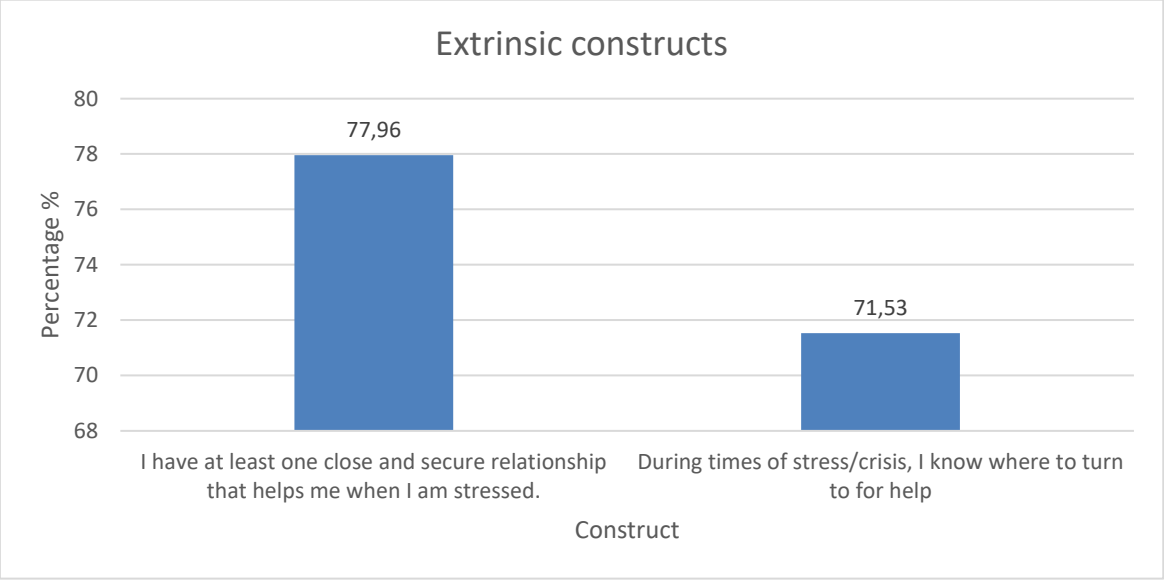


Figure 6.2: Rank order of extrinsic constructs

The mean scores for the two constructs listed above may appear to be high scores as they are both above 70%. These are not, however, high scores when compared with

the other mean scores for the constructs of the Connor-Davidson Resilience Scale. The evidence of this is illustrated with the ranking of the scores with construct number 2 ranking 10th and construct number 13 ranking 15th.

The concern lies in the fact that not all of the participants felt able to score the full 4 out of 4 for construct number 2 on the Likert scale of the Connor-Davidson Resilience Scale. This suggests that not all of the participants have at least one close relationship, or at the very least, not all of the participants are sure that they have at least one close relationship to provide the support that they require. Reeve et al. (2013) state that nursing students are less likely to seek support from nurse educators and clinical staff than from their colleagues and family members. In the context of the two institutions utilised for data collection in this study, it is highly likely that family members live far away from the students and it may be difficult for the students to contact them in their time of need.

It is possibly even more significant that construct number 13 came in even lower than construct number 2, when ranked against the other constructs. This means that the participants were even less certain that they knew where to turn to when they were faced with a crisis. As this construct has also not scored an extremely low percentage, we can assume that some of the participants were aware of where to turn to when they were faced with a crisis but that not all of the participants were able to score themselves a full 4 out of 4 for the construct. This leads us to believe that some nursing students are unsure of who to turn to should they be faced with stress or a crisis. This is of grave concern as the literature review in chapter 2 highlights the constant challenges that nursing students are faced with, globally and in South Africa. This suggests that some nursing students are having to deal with their stressors on their own and, although the importance of formal and informal support has been highlighted by numerous sources, some students do not feel fully supported. This may result in burnt-out students and newly-qualified nurses, possibly poor-quality nursing care and could also contribute to the attrition of student nurses and qualified nurses.

This suggests that although the total resilience scores appear to be high, leading us to believe that the student nurses in this study are highly resilient, the individual constructs tell a different story, leading one to believe that resilience levels may, in fact, be quite low.

6.2.3 Combination Factors - Qualitative and Quantitative Data

Combination factors referred to any factors that did not fit neatly into the intrinsic or extrinsic category. The factors in this category may have intrinsic and extrinsic components to them, which is why they cannot fit easily into any of the categories. Eight of the constructs from the Connor-Davidson Resilience Scale appeared to fit into the Combination category and are listed in the table below.

Table 6.6: Qualitative categories combined with nstructs of the Connor-Davidson Resilience Scale – Combination

Item	Category **- COMBINATION**	Sub- category
3	When there are no clear solutions to my problems, sometimes fate or God can help.	Spirituality/ Religion
9	Good or bad, I believe that most things happen for a reason.	Spirituality/ Religion
10	I give my best effort no matter what the outcome may be.	Motivation
12	Even when things look hopeless, I don't give up.	Motivation
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	Managing stress
21	I have a strong sense of purpose in life.	Motivation
23	I like challenges.	Managing stress
24	I work to attain my goals no matter what roadblocks I encounter along the way.	Motivation

There were a number of constructs of the Connor-Davidson Resilience Scale that appeared to fit comfortably into the Combination category. Religion and spirituality was an important sub-category and was mentioned a number of times by the participants that were interviewed during the qualitative data collection period. Other sub-categories included motivation of student nurses, ways of managing stress, decision-making in the health care environment and conflict management for student nurses.

The rank order of the eight constructs of the Connor-Davidson Resilience Scale that mention the combination sub-categories are listed in the table below:

Table 6.7: Mean scores of combination results with rank order

No.	Construct	Mean score Institutions A and B	Rank order of construct (out of 25)
3	When there are no clear solutions to my problems, sometimes fate or God can help.	87,12%	3rd
9	Good or bad, I believe that most things happen for a reason.	86,62%	4th
10	I give my best effort no matter what the outcome may be.	77,72%	11th
12	Even when things look hopeless, I don't give up.	81,11	9th
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	67,78%	19th
21	I have a strong sense of purpose in life.	83,68%	5th
23	I like challenges.	59,66%	24th
24	I work to attain my goals no matter what roadblocks I encounter along the way.	83,34%	6th

