Cape Peninsula
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THE MINDFULNESS OF STUDENT NURSES DURING INTERPERSONAL COMMUNICATION WITH COLLEAGUES AND PATIENTS IN CLINICAL FACILITIES IN THE WESTERN CAPE

By

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DECLARATION

I, Hester Maria Wiese, declare that this study, *The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape,* represents my work and that this dissertation has not previously been submitted as a whole or in parts for academic examination towards any qualification. Unless where it states otherwise with reference and acknowledge the work presented is solely my own work.

30 June 2024

Signed **Date**

ABSTRACT

A great deal of attention has been paid to mindfulness during interventions by healthcare professionals as well as the importance of mindfulness during interpersonal communication. At a Higher Education Institution (HEI), clinical mentors reported that students when placed in clinical practice, lacked interpersonal communication skills during interaction with colleagues and patients. It seems that they exhibited compassion fatigue, which could be linked to them having a lack of mindfulness. The purpose of this study was to investigate the extent (level) of mindfulness of junior and senior students, from which guidelines were developed for them on being mindful during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape. The study departed from the assumption that mindfulness in a human being (student) consists of three dimensions (psychological, physical, and spiritual) adapted the theoretical perspective of Neil Bierbaum (2018), that assumes that three key elements of having deliberate awareness, being non-judgmental and being non-reactive are included in the three dimensions of mindfulness.

A quantitative, descriptive study was completed. From the accessible population (N=600), the sample of respondents who took part in the study was junior nurses (1st and 2nd years), and senior nurses (3rd and 4th years) (n=204). A self-report, 6-point Likert scale questionnaire was developed from literature with 49 items. Respondents voluntarily participated in the study and completed the instrument (questionnaire) in around 30 minutes. Pre-testing of the questionnaire indicated no shortcomings in the instrument. Ethical principles on the right to privacy, confidentiality, anonymity; justice, and equality, beneficence, protection and harm, written informed consent, the freedom of choice and withdrawal from the study, were adhered to. Data analysis included descriptive and inference statistics. A factor analysis, followed by a Pearson Chi-square Test (x^2), and Cochran-Armitage Trend Test, was performed, to determine significant differences ($p < 0.05$) between the responses of junior and senior students and their mindfulness during interpersonal communication. The principles of reliability and validity were adhered to during conducting the research. The factor analysis rotated nine factors that included the three dimensions of mindfulness and linked to the elements. Some similarities and differences were found between the responses of the two groups regarding the three dimensions of mindfulness.

Responses on most items in the *psychological dimension* in the element of *deliberate awareness*, indicated high mean values ($\tilde{x} \geq 4.5$), on the 'somewhat to totally agree' scale ratings. Juniors were more alike (SD ≤ 0.7) in their mindfulness on pay full attention to the charge sister when she delegates certain duties to me listening to what a patient said without interruption, aware of the thoughts of a patient to be empathetic. Seniors were more alike (SD ≤ 0.7) in their mindfulness on being willing to connect with those who are in distress due to their own personal challenges and more diverse in their mindfulness levels (SD ≥ 1.2) on enjoying routine tasks in the clinical area with their colleagues. In the element of being *non-judgemental*, seniors were more alike in

their mindfulness levels regarding put themselves in the position of other students when struggling to perform procedures and not judging a patient when repeatedly asking the same questions. In the element of *non-reactive*ness senior students were remarkably diverse in their responses (SD ≥ 1.2) on keep their emotions intact when they were insulted by others, while juniors were diverse in their mindfulness levels on standing back and letting a colleague give feedback on behalf of a group while struggling.

The responses in many items addressed in the *physiological dimension*, indicated that the both the juniors and senior groups were mindful in the element *of deliberate awareness*, with mean values of ≥ 4.50 (somewhat to fully agree) with normal standard deviations (> than 0.7 and < 1.2). However, in the element of *being non-judgemental*, seniors and juniors differed in their mindfulness levels. Seniors had a narrow distribution of responses around their mean value, on listening without being judgmental if a new way of performing a procedure was explained (≤ 0.7). Senior respondents found to be more alike in their mindfulness levels (SD 0.65), oppose to their juniors with a normal distribution of responses (SD > 0.70).