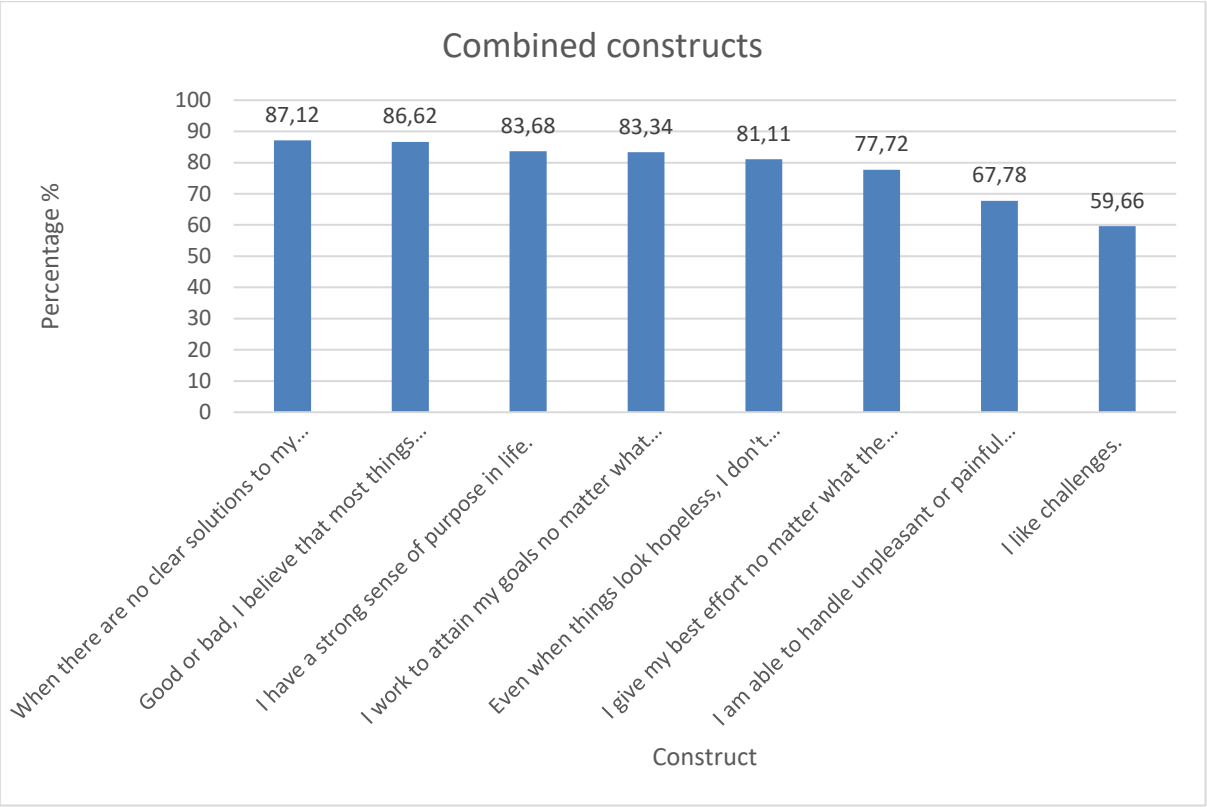


Figure 6.3: Rank order of combined constructs

A number of these constructs were ranked in high positions on the scale by the participants, and the majority of the constructs had high mean scores.

Constructs 3, 9, 21 and 24 were placed in 3rd, 4th, 5th and 6th place respectively. It is interesting to note that these constructs all had mean scores above 80% indicating that the participants felt confident about these items.

The subcategory of religion/ spirituality was referred to by constructs number 3 and number 9. The high mean scores of these constructs may suggest that having a belief in a higher power can provide people with a feeling of being protected against stress in the workplace. This may also contribute to an overall sense of resilience and is also reflected in the literature with Hsieh et al. (2016) and Bennet et al. (2015) mentioning that religion can be a buffer in the workplace against violence and can improve resilience in individuals. Construct number 9 seems to refer more to fatalism but this can also be interpreted as one's life belonging to a higher power, and possibly greater acceptance of one's fate.

Construct number 21 referred to the participants having a strong sense of purpose in life. The fact that this construct scored above 80% may indicate that having a sense of

purpose possibly creates the motivation needed for student nurses to apply themselves to their studies and work hard to attain their goal of becoming qualified nurses. This is echoed by the literature with Nilsson & Warrén Stomberg (2008) stating that an important motivation for nurses is the actual ultimate goal of becoming a nurse. The strong sense of purpose that these participants seemed to have is mentioned by Turner & Kaylor (2015) in the sense of being committed to the vocation of nursing. Another factor mentioned in the literature that relates to motivation, refers to the strong sense of altruism that nurses generally possess (Nilsson & Warrén Stomberg, 2008).

Construct number 24 also appears to fit into the sub-category of motivation and refers to working to attain one's goals regardless of roadblocks along the way. With the mean score also being above 80%, we can accept the fact that these participants feel that they are willing to work hard in order to reach their goals. In reference to the literature review in Chapter two, it is clear that hard work is necessary in order for nursing students' goals to be reached, whether the goal is advancing from one year to the next or even the ultimate goal of qualifying as a nurse.

Motivation was once again the sub-category mentioned with regards to construct number 12, which also had a mean score over 80%. This refers to never giving up, even when things look hopeless. This suggests a connection to the constructs discussed above, with motivation, hard work and keeping the end-goal in sight being vital in keeping one going, especially in the face of extreme stress. This is very relevant to the occupation of nursing in South Africa as extreme nursing shortages threaten the ability for patients to be provided with optimum nursing care and for student nurses to be provided with quality training (Rikhotso et al., 2014). It is extremely important that nurses are resilient and feel motivated to continue with their training and to work in the health care environment when qualified, in an attempt to reduce the severe nursing shortages in South Africa and to provide nurses with job satisfaction and a sense of enjoyment with their work.

Construct number 10 refers to doing ones best, regardless of what the outcome may be, and also appears to fit into the sub-category motivation. It is important that student nurses feel motivated to give of their best even when there is no guarantee that the outcome will be positive. The literature mentions some of the stressors that nurses are faced with in the health care environment, which include, but are not limited to, nursing

very ill patients, and dealing with the deaths of patients (Cilliers & Terblanche, 2014 and Thomas & Revell, 2016). Student nurses are always required to provide quality nursing care to all patients, regardless of whether the patients will recover or not. Being motivated as a student nurses may also involve giving one's best effort during the training course and dealing with any negative outcomes that may arise during the course. As this construct was ranked near the top, this suggests that the participants recognise the importance of doing one's best and being prepared to handle the outcome, whatever that may be.

Construct no 19 refers to the participants' ability to handle unpleasant and painful feelings. This construct received a fairly low score from the participants in general and was ranked 19th out of a possible 25 constructs. Being able to handle feelings like sadness, fear and anger is an important competence for nurses as they can possibly have to face a range of emotions on an ordinary working day (Hart et al., 2014). These emotions may be experienced as result of dealing with sick and/ or dying patients, potentially distressed family and friends of patients and possibly challenging interactions with nursing colleagues, physicians and other healthcare practitioners. The hope is that the participants, being undergraduate students, are still in the process of mastering the skill of dealing with these unpleasant feelings and that they will develop skill as they progress in their vocation, once qualified (Fornés-Vives et al., 2016).

Construct number 23 was scored by the participants as the second lowest item on the Connor-Davidson Resilience Scale and states "I like challenges.". The very low mean score awarded to this construct and the very nature of the importance of this statement is a concern. Nurses and other health care providers are faced with challenges at most stages of their daily shifts. This has been referred to numerous times in this study, especially in chapter 2 – the literature review. It is possibly true to assume that most people do not like challenges, especially when faced with them almost all of the time. The major concern with this result lies in how low the mean score was for this item, as these participants seem to balk at the very thought of having to deal with a challenge. The resilience levels of the participants are probably not as high as the total scores would have us believe, as a vital construct such as this shows the true nature of their feelings regarding dealing with challenges and stress.

6.3 CONCLUSION

The integration of the quantitative and qualitative data was presented in this chapter. The participants' scoring of the constructs of the Connor-Davidson Resilience Scale was described and the relevant importance of each ranked position was probed and discussed. The concept of resilience is clearly complex and the relevance of using mixed methodology was highlighted in the discussion of the results. An attempt was made to demonstrate the importance of building resilience in nursing students by illustrating how vital resilience is for student nurses in all spheres of nursing.

The next chapter will present a summary of the study's main findings, the limitations and recommendations for future research and relevance to practice.

CHAPTER 7: SUMMARY, MAIN FINDINGS, LIMITATIONS AND RECOMMENDATIONS

7.1 INTRODUCTION

The previous chapters discussed the layout of the study, the available literature on resilience, student nurses and their context, and the results of the quantitative and qualitative data collection. The purpose of the study was to explore the degree of resilience among undergraduate nursing students in South Africa. The students' own perceptions of ways to build resilience was also investigated in order to inform future interventions. This has provided a useful opportunity to present a rich discussion on the topic of resilience and on nursing students' abilities to cope within a stressful health care environment, globally and in South Africa.

This chapter will provide a summary of the study and outline the limitations and recommendations for nursing education and for future research.

7.2 SUMMARY

The quantitative part of this mixed methods study involved measuring the resilience levels of undergraduate nursing students at two educational institutions in South Africa. All four years of study were assessed at both institutions. A self-assessment scale, the Connor-Davidson Resilience Scale (Annexure 1), was used to gather the data and the quantitative results were calculated. Socio-demographic data, specifically gender, age and language, was also collected for the participants of the quantitative aspect of the study. This was done in an effort to find out if these socio-demographic factors had an effect on the resilience levels of the participants.

For the qualitative part of this study, 4 to 5 volunteers from each year of study, at both institutions were interviewed. A semi-structured interview tool (Annexure 5), devised by the researcher, was used to establish what the participants' ideas were regarding what student nurses can do to improve their resilience levels. The participants were

also asked their opinions on how to bounce back from stressful experiences in nursing. The participants' answers were analysed and categorised. The interviews were recorded and a transcript of each interview was typed to allow for analysis.

The qualitative categories and the quantitative results were matched, in an effort to better understand the complexity of the concept of resilience. The constructs of the Connor-Davidson Resilience Scale were analysed and aligned, with the three main categories identified during the qualitative data analysis process. The mean scores of each construct was then calculated in order to identify which areas the participants felt confident in and which they were not sure of themselves.

7.3 MAIN FINDINGS

7.3.1 Quantitative Findings

The socio-demographic data collected showed firstly that the participants were mostly female and mostly between the ages of 21 and 25 years. IsiZulu was the most widely spoken language across both institutions, although Institution A had a more heterogeneous population, regarding language, than Institution B.

The resilience scores, measured by the Connor-Davidson Resilience Scale, were assessed for patterns. It was found that the scores for each different year of study for Institution A were very similar, but the scores for each different year of study for Institution B differed somewhat.

The total resilience scores for each institution were found to be very similar.

When the resilience scores for each year of study across the institutions was compared, they were also found to be similar. This means that the first-year participants at Institution A had very similar resilience scores to the first-year participants at Institution B. The same was true for each year of study across the institutions.

When the socio-demographic data was compared to the resilience scores, it was found that females have higher resilience scores than males. It was also found that the age group of older than 25 years had higher resilience scores than the younger age groups. It was not possible to identify any patterns between language and resilience as the isiZulu speaking population was too large, confounding the results.

7.3.2 Qualitative Findings

The transcripts of the interviews were analysed, in an attempt to identify any patterns/ similarities in the answers of the participants. Three main categories and nine subcategories of factors that can influence resilience, were identified from the interviews. The categories and subcategories were as follows: Intrinsic factors - mindfulness, personal attributes, being organised and planning ahead. Extrinsic factors – professional support, peer and family support and physical exercise. Lastly, Combination factors – spirituality/ religion, motivation and managing stress.

7.3.3 Integrated Findings

The analysis of the integrated findings showed that, although the total scores of the participants appeared to be high, the mean scores of the individual constructs illustrated that the participants are dealing with areas of real concern. This suggests that these areas of concern could influence a nursing student's self- confidence and self-esteem. This may also influence the individual participant's belief that they will be a competent registered nurse at the end of their training course.

The constructs that the participants generally scored themselves the lowest involved dealing with challenges, handling change, acting on a hunch and believing that dealing with stress makes one stronger. The lowest scored constructs involved taking the lead in problem-solving, making unpleasant decisions that could affect other people and the ability to handle unpleasant or sad feelings. As the participants are all undergraduate nursing students, there is the hope that they will learn to cope with the above issues as they grow in nursing and develop in the profession. Experience in the field of nursing should provide the students with the skills necessary to learn how to deal with these challenging constructs.

The constructs that the participants generally scored themselves highest in involved God and/ or fate affecting their lives, taking pride in their achievements and a sense that they can achieve everything that they set out to achieve despite obstacles. This suggests that the participants still feel excited about their profession and that they believe that they will survive to end of their training and emerge as competent, mature and resilient registered nurses.

The constructs relating to support provided some concern. The quantitative results showed that the participants did not all appear to have one close relationship and the participants also indicated that they did not all know where to access help in a crisis. Most of the participants who were interviewed, though, volunteered information on their close relationships with peers, colleagues and/ or family members. The interviewees also spoke about the various professional support structures available to them and indicated that they knew where and how to access the support in times of need.

Most of the resilience- building factors discussed in this study can be developed and encouraged and, as such, should be included in resilience training for student nurses.

7.4 LIMITATIONS

A number of limitations were identified during the research study and these will be discussed below.

The self-assessment data gathered via the Connor-Davidson Resilience Scale, was done before the semi-structured interviews were carried out. The constructs of the Connor-Davidson Scale may have prompted the participants' answers during the interviewing process as the items on the scale are linked to ways of building resilience. This was counteracted in most cases by the fact that the interviews were carried out roughly six months after the self-assessments were done with the students.

Due to the fact that the self-assessment scale and the semi-structured interviews were carried out anonymously, it was not possible to link the Connor-Davidson Resilience Scale scores with the participants who were interviewed. The anonymity was vital in order to provide the participants with a sense of security that the information that they provided could not be used against them. It would have been very useful, however, to have known the resilience scores, and whether the scores were high or low, for the participants who went on to be interviewed. The participants who were interviewed were asked to provide ways of building resilience and ideas of how nursing students can 'bounce back' when faced with stressful experiences in nursing. Being aware of each of the interviewees' resilience scores may have provided more insight into the information that each of them gave on how to improve resilience.

As stated in the methodology chapter, the semi-structured interviews took place with volunteers from each year of study and from both institutions. The fact that volunteers

were used may have influenced the results, or produced volunteer bias (Salkind, 2010) as there is a possibility that more resilient individuals were more willing to share their stories and that less resilient individuals may have felt that they did not have anything valuable to contribute during the semi-structured interviews.

Another possible limitation was that the information collected during this study, via the Connor-Davidson Resilience Scale and the semi-structured interviews, was all self-reported by the participants. All self-reported data should be taken at face-value, as participants can easily lie or distort the facts. It is also possible that the participants did not want to discuss any negative coping mechanisms, like alcohol abuse or drug-taking that they, or other nursing students, utilise to cope with the stressors of their chosen career. This is referred to as social desirability bias and occurs when participants do not want to embarrass, or implicate themselves, by admitting that they partake in socially unacceptable or illegal behaviours (Kaminska & Foulsham, 2013). The participants who were interviewed may have been reluctant to admit to negative coping mechanisms during the semi-structured interviews as the interviewer was of an older generation and a different cultural group.

Another limitation was the widespread 'fees must fall campaign' and the unrest that accompanied it, which affected both institutions involved in this study. The violence and unrest prevented data collection commencing in October 2016 as planned, which meant that data collection could only commence at the beginning of 2017. This delay in the data collection process resulted in the study schedule being delayed, which could have influenced the results. The unrest at the institutions and student residences may also have affected the participants' self-assessment of their resilience, especially if any of them had been personally affected.

The last limitation identified for this study involved language concerns. The Connor-Davidson Resilience Scale and the semi-structured interview questions were in English. This meant that large numbers of the participants underwent data collection in a language other than their home language. In an attempt to overcome this, or reduce the impact, an environment was created where the participants could freely ask for the meaning of words in both data collection situations. It is also important to note that, in order to be accepted to study nursing as a University, one must be found to be proficient in the English language.