In the element of *deliberate awareness* in the *spiritual dimension*, junior and student respondents obtained mean values of ≥ 4.50 that was interpreted as a positive outcome of mindfulness (somewhat to totally agree on items). Juniors were more similar in their mindfulness levels, strengthening their weaknesses (SD 0.68) than their counterparts with a normal distribution of responses around the standard deviation (SD 0.40). On the other hand, seniors were more similar in their mindfulness levels on being able to change the way they interacted with colleagues during interpersonal communication, by evaluating their own communication techniques (SD 0.65), oppose to the normal distribution of their counterparts (0.82). The responses on the element of being *non-judgmental* were addressed in the spiritual dimension, and both groups indicated moderate mean values and high standard deviations on being at ease to accept the failures of other students. This was different from the responses of both groups having a high mean value of ≥ 4.50 and low standard deviation (≤ 0.7) on showing compassion for peers by, for instance, advising them when they struggle to hear a blood pressure. In the element of *non-reactiveness*, high mean values and normal standard deviations were obtained on the responses on doing a task even if students would rather not do it, showing neutrality in a conflict situation between two colleagues arguing without all facts at hand, and tolerance of others' opinions even if it differs from theirs.

It was concluded that student nurses of the different year levels, were reasonably mindful during interpersonal communication with their colleagues and patients. However, there was a slightly negative shift in awareness of seniors on importance fundamental aspects of mindfulness from being juniors. It could have been expected that senior students have had internalised the fundamental elements of mindfulness during interpersonal communication, from them being

juniors. Junior and senior students should have a similar conceptualisation of the elements and dimensions of mindfulness during interpersonal communication, which could enhance a person-centred approach during interaction with others in daily clinical practises.

Keywords: mindfulness, interpersonal communication, student nurses, patients, clinical facilities

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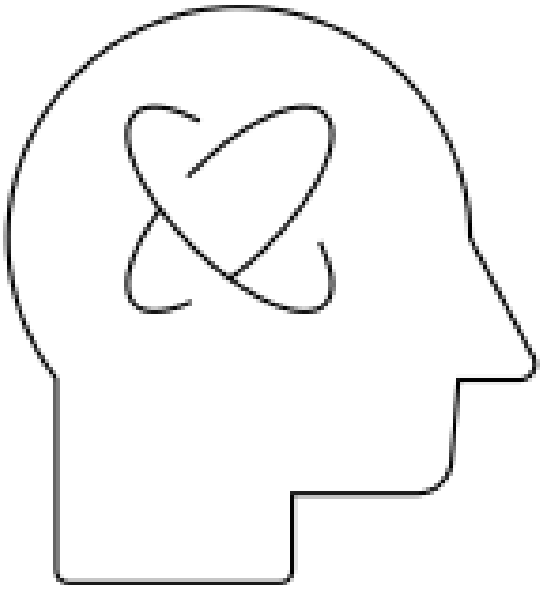
LIST OF ABBREVIATIONS

E.G:	For example (Exempli Gratia)
ET AL:	And others (et alia)
HEI:	Higher education institution
JR:	Junior (students)
NS:	Non-significant
SANC:	South African Nursing Council
SD:	Standard deviation
SR:	Senior (students)
WIL:	Work integrated learning



“Mindfulness is a HABIT

it is a SKILL that can be LEARNED

What’s DIFFICULT IS TO REMEMBER to be MINDFUL” –

John Teasdale (Rock, 2009: n.d.)

CHAPTER 1
ORIENTATION TO THE STUDY

1.1 INTRODUCTION

In the past decade, particular attention has been given to mindfulness in healthcare delivery, and interventions have been examined scientifically, for their essential role in the overall well-being of healthcare professionals (Harvard Health, 2023: n.d.; Moll, Frolic & Key, 2015:37). In a health service environment, mindfulness is particularly important, since it can reduce anguish as well as burnout among individuals (Perilli, Perazzini, Bontempo et al., 2022:1; Amutio-Kareaga, Garcia-Campay, Delgado et al., 2017:1). Mindfulness during interpersonal communication further assists in promoting good mental health by reducing stress and anxiety, increasing a person's self-confidence, and ensuring improved relationships and communication with others (Chen, Huang & Lin, 2023: n.d.). Mindfulness continues to be a valuable resource for psychological well-being and intergroup relations of individuals (Oh, Sarwar & Pervez, 2022: n.d.), which promotes their mental and physical health (Failla, Marino, Bernardelli et al., 2022: n.d.).