7.5 RECOMMENDATIONS FOR NURSING EDUCATION AND PRACTICE

Several recommendations stemmed from this study. Resilience is a relevant topic currently, especially amongst health care providers, and finding ways to build and sustain resilience seems to be especially important at present. The recommendations are described below:

7.5.1 Rethinking Orientation to the Educational Institution and to Nursing

The university orientation programmes for first-year nursing students at both institutions should continue to be offered in order for nursing students to be orientated to university life, as students find these helpful. The general university programme is vital as students need to be made aware of the general rules and regulations of the university and of the professional support available and how to access this support. In addition, based on the results of this study, it is recommended that nursing students should be provided with a nursing-specific orientation programme. These could include orientation to the clinical facilities and introduction to their clinical tutors and some unit managers. The nursing-specific orientation could also include information about a variety of health care and nursing related items, for example: the multidisciplinary team and communication with other health care providers, the type of shifts that they can be expected to work, how tasks are delegated and how to go about finding support in the clinical environment.

Institution A currently holds a camp for first year nursing students at some stage during their first year of study. The practice of facilitating a first-year camp should be continued and, where possible, be introduced at other educational institutions, as this team-building opportunity assists the students to make friends and solidify relationships with peers. As per the findings of this study and many other studies of this nature, it is vital that students are able to access peer support, as this may be the most important source of support that they receive during their training (Reeve et al, 2013).

7.5.2 Identification of at-risk Individuals

In an attempt to identify at-risk nursing students, all nursing students could be asked to complete the Connor-Davidson Resilience Scale, or a similar resilience assessment scale, at the beginning of their first year of training and at the beginning of every year of study thereafter. The low-scoring individuals could be interviewed in an attempt to

identify the possible reasons for their low resilience scores. Additional counselling or guidance could be provided on a regular basis for these students and they could be referred for psychology sessions, if required.

7.5.3 Conflict Management Training

It would be advisable to teach the nursing students conflict management skills even as early on as during the nursing-specific orientation programme. This would be done in order to equip the students from the very beginning of their training on how to deal with a situation of conflict, in the event of a situation arising. Orton (2011) and Galvin et al (2015) agree that nursing students find that their first clinical placement period is usually the most stressful. Some of the interviewees explained that they had undergone conflict management training at school but other participants said that they had never been taught how to manage conflict. The introduction of conflict management training during the orientation programme, could possibly put all first-year students on as equal a footing as possible. In addition, it is recommended that conflict management skills be included at each year of their nursing course and that the training is adapted according to the year of study and the expectations of the student at that level. This would help to equip them at each point in their training and hopefully assist in building confidence and competence. In fourth year the focus could also be on managing conflict as a Registered Nurse, in preparation for their community service, and for when they are employed in the health care environment as qualified professionals. It is during this time that the newly qualified nurses realise that the 'safety net' of student support from tutors, the Student Representative Council and other university resources, has been removed.

7.5.4 Formal Debriefing

Despite an overfull curriculum, the findings of this study suggest that it is important to include formal debriefing for the student groups, especially on return to the university after clinical placements, or even at regular intervals in the clinical environment. This debriefing could be carried out in small groups and facilitated by a psychologist or a final year psychology student so as not to overburden the nurse educators. It may also be useful to have an objective, uninvolved person on hand, like the aforementioned psychologist, to provide debriefing to the nurses. The debriefing sessions could follow

a loose programme where discussions are held about pertinent issues like death and dying, support for family members of patients and even support of peers. Students could also make suggestions of what to discuss, based on what they have experienced during their clinical placement.

7.5.5 "Educating the Educated"

A recommendation aimed at creating awareness amongst the staff could include a workshop presented by the nursing students for the staff. The students could create teaching sessions that involve role-plays, discussions, and even debates, in an attempt to illustrate to the staff members what they have to deal with on a daily basis. This could be an opportunity to introduce some humour, where appropriate, in order to create an atmosphere of co-operation and camaraderie. The impetus behind this student-facilitated teaching is to show the staff exactly what situations the nursing students find themselves in and what skills they need to be equipped with in order to deal with these situations and build resilience. It would also be a good opportunity for the student nurses (from all the years of study) to build confidence in the arena of presentations, especially as the teaching sessions will be aimed at the nurse educators and clinical staff.

7.6 RECOMMENDATIONS FOR FURTHER RESEARCH

It is recommended that this study is continued in the form of a longitudinal study, over three years. One way to do this would be to identify the resilience levels of fourth year students during their final year of study and just prior to entering their community service year. Any peaks and troughs in their resilience levels could be investigated and appropriate resilience-building measures implemented, with resilience scores being assessed following the interventions.

A longitudinal study on resilience could also be carried out amongst the other levels of undergraduate nursing students. The scores could be assessed on commencing the course, and at the beginning and end of every year. The resilience scores could also be tested at the beginning and end of each new speciality, like psychiatry and midwifery. The study could also perhaps be extended to include the identification of specific coping mechanisms amongst students during specialised placements and how to build upon current coping skills.

7.7 CONCLUSION

The global, and South African, health care environment, is a complex mix of change, especially regarding technology and medications, hierarchical lines of management, interpersonal conflict, economic considerations and, of course, patients and their families who are at the mercy of their health care providers. When a nursing student commences his/ her training, he/ she enters their new occupation with past life experiences and, in some cases (especially in South Africa), socio-economic stressors. Some nursing students in South Africa do not have the support that is so clearly needed during their training, and some are also responsible for supporting other family members.

Creating resilient, hardy and positive nurses should be a mandate of all nursing education institutions, especially in the South African context. Nursing students need to be equipped with ways to build and sustain resilience levels, in order to cope with the many challenges that are their reality, whether due to workplace stress, academic stress or socio-economic stress.

It has been established that resilience is not, as previously thought, a fixed trait that a person is either born with or not, but rather a dynamic skill that can be developed and built upon (Sanders, 2015; Tusaie & Dyer, 2004 and Hodges et al., 2005).

Resilience can help prevent attrition from nursing courses and, as such, should be encouraged and developed.

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ANNEXURES

ANNEXURE 1: CONNOR-DAVIDSON RESILIENCE SCALE

Connor-Davidson Resilience Scale 25 (CD-RISC-25) ©

OFFICE USE ONLY:

INSTITUTION

Demographic data: please mark an "x" in the applicable box for each section.

Gender:

Male ☐

Female ☐

Age:

< 18 years ☐

18-20 years ☐

21-25 years ☐

> 25 years ☐

Year of study:

First year ☐

Second year ☐

Third year ☐

Fourth year ☐

Home language:

isiZulu ☐

isiXhosa ☐

isiNdebele ☐

Setswana ☐

Siswati ☐

Tshivenda ☐

Xitsonga ☐

Pedi ☐

Sesotho ☐

English ☐

Afrikaans ☐

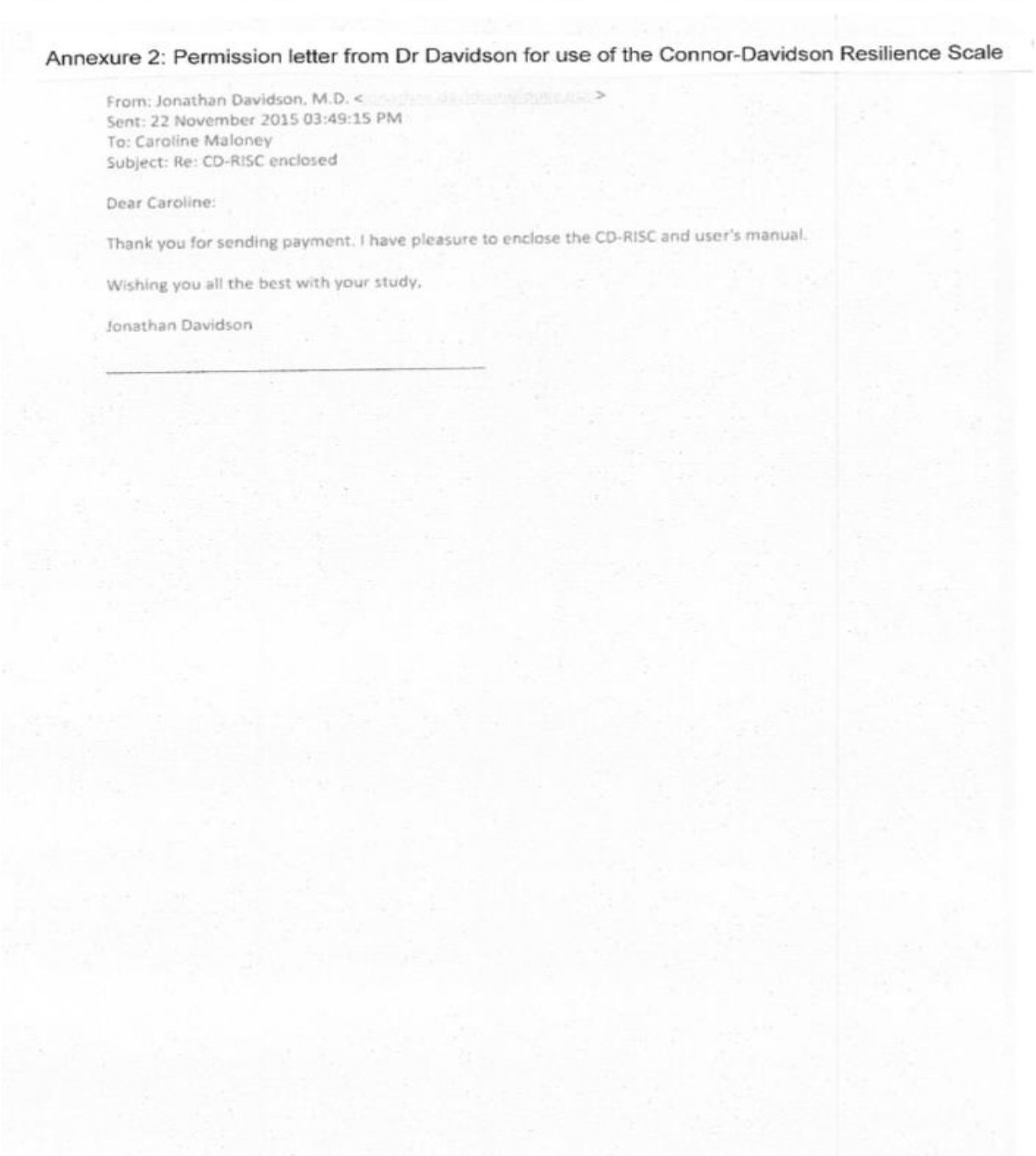
Other ☐

*For each item, please mark an "**x**" in the box below that best indicates how much you agree with the following statements as they apply to you over the last **month**. If a particular situation has not occurred recently, answer according to how you think you would have felt.*

		not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1	I am able to adapt when changes occur.	☐	☐	☐	☐	☐
2	I have at least one close and secure relationship that helps me when I am stressed.	☐	☐	☐	☐	☐
3	When there are no clear solutions to my problems, sometimes fate or God can help.	☐	☐	☐	☐	☐
4	I can deal with whatever comes my way.	☐	☐	☐	☐	☐
5	Past successes give me confidence in dealing with new challenges and difficulties.	☐	☐	☐	☐	☐
6	I try to see the humorous side of things when I am faced with problems.	☐	☐	☐	☐	☐
7	Having to cope with stress can make me stronger.	☐	☐	☐	☐	☐
8	I tend to bounce back after illness, injury, or other hardships.	☐	☐	☐	☐	☐
9	Good or bad, I believe that most things happen for a reason.	☐	☐	☐	☐	☐
10	I give my best effort no matter what the outcome may be.	☐	☐	☐	☐	☐
11	I believe I can achieve my goals, even if there are obstacles.	☐	☐	☐	☐	☐
12	Even when things look hopeless, I don't give up.	☐	☐	☐	☐	☐

		not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
13	During times of stress/crisis, I know where to turn for help.	☐	☐	☐	☐	☐
14	Under pressure, I stay focused and think clearly.	☐	☐	☐	☐	☐
15	I prefer to take the lead in solving problems rather than letting others make all the decisions.	☐	☐	☐	☐	☐
16	I am not easily discouraged by failure.	☐	☐	☐	☐	☐
17	I think of myself as a strong person when dealing with life's challenges and difficulties.	☐	☐	☐	☐	☐
18	I can make unpopular or difficult decisions that affect other people, if it is necessary.	☐	☐	☐	☐	☐
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	☐	☐	☐	☐	☐
20	In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	☐	☐	☐	☐	☐
21	I have a strong sense of purpose in life.	☐	☐	☐	☐	☐
22	I feel in control of my life.	☐	☐	☐	☐	☐
23	I like challenges	☐	☐	☐	☐	☐
24	I work to attain my goals no matter what roadblocks I encounter along the way.	☐	☐	☐	☐	☐
25	I take pride in my achievements.	☐	☐	☐	☐	☐

ANNEXURE 2: PERMISSION LETTER FROM DR DAVIDSON TO USE THE CONNOR-DAVIDSON RESILIENCE SCALE



Annexure 2: Permission letter from Dr Davidson for use of the Connor-Davidson Resilience Scale

From: Jonathan Davidson, M.D. <
Sent: 22 November 2015 03:49:15 PM
To: Caroline Maloney
Subject: Re: CD-RISC enclosed

Dear Caroline:

Thank you for sending payment. I have pleasure to enclose the CD-RISC and user's manual.

Wishing you all the best with your study,

Jonathan Davidson

ANNEXURE 3: INFORMATION LETTER FOR PARTICIPANTS – CONNOR-DAVIDSON RESILIENCE SCALE

INFORMATION LETTER FOR STUDENT SURVEY

Good day,

My name is Caroline Maloney and I am currently studying at the University of the Witwatersrand pursuing a Masters Degree in Nursing Education. The title of my research study is: Measuring and building resilience in undergraduate nursing students in South Africa. The purpose of the study is to explore the degree of resilience among undergraduate nursing students and ways of building resilience, in order to inform future interventions.

I would like to invite you to be a part of this study. You were selected via a total sample of the current degree nursing students registered in all years of study of the Baccalaureate programme, leading to registration as a Nurse, at the University of the Witwatersrand.
Participation will require you to complete a self-assessment form to determine your resilience levels over the last month. This should take no more than half an hour to complete and will be carried out during 'on duty' time.

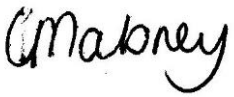
To maintain confidentiality and anonymity, you will not be referred to by name; a code will be used instead to protect your identity. You have the right to choose whether or not to participate in this study and you may withdraw your consent at any stage without facing any negative consequences or penalties.