It is stated that mindfulness is the awareness of the self and others while being non-judgemental and non-reactive (Pérez-Peña, Notermans, Desmedt et al., 2022:1; Pratscher, Rose, Markovitz et al., 2018:1206). A mindful individual, such as a nurse, should demonstrate an attitude of openness, curiosity, patience, and acceptance while paying close attention to unfolding patient situations (Correia, 2021:2; Amutio-Kareaga et al., 2017:2-3). Student nurses should be aware of their thoughts, feelings, emotions, and sensations during a difficult clinical situation with a patient, for example by not reacting or feeling overcome, by it (Bednarek, Kowalczuk & Kucharzyk, 2023: n.d.; Pratscher et al., 2018:1206). Findings of a study on emotions and mental health show that mindfulness that incorporates awareness, is a distinctive forecaster of emotional closure (Russell, Bird, McNamara et al., 2023: n.d.). A meta-analysis in a study indicates a positive correlation between mindfulness and mental health (Xu, Zhu, Chen et al., 2023: n.d.).

Practising the core values of the nursing profession results in a mindful, caring nurse (Lycke, Airosa & Lundh, 2022:171; Al-Banna, 2017:169). By analysing their professional values, mindful nursing practitioners can make informed and authentic decisions (Prinsloo & Jooste, 2022: n.d.). Student nurses should demonstrate their professional values such as showing empathy, during interpersonal communication (Wate, 2022: n.d.; Gray, 2021: n.d.). Mindful individuals can make better ethical decisions and have less self-deception, self-serving reasoning, and unconscious bias (Rezapour-Mirsaleh, Aghabagheri, Choobforoushzadeh et al., 2022:1; Raglan & Schulkin, 2014:168).

It seems that the concept of effective mindfulness during interpersonal communication, has been insufficiently studied (Khukhlaev, Novikova & Chernaya, 2022:5). There is also a growing interest in ways that mindfulness can influence interpersonal communication (Khukhlaev et al., 2022:5) and the importance of focused attention to the present moment (Reina, Kreiner, Rheinhardt et al., 2022:1; Pratscher et al., 2018:1206). In nursing team relationships, effective interpersonal communication is instrumental in delivering health service, addressing the healthcare needs of patients, and promoting patient satisfaction (Fresh Essays, 2022: n.d.).

Being mindful of one's interpersonal communication can enhance the quality of relationships and social interaction (Abed, Abed & Shackelford, 2023: n.d.; Virginia Commonwealth University, 2022: n.d.; Wrench, Punyanunt-Carter & Thweatt, 2020: n.d.; Hawkes & Neale, 2019:20). In addition, it can provide a feeling of camaraderie with colleagues and patients which could result in better patient care (Georgiadis, 2021: n.d.; Kaur, 2020:19). Warmling and De Souza (2018:994) concur that adequate interpersonal communication between healthcare professionals can further enhance performances in nursing practice. Effective interpersonal communication with patients is vitally important because it enhances individualised care where the nurses take the time to understand the patient's concerns and the difficulties they experience (Kaur, 2020:21). The self-confidence of student nurses during interpersonal communication can improve through being mindful (Sonal, 2020: n.d.), that can develop them as future leaders and benefit their overall well-being (Krishman, 2022: n.d.; Smith, 2019: n.d.).

1.2 LITERATURE

The concept of mindfulness dates to the teachings of Buddha Sakyamuni about 2500 years ago and is one of the eight pathways of Buddhist practice (Vail, 2023: n.d.). Originally it was practised in Asian and later further developed into meditation and enlightenment. It requires a person to observe, at some distance, what they think and feel at a certain point in time, without judging the situation as good or bad (Ling, 2022:342; Liu, Liu & Ni, 2018:231).