Your participation would be greatly appreciated and should you have any questions or clarifications please feel free to contact me on 0823060952 or via email cazz120@hotmail.com. Should you have any concerns about any aspects of this study or you wish to report any problems, please contact the following:

Dr S.J. Armstrong
Department of Nursing Education

Sue.Armstrong@wits.ac.za
Tel: (011) 114883039

Prof P. Cleaton-Jones
(Chairperson, HREC Medical)
Tel (011) 717 1252

Signature: 

Mrs Caroline Maloney

ANNEXURE 4: CONSENT FORM FOR PARTICIPANTS FOR CONNOR-DAVIDSON RESILIENCE SCALE

MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA**:** Caroline Maloney (Masters Degree in Nursing: dissertation)

I hereby confirm that I have been informed by the researcher: Caroline Maloney, about the nature of her study entitled: Measuring and building resilience in undergraduate nursing students in South Africa.

I have received, read and understood the written information sheet regarding the study.

I am aware that the results of the study, including personal details and the answers I give will be anonymously processed into a study report and all information will remain confidential and there will be no penalty or loss of benefits resulting from my responses or participation.

I may, at any stage, without prejudice, withdraw consent and participation in the study and there will be no penalties or loss of benefits to my withdrawal.

I have had sufficient opportunity to ask questions and, of my own free will, declare myself prepared to participate in this study.

Participant:

....

Signature Date and time

ANNEXURE 5: SEMI-STRUCTURED INTERVIEW GUIDE

MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA

Semi-structured Interview Questions:

1) How do you think a nursing student could protect and build him/ herself up against stressful experiences in nursing?

   Probes:

   - With regards to communicating with others?
   - Resolving or avoiding conflicts?
   - Seeking information about how to do this?
   - Anything else?

2) What do you think would assist a nursing student to “bounce back” after a stressful or unpleasant experience in nursing?

   Probes:

   - Sharing with others?
   - Assisting others?
   - Being included in decision making?
   - Anything else?

ANNEXURE 6: INFORMATION LETTER FOR PARTICIPANTS FOR SEMI-STRUCTURED INTERVIEWS

INFORMATION LETTER FOR SEMI-STRUCTURED INTERVIEWS

Good day,

My name is Caroline Maloney and I am currently studying at the University of the Witwatersrand pursuing a Masters Degree in Nursing Education. The title of my research study is: Measuring and building resilience in undergraduate nursing students in South Africa. The purpose of the study is to explore the degree of resilience among undergraduate nursing students and ways of building resilience, in order to inform future interventions.

I would like to invite you to be a part of this study. You were selected via a representative sampling framework of the undergraduate nursing students currently following the Baccalaureate programme leading to Registration as a Nurse at the University of the Witwatersrand.

Participation will involve a semi-structured interview to give you the opportunity to share your views and experiences regarding the topic mentioned above. The interview will be informal and should last between 45 minutes to an hour. I will also seek your permission to digitally record the interview in order for me to analyse the information from the discussion.
The tapes will be kept under lock and key for two years if the study is published and for six years if the study remains unpublished, after which time the tapes will be destroyed.

To maintain confidentiality and anonymity, you will not be referred to by name; a code will be used instead to protect your identity. You have the right to choose whether or not to participate in this study and you may withdraw your consent at any stage without facing any negative consequences or penalties.
You also have the right to not answer questions if you feel uncomfortable.

DEFINITIONS:

Student nurse: For the purpose of this study a student nurse is a person registered for an undergraduate nursing degree.

Resilience: Resilience refers to the ability to 'bounce back' after adversity, to maintain function and recover rapidly. This is done in healthy, non-harmful ways. Resilience is a dynamic skill that assists people to function above the norm despite stress and adversity.

Your participation would be greatly appreciated and should you have any questions or clarifications please feel free to contact me on 0823060952 or via email cazz120@hotmail.com. Should you have any concerns about any aspects of this study or you wish to report any problems, please contact the following:

Dr S.J. Armstrong
Department of Nursing Education
Sue.Armstrong@wits.ac.za
Tel: (011) 114883039

Prof P. Cleaton-Jones
(Chairperson , HREC Medical)
Tel (011) 717 1252

Mrs Caroline Maloney

Signature: 

ANNEXURE 7: CONSENT FORM FOR PARTICIPANTS FOR SEMI-STRUCTURED INTERVIEWS

MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA: Caroline Maloney (Masters Degree in Nursing: dissertation)

I hereby confirm that I have been informed by the researcher: Caroline Maloney, about the nature of her study entitled: Measuring and building resilience in undergraduate nursing students in South Africa.

I have received, read and understood the written information sheet regarding the study.

I am aware that the results of the study, including personal details and the answers I give will be anonymously processed into a study report and all information will remain confidential and there will be no penalty or loss of benefits resulting from my responses or participation.

I may, at any stage, without prejudice, withdraw consent and participation in the study and there will be no penalties or loss of benefits to my withdrawal.

I have had sufficient opportunity to ask questions and, of my own free will, declare myself prepared to participate in this study.

Participant:

....

Signature Date and time

ANNEXURE 8: CONSENT TO DIGITAL RECORDING DURING SEMI-STRUCTURED INTERVIEW QUESTIONS.

MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA: Caroline Maloney (Masters Degree in Nursing: dissertation)

I .....consent to being interviewed and I understand that this interview will be recorded for the sake of accuracy and reliability.
I understand that consent is voluntary and that once these records are completed and have been utilised for the purpose of this study, they shall be destroyed.
I further understand that if any of my comments made during the interview are used in the research report the quotes will be anonymous.

Participant:

....

Signature Date and time

ANNEXURE 9: ETHICS COMMITTEE APPROVAL FROM INSTITUTION A - CLEARANCE CERTIFICATE NO M160425

Annexure 9: Ethics committee approval from Institution A – clearance certificate no M160425

R14/49 Ms Caroline Maloney

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M160425

NAME: (Principal Investigator)	Ms Caroline Maloney
DEPARTMENT:	Nursing Education University of the Witwatersrand Durban University of Technology
PROJECT TITLE:	Measuring and Building Resilience in Undergraduate Nursing Students in South Africa
DATE CONSIDERED:	06/05/2016
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Dr Sue Armstrong and Mrs Hilary Thurling
APPROVED BY:	Professor P Cleaton-Jones, Chairperson, HREC (Medical)
DATE OF APPROVAL:	05/08/2016

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary in Room 10004, 10th floor, Senate House/2nd Floor, Phillip Tobias Building, Parktown, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in April and will therefore be due in the month of April each year.

CMaloney
Principal Investigator Signature

Date 10/08/2016

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

ANNEXURE 10: INSTITUTIONAL RESEARCH COMMITTEE APPROVAL FROM INSTITUTION B

Annexure 10: Institutional Research Committee approval from Institution B

Directorate for Research and Postgraduate Support
Durban University of Technology
Tromso Annexe, Steve Biko Campus
P.O. Box 1334, Durban 4000
Tel.: 031-3732576/7
Fax: 031-3732946
E-mail: moyos@dut.ac.za

17th June 2016

Ms Caroline Maloney
c/o Department of Nursing Education
University of the Witwatersrand

Dear Ms Maloney

PERMISSION TO CONDUCT RESEARCH AT THE DUT

Your email correspondence in respect of the above refers. I am pleased to inform you that the Institutional Research Committee (IRC) has granted full permission for you to conduct your research "Measuring and Building Resilience in Undergraduate Nursing Students in South Africa" at the Durban University of Technology.

Kindly note, that the committee requires you to provide proof of full ethical clearance prior to you commencing with your research at the DUT.

We would be grateful if a summary of your key research findings can be submitted to the IRC on completion of your studies.

Kindest regards.
Yours sincerely

PROF. S. MOYO
DIRECTOR: RESEARCH AND POSTGRADUATE SUPPORT

ANNEXURE 11: EXAMPLE OF A TRANSCRIPT - PARTICIPANT A (4) 4

Caroline Maloney - Masters Institution A Fourth Year Students 29 March 2017 Participant 4

Caroline Maloney: Good morning, this is the 29th of March, we are at Institution A and I am with a fourth year student. I am going to start, okay? So, my first question is "How do you think a nursing student could protect and build themselves up against stressful situations in nursing?"