1.2.1 Interpersonal communication versus interpersonal relationships

A clear departure around (i) the relationship of interpersonal communication versus interpersonal relationships, (ii) combining mindfulness and interpersonal communication, and (iii) holistically focused mindfulness, is essential, to provide the context of the study. Interpersonal communication is the process between individuals during which information, feelings and meanings are exchanged (Terra, 2023: n.d.). Studies on being mindful during interpersonal communication highlight the importance of understanding oneself as well as others (Chen, Liu, Zhou et al., 2022:12; Ramasubramanian, 2017:317).

Interpersonal relationships are the deep connections we feel in different areas of our lives e.g., family, friends, romantic partners, or colleagues and are a key element to psychological as well

as physiological well-being (Klein, 2020: n.d.). Studies have validated the positive association between interpersonal relationships, awareness, and psychological well-being regarding mindfulness (Sun, 2023: n.d.). It was found that nurses have better interpersonal relationships and interpersonal communication when they have reduced levels of verbal defensiveness, anger, hostility, and aggression (Werner, 2022: n.d.; Hawkes & Neale, 2019:20-21).

Students, as newcomers to the profession are introduced to a multidisciplinary team as well as patients with whom they need to interact and communicate effectively, to avoid e.g., inaccurate care plans and delays in care, which could result in dissatisfaction among patients (Shahid & Thomas, 2018:1). Effective interpersonal communication skills, incorporate showing empathy and a non-judgmental person-centred care attitude (Williamson, 2023: n.d.).

1.2.2 Combining mindfulness and interpersonal communication

Attuned communication refers to as mindfulness-based skills, it is mindful reflexivity to attune to others' communication assumptions and reattend to one's own cultural and habitual internal personal assumptions (Brody, Scherer, Turner et al., 2018:516). This could include rising behaviour, emotions, thoughts, and attitudes. By being mindful, an individual is more aware of others' thoughts, emotions, and welfare, therefore more empathetic and does not respond through habit but more in a supportive way (Cura & Atay, 2023:92). Thereby, mindful individuals feel less threatened and are less defensive during interpersonal communication in a stressful situation (coping with stress) because they can disengage their thoughts, emotions, and desires (be resilient), which enable them to promote a secure sense of self (Hawkes & Neale, 2019:20-21). By being mindful, the student nurses, and later being professional nurses, listen more attentively to colleagues and their patients, are aware of their mental processes, are non-judgmental in their thinking and develop more effective interpersonal communication skills with others (Alkhaqani, 2022:1; Amutio-Kareaga et al., 2017:11). This could be due to them having an open and receptive awareness of their own inner experiences.

1.2.3 A holistic focus in mindfulness

The Buddha's pathways include the "right mindfulness", which refers to a holistic and diligent awareness of, and attentiveness to the activities of the body (sensations or feelings, the mind and conceptions, and ideas) (Rahula, 2023: n.d.). According to the American Psychological Association, and the origin of mindfulness, there is empirical support for the holistically focused, benefits of mindfulness (Travers, 2022b:1; Naik, Harris & Forthun, 2013:3). Holistic awareness implies that every person has physical, emotional, social, economic as well as spiritual needs that should be addressed (Oberholzer, 2022:1; Ventegodt, Kandel, Erwin et al., 2016:1935).

Mindfulness is viewed from different perspectives and this study viewed mindfulness with reference to the psychological, physiological, and spiritual dimensions of an individual.

The *psychological dimension* of being mindful includes notably reduced stress levels, reduced anxiety and negative emotions, increased control over deliberate thinking (mind), increased mental flexibility, a focus on working memory, decreased distracting thoughts, emotional responsiveness, increased responsive interpersonal behaviour, as well as increased empathy, compassion, and attentiveness to other person's emotions (Crumpler, 2022:1; Naik et al., 2013:3). Shapiro (2020:9) categorises the three vital psychological elements of mindfulness; (i) intention – how we use our heart as our compass that directs and reflects our most profound hopes and values; (ii) attention – training and grounding our mind in the present moment; (iii) attitude – paying attention with a positive attitude of compassion and curiosity (Harvard Health, 2023: n.d.; Sutton, 2019: n.d.).

The *physiological dimension* entails a board scope of activities, and while a person is in contact with others, mindfulness could contribute to better interpersonal communication (Terra, 2023: n.d.; Pratscher et al., 2018:1206). Furthermore, team members' errors in patient treatment could decline by being mindful, and them providing better patient outcomes (Wani, AlGhassab, Alsalmi et al., 2018:1). Interpersonal communication between two or more persons such as e.g., a nurse and a patient, is usually face-to-face interaction. It is not just 'what' is said that is of importance, but also 'how' it is said – as facial expressions, tone of voice and general body language also impact communication (Cherry, 2022a: n.d.; Bajracharya, 2018: n.d.). In any healthcare profession, it is vital to have an effective interpersonal communication system, regarding listening, asking, and giving feedback (Phillpott, 2019: n.d.). Being mindful could enhance the immune system, lower blood pressure and blood cortisol levels, and resistance to stress-related illnesses such as heart disease (Cherry, 2022a: n.d.). In addition, being mindful can enhance compassion and empathy, a sense of morality, and self-discipline.

The *spiritual dimension* of mindfulness includes increased self-insight and self-acceptance, acceptance of others, and the courage of a person to change (Sullivan, 2022:1). Studies indicate that there is a positive correlation between what a person perceives as adequate interpersonal communication skills and good self-esteem (He, 2022:3; Gürdoğan, Uslusoy, Kurt et al., 2016:501).

1.3 PARADIGM

1.3.1 Meta-theoretical assumptions

This study was conducted within a positivistic paradigm that highlighted the significance of noticeable facts in mindfulness (Polit & Beck, 2022:6). The four components of nursing theory underlined the researcher's view of the person (student, patient, colleague), environment,

nursing (nursing education) and health (being mindful during interpersonal communication (see Point 3.2).

1.3.2 Theoretical assumptions

For the purposes of this study, the perspective of Neil Bierbaum (2018: n.d.) was adopted, and it was assumed that the key elements of mindfulness during interpersonal communication are:

- Having *deliberate awareness* by paying attention on purpose;
- Being *non-judgmental,* not seeing things as good or bad, nor through the filter of personal judgements that is based on past conditioning, but rather seeing things "as they are";
- Being *non-reactive,* as to react is automatic, which implies no choice, and may not necessarily be the best for persons.

The researcher further assumed that:

- Mindfulness leads the mind back to the experience itself, enabling one to attend to the ordinary, the obvious and *thus the present* (Epstein, 1999:835), also during interpersonal communication.
- The level of mindfulness experienced by a person *may be investigated afterwards by having the individual recall their state of mind* when practicing mindfulness,
- The extent or level of mindfulness of a person varies from situation to situation (Conversano, Giuseppe, Miccoli et al., 2020:5),
- Mindfulness refers to the psychological, physiological, and spiritual dimensions of an individual. Mindfulness practices flow from mindful reflections on actions, such as thoughts, images, interpretations, and emotions (psychological), behaviour and sensations (physiological) (Moore, 2022a: n.d.). Authors vary in their focus on the dimensions of mindfulness. Khukhlaev et al. (2022:1) are of the opinion that mindfulness during interpersonal communication, is demonstrated through one's knowledge (psychological), actions (physiological), and values (spiritual). Mertens, Deković, Van Londen et al. (2022: n.d.) further state that interpersonal relationships involve, (cognitive, emotional and attitude factors) psychological, as well as physiological behaviour, and spiritual needs.

1.3.2.1 Operational definitions

Student nurse

A 'student nurse' is a person referred to as a 'learner/student midwife' or a 'learner/student' who is enrolled with a nursing education institution to undergo a nursing programme and is registered with the South African Nursing Council (SANC), in terms of Section 32 of the "Nursing Act of 2005" (SANC, 2020: n.d.). For this study, the terms 'student nurses' or 'students' were used interchangeably. The first- and second year student nurses also referred to as 'juniors' or the

‘junior group’. A senior is a person with a higher rank than oneself (Collins Dictionary, 2023: n.d.) and the third- and fourth year student nurses also referred to as ‘seniors’ or the senior group.