Participant 4: Okay, that is a very interesting question (laughs) because I don't think I was very prepared when I came into nursing, it was nothing like I thought it would be, it was so much harder and it took a lot more out of me than I anticipated. So, I think adequate preparation, if you actually know what to expect, because I think a lot of people came in not having a clue what they were going to do so I think if I actually knew beforehand what I was really getting myself into it would have helped a great deal and, maybe as well, preparation classes because, I mean, it is a big leap from coming from high school to University. The work is different, the way they want you to do the work is different, you have to learn a different type of thinking, so I don't know if would be possible to equip a student with such skills when they come in early on, so that, you know, and also, I think making it clear to them that they can come to you for help 'cos a lot of people suffer alone, in silence. So just making it known that you are available for help and for anything, I think making it, like, a comfortable environment so that I would approach you or whoever it would be that is responsible for students so that I would get help, ja.

CM: Okay, so that is very interesting. So, in terms of communicating you have mentioned that now, just in terms of making a person, so, you have obviously got to fourth year now and you weren't prepared, so how did you reach that point where you are regarding stressful situations, how have you protected yourself over the years?

P4: I think I always had to remind myself of what my goal was. So, I always had to keep on going back to "I want to do nursing, this is why I want to do it, I want to finish successfully", so I think a constant reminder of why you are doing what you are doing.

And then, also, support is very important, just being able to talk about your problems to someone so, whatever your support system is, mine is friends and family and sometimes the lecturers, you could go to them and be, like, " this is what I am going through", just being able to vent it, I think was very important 'cos, I mean, the programme is the way it is and they can't change a lot of things. IT is a hectic programme, it is full, you barely have time for yourself, so I think just being able to speak about it and at times you just have to be, like, " I'm tired, I am very tired, I don't know how I am going to continue" but the outside support also motivates you as well and it also has to come from within as well, I think. Ja, so it goes back to knowing what you want and why you are here and reminding yourself of that goal.

CM: Okay. It is hard, hey? (laughs)

P4: (Laughs) Yes.

CM: Okay, so if you were, you have spoken quite a lot about here in this academic environment, if you think of the hospital environment with stressful situations, what is a good way, it may be the same answer but is there anything different you want to say about the clinical environment regarding preventing or protecting yourself against stressful situations?

P4: Okay, um, I think also as well the first time that you go to the hospital is a very stressful time and looking back on it now it was very small but at that time it was huge for me 'cos you are, like, "I'm trying to learn how to do a BP" so when I went to the wards for the first time I had to do a BP on a patient and this patient wasn't the friendliest of people (laughs) so I did his BP and it didn't read correctly the first time or the second time and the third time he got angry and started shouting and I was just in shock, I didn't know what to do, I felt bad 'cos this is a person's life and everything so I feel as though, perhaps, one thing that they could do to protect us in the wards or help us is maybe when it is our first day, be there with us more 'cos, I mean, they came and they checked on us but they weren't really with us. I think if the lecturers had come in and just taken us through what you do in the ward 'cos this is someone that you know, it is not someone who is unfamiliar, it would help to ease that. And, just stressful situations in the ward, how can you prepare yourself? That is a tough question 'cos you never know what you are going to face but I think just being as competent as you can be in your set of skills that you know and helping to the best of your ability in that

situation might help and you will have to feel things ‘cos people pass away, things happen, so I think maybe a debriefing session as well, so after we go to the wards just really talk to us about our experiences and what we go through and maybe from that they will also be better able to prepare other students.

CM: Okay, good, so, some debriefing? Okay, great, thank you. So, I want to ask you a little bit, it is still related to the first question but just regarding conflict management, have you ever been involved in that and how do you think a person can, sort of, get through that kind of thing and still protect themselves against it, with conflict management, if it is someone else that had conflict and you helped them or conflict that you were involved in? I don’t need to know the incident, just how did you come around that?

P4: Okay, with conflict it is also, I think it depends on who you are and how you handle it ‘cos some people are not good with conflict at all and for me, when I get into conflict, I have to step away because sometimes I get very angry and that clouds everything. So, with regards to conflict management, I think that is actually a good method to teach people, step away, step away from the situation before it gets out of hand. Because you will experience conflict. I have experienced it in the wards between Nurses and Doctors, between us and the senior Nurses, between us and the Doctors as well, so you need to step away and realise that we are all there for the patient ‘cos most of the conflict I have been involved in was regarding the patient and what was the right thing to do at the time and I felt that it was the right thing to do at the time with my knowledge and with what I was seeing from the patient and later on, for example, I had conflict with the Doctor and later the Sister told me that “No, I feel that you did do the right thing” so I would say that it is definitely something that needs to be taught, I think we need to know how to manage it because when you get to the wards you don’t really know how to talk to people because people don’t interact, it is something that I have seen, so it’s….

CM: May I ask, do you do a section at any stage in your training that regards conflict management or the interpersonal skills and those sort of things?

P4: Not really, now that you mention it. We don’t have “How do you resolve conflict?”, we only have….

CM: Like, what is it? Aggression vs asserting oneself and that kind of thing, you don't really have that?

P4: No, we have only done "Effective Communication Skills" so you know how to get my point across to you and you know what I expect from you but we haven't really spoken about conflict, so that would actually be really nice, to know how to handle it with different levels, between peers, seniors and so on.

CM: So, with your thing, where you say you need to calm down first, is that something you have just taught yourself?

P4: Yes.

CM: Something you have just learnt as you have gone along?

P4: Yes, 'cos I think, we are doing nursing so they teach you all these things, you do psychology so you learn about these coping skills and you end up applying them to yourself.

CM: Applying them, okay. Would that be something useful in first year, do you think?

P4: I think it would be very useful in first year, I think there is space for it and it would be the best place 'cos you need to start young and when they first come in 'cos it doesn't help that you don't know how to handle conflict now then you teach me in fourth year after I have been using the same style all the years that is probably ineffective.

CM: Okay, sure. That's good. Um, just regarding building yourself up, do you think there is adequate information or do you know where to go to look for support on how to build oneself up? I am still on the same question, regarding the first question, to protect or build yourself up against stressful experiences, do you know how to seek information on how to protect yourself?

P4: Yes, I do know how to find information. I think that is one good thing the University first did for us when we arrived. During "O Week" they kept on telling us about Student Support, "The Student Support is there, these are the programmes they offer, if you feel like you are depressed come to Student Support, if you feel like you need help with your school work, come to Student Support" so I know exactly where to go.

CM: So you feel that is available?

P4: Yes.

CM: Okay, great. My second question is “What do you think a nursing student could do to bounce back?” So, if they are faced with stressful experiences, which they will be, how does one bounce back from those stressful experiences? What do you think you could advise a nurse student to help them bounce back?

P4: Okay, I think what I have told myself over the past four years now would be “ ‘This, too, shall pass’, so no matter what I am going through I know it is only going to last for a certain season and this period will come to an end” so I think that is what has taken me this far and I also think that, once again, you need to look and think what your end-goal is. You want to become the most competent practitioner that you can be, you want to finish your degree successfully, so keep on reminding yourself of those things. Ja, I think that is what has helped me bounce back, because there will be many times when you fail, like, I remember in first year we all failed a certain test (laughs), it happens, it is sad and hard...

CM: It’s a shock!

P4: Yes but you have to get back on the horse so you have to be, like, “ Okay, this is part of it”, know that it is normal, people fail but you can get over it, ja.