Interpersonal communication

Interpersonal communication includes the exchange of information, notions, ideas, and feelings. The exchange of information can happen verbally, non-verbally as well as in writing (Terra, 2023: n.d.). In this study, interpersonal communication refers to as the exchange of information between students, colleagues, and patients in numerous ways.

Mindfulness

Mindfulness is a term best explained as paying attention while being *in the present moment* (assumption in Point 1.3.2) (Jones, 2022: n.d.). In this study, mindfulness refers to the student being *non-judgmental*, using the elements of *being aware* and *non-reactive* actions, and paying attention to the *psychological, physiological, and spiritual dimensions* of a person as a holistic being.

This study investigates the extent to which students agreed on being mindful in a specific context, their clinical practice. The term ‘the extent’ refers to the scale of something, e.g., the extent of mindfulness (noun), while the term ‘level’ refers to achievement (noun), e.g., achieving a higher level of mindfulness (Askdifference, 2021: n.d.). For purposes of this study, the levels (being deliberately aware, non-judgmental, and non-reactive) in the three dimensions of mindfulness will represent the extent (definitely not mindful, not mindful, rarely mindful, somewhat mindful, mindful, and completely mindful) to which a student nurse is mindful during interpersonal communication (Table 3.2).

Colleague

A colleague refers to a person with whom the student nurse is working within a professional nursing clinical setting (Collins Dictionary, 2023: n.d.). A colleague included a classmate, peer, other categories of nurses, or other healthcare professionals of the health team.

Patient

A patient is an individual who is under the care or treatment of a healthcare professional, such as a nurse (Cambridge Dictionary, 2023: n.d.). Patients typically seek healthcare attention due to illness, or injury, which needs evaluation and management. patient can also symbolise an individual who demonstrates accessibility and active engagement in their healthcare, working with healthcare professionals to make well-informed choices regarding their overall health (Galletta, Piazza, Meloni et al., 2022: n.d.). For this study, a patient referred to an individual with whom a nurse is mindful during interpersonal communication in a clinical facility.

1.4 RESEARCH PROBLEM

Findings of an American study (Bailey, 2016: n.d.) indicate the crucial need for implementing mindfulness during interpersonal relationships in a healthcare setting, e.g., hospital. A strong opinion is raised that if staff members were more mindful of improving interpersonal communication with patients in an American healthcare setting, almost 2000 patient deaths could have been avoided, along with malpractice costs (James, 2022: n.d.; Bailey, 2016: n.d.).

A study done in Iran, confirms the challenges faced by student nurses around interpersonal communication with educators, patients, as well as other healthcare personnel (Alkhaqani, 2022:1; Jamshidi, Molazem, Sharif et al., 2016:3). Student nurses have felt that patients do not take them seriously and that the communication with nurse educators was difficult when they as students felt anxious when they were being evaluated (Madsgaard, Røykenes, Østervold et al., 2022:1; Öztürk, Çilingir & Şenel, 2013:2230). Because of high stress levels, student nurses may experience a reduced ability to acquire knowledge and skills in both the clinical and theoretical areas of their training, which could result in them not being accomplished, mindful, skilled, and empathetic nurses (Motsaanaka, Makhene & Ndawo, 2022: n.d.; Young, 2018:5).

Clinical mentors at the main and two rural campuses of a Higher Education Institution (HEI) in the Western Cape were tasked to supervise students. They mentioned on observing that the first- to fourth-year students in clinical facilities, lacked interpersonal communication skills with colleagues and patients. Mentioning was also made of suffering from compassion fatigue. Compassion fatigue leads to exhaustion and the loss of care and empathy and therefore counteracts being mindful (Smith, 2022:1; Moll et al., 2015:37). The research statement was that it was therefore unclear to what extent first to second year student nurses (juniors), and third to fourth year student nurses (seniors) at an HEI were mindful during interpersonal communications with colleagues and patients, and how they should be supported.

The research questions that arose from the problem were:

- To what extent are student nurses mindful during their interpersonal communication with colleagues and patients in clinical facilities during their training programme?
- How should student nurses improve their mindfulness during interpersonal communication with colleagues and patients in clinical facilities?