CM: Yes. So, just in terms of, like, reaching out to other people, do you think that is something that could be done or are you better, sort of, dealing with it on your own? Do you think there is a place for other people?

P4: I think there is definitely a place for other people because sometimes it just gets a bit much even if you are the strongest person in the world it gets a bit much, you just want to hear someone say “No, it will be alright, it will be okay” or just to give you advice on something ‘cos most of the time I do try to handle it alone ‘cos I don’t want to bother people, I think it is, like, sometimes a bother, but sometimes it has been too much and I have had to talk to somebody and say “ This and this is what is happening” and then they are able to reassure me.

CM: Are you ever the person that someone else comes to?

P4: Yes.

CM: Okay, and do you think that process, by helping other people, does that assist people to be, I am going to use the word resilient, that's what I am looking at, does it increase your resilience or…?

P4: I think it does because there is, like with students in first or second year, I know a second year now, I met her last year when she was in first year and things were so hard for her.

CM: Shame.

P4: And I remembered how hard it was for me and I would just keeping on motivating her, telling her "No, I know you are tired of hearing this" and she always tells me that I tell her that she will be fine (laughs) because I tell her all the time that she will be fine because it seems like it is really hard but you will pass through it and she made it through first year, she is in second year now and I tell her " Look, second year is hard, you are going to sit down and you need to study anatomy and it is going to be very difficult, it is going to be hard to wrap your head around the concepts but you need to do it and everything will be fine as long as you dedicate this amount of time to doing this work and so on" and, ja, it helps me as well because it is good to see that my experience can help someone else and motivates me to carry on as well, ja, 'cos someone is also looking up to me and thinking (laughs) " She made it this far so I can do it".

CM: Okay, that is great, thanks. And then, the last thing I want to ask just regarding bouncing back, um, now that you are fourth years you are obviously being involved more in decision-making, well clinically and I am not sure how much academic decision-making, but do you think that plays a role in any kind of resilience building or if, you know, you are involved in making decisions, can you talk about that a little bit for me, decision-making, do you think it is something that helps to improve your resilience or do you think it is, how do you think it works?

P4: Definitely, I think it would have an impact on your resilience because when you have to make a decision concerning something important you have to have your facts together and you have to be sure and you have to be confident in whatever it is that you decide so I think that the process of decision-making also helps us to be more confident in ourselves as practitioners and that builds up our confidence and that will build up our resilience, I am guessing, because eventually we are going to start having

faith in our decisions ‘cos, you know, last year we were a bit wishy-washy, you know, should I do this, we kind of know the right answer but we are not sure of ourselves but by involving us in these processes it builds us up personally as that influences how well we handle situations ‘cos now we have confidence in ourselves, that we can do it, that “I can make it” so that helps.

CM: So, you think confidence is very important, hey?

P4: I think it is very important, especially in this setting.

CM: Ja, ja.

P4: Because people depend on the decisions you make and if you are not confident in your decisions you might not do it and it could have been an intervention that might have helped somebody so it is something that needs to be built, that’s all.

CM: Good, okay, thank you. That is my questions finished. Do you have anything else that you would like to say or any other insight you want to provide for me?

P4: Any other insight? I would just say that nursing will build up your resilience whether you like it or not! To stay in this course requires that you have a certain degree of resilience already, I think, and as you progress you just find that your tolerance keeps on growing and growing and growing because I look at myself in first year and I look at myself now and I see a remarkable difference. I couldn’t have handled anything then that I am handling right now, you know, two years ago.

CM: That is one of the things I am wondering about, it is not really a part of the study but it is “Why do some people bounce back and some not?” Why do some leave? You know, that is the question and obviously there are a lot of factors involved there, it could be a lot of social things, it could be just to do with people not liking nursing but it is just interesting that some people do build resilience as they go on and some people just actually don’t.

P4: Ja, we have lost a lot of classmates.

CM: Ja, along the way and that is the crux, you know, what can be done to help try and catch those ones that slip through the gaps , you know, so that is why, that is part of the reason I am looking at this is, um, it is not actually, I am not looking at how many people leave but I am looking at what makes some people more resilient than others,

you know? And that is the question! But that is very good insight and I appreciate it very much. So, anything else?

P4: Nothing else, thank you.

CM: Thank you for today.

ANNEXURE 12: EXAMPLE OF A COMPLETED CONNOR-DAVIDSON RESILIENCE SCALE - PARTICIPANT BB (3) 3

Annexure 12: Example of a completed Connor-Davidson Resilience Scale – participant BB (3) 3

BB (3)3 ✓ ✓

MEASURING AND BUILDING RESILIENCE IN UNDERGRADUATE NURSING STUDENTS IN SOUTH AFRICA

72%

Connor-Davidson Resilience Scale 25 (CD-RISC-25) ©

OFFICE USE ONLY:
INSTITUTION B

Demographic data: please mark an "x" in the applicable box for each section.

Gender:

Male ☐
Female ☑

Age:

< 18 years ☐
18-20 years ☐
21-25 years ☒
> 25 years ☐

Year of study:

First year ☐
Second year ☐
Third year ☒
Fourth year ☐

Home language:

isiZulu ☒
isiXhosa ☐
isiNdebele ☐
Setswana ☐
Siswati ☐
Tshivenda ☐
Xitsonga ☐
Pedi ☐
Sesotho ☐
English ☐
Afrikaans ☐
Other ☐

*For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last **month**. If a particular situation has not occurred recently, answer according to how you think you would have felt.*

		not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1	I am able to adapt when changes occur.	☐	☐	☐	☐	☒
2	I have at least one close and secure relationship that helps me when I am stressed.	☐	☐	☐	☐	☒
3	When there are no clear solutions to my problems, sometimes fate or God can help.	☐	☐	☐	☐	☒
4	I can deal with whatever comes my way.	☐	☐	☐	☒	☐
5	Past successes give me confidence in dealing with new challenges and difficulties.	☐	☐	☐	☐	☒
6	I try to see the humorous side of things when I am faced with problems.	☐	☐	☐	☒	☐
7	Having to cope with stress can make me stronger.	☐	☐	☐	☐	☒
8	I tend to bounce back after illness, injury, or other hardships.	☐	☐	☐	☐	☒
9	Good or bad, I believe that most things happen for a reason.	☐	☐	☐	☒	☐
10	I give my best effort no matter what the outcome may be.	☐	☐	☐	☐	☒
11	I believe I can achieve my goals, even if there are obstacles.	☐	☐	☐	☐	☒
12	Even when things look hopeless, I don't give up.	☐	☐	☐	☐	☒

		not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
13	During times of stress/crisis, I know where to turn for help.	☐	☐	☐	☒	☐
14	Under pressure, I stay focused and think clearly.	☐	☐	☐	☒	☐
15	I prefer to take the lead in solving problems rather than letting others make all the decisions.	☐	☐	☐	☐	☒
16	I am not easily discouraged by failure.	☐	☐	☐	☐	☒
17	I think of myself as a strong person when dealing with life's challenges and difficulties.	☐	☒	☐	☐	☐
18	I can make unpopular or difficult decisions that affect other people, if it is necessary.	☒	☐	☐	☐	☐
19	I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	☒	☐	☐	☐	☐
20	In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	☒	☐	☐	☐	☐
21	I have a strong sense of purpose in life.	☐	☐	☐	☐	☒
22	I feel in control of my life.	☒	☐	☐	☐	☐
23	I like challenges	☐	☐	☐	☐	☒
24	I work to attain my goals no matter what roadblocks I encounter along the way.	☐	☐	☐	☐	☒
25	I take pride in my achievements.	☒	☐	☐	☐	☐