By being mindful, the student nurse, and ultimately as a professional nurse, could listen more attentively to others (as well as to their patients), being aware of their mental processes, being non-judgmental in their thinking, and developing more effective interpersonal communication competencies (Alkhaqani, 2022:1; Amutio-Kareaga et al., 2017:11).

1.5 PURPOSE OF THE STUDY

The purpose of the study was to investigate the mindfulness of junior and senior students; from which guidelines for student nurses were developed, that could improve their mindfulness during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

1.6 OBJECTIVES OF THE STUDY

The objectives of this study were to:

- Determine the extent (level) to which student nurses were mindful during interpersonal communication in clinical facilities.
- Develop guidelines for student nurses on being mindful during interpersonal communication with colleagues and patients in clinical facilities to improve their mindfulness.

Three hypotheses were set in the study (Chapter 3).

1.7 RESEARCH DESIGN

The design of this study was a non-experimental, descriptive, quantitative design. A quantitative design is an orderly, objective, formal process of acquiring information regarding a specific phenomenon (Mohajan, 2021:52), such as the mindfulness of student nurses during interpersonal communication within the nursing practice. In obtaining information about the research topic, numerical data was used and the relationships between the variables of the topic explored. In a descriptive study design, the variables are described to answer the research question(s) and to outline the relationships between variables (Ahmed, 2022:3). A qualitative design, on the other hand, would have had a more interactive approach as the researcher would have played a more active role in obtaining data from a participant and departed from broader, open-ended questions regarding the phenomenon (Dyar, 2021:194).

1.8 POPULATION AND SAMPLE

A population includes all components such as individuals, substances, and objects for inclusion in a research study (Grove, Gray & Burns, 2022:46; Polit & Beck, 2022:141). The accessible population was the actual population that the researcher was able to use in the study (Downing, 2018:334). The population was all first-, second-, third- and fourth year student nurses (N=600) registered at a HEI in the Western Cape for the four-year nursing programme under Regulation 425 of 1985 (Regulations Relating to the Approval of and the Minimum Requirements for the Education and Training of a Nurse (General, Psychiatric and Community) and Midwife leading to Registration (South African Nursing Council, 1985). The accessible population served *as the total sample* of all student nurses registered for this four-year nursing programme at a HEI institution in the Western Cape (n=600). As total sampling was used, all had an equal chance of being selected for the study (Grove et al., 2022:257; Ravikiran, 2022:2).

1.9 METHOD

The survey was conducted between 17 August 2020 and 3 October 2020.

1.9.1 Preparation of the field

Ethical clearance and permission were obtained from the necessary authorities (see Point 1.11). The researcher had scheduled Teams meetings with the Director of the HEI, of the main and two rural campuses, and relevant Heads, to explain the purpose and process of the research project.

1.9.2 The instrument

For this study, an online self-report data collection instrument was used (Annexure D). Respondents had to rate their perceptions of their extent of agreement on the items addressing mindfulness during interpersonal communication on a 6-point Likert, a summated rating scale. The instrument consisted of the demographic and biographical information (3 items – nominal) in Section 1, and Section 2 (49 items – ordinal) that addressed the three dimensions with the three elements of mindfulness. The responses ranged from "totally disagree", "disagree", "somewhat disagree", "somewhat agree", "agree" to "totally agree" (Maree & Pietersen, 2020a:208-209). The pre-testing of the instrument was done on 17 August 2020 with four student nurses (one from each year level) for content validity. Four nurse educators, one from each level, also scrutinised the instrument for face ad content validity. No changes were made to the instrument. The students who partook in the pretesting of the instrument were excluded in the main study, due to already being familiar with the content.

1.9.3 Data gathering

Data was collected, taking into consideration the academic year plan (2020) of the respondents. Students who wanted to partake clicked on a link send to them in an email, and they firstly completed the informed consent form (Annexure B). They were transferred automatically to the instrument with items. They could complete items within 30 minutes, in their own time and place, without impacting the offering of their teaching programme (it was in the recess period).

1.9.4 Data analysis

NCCS Statistical Software Programme (2021: n.d.) was used by a statistician who conducted the data analysis. Descriptive statistics were presented in tables and figures referring to the number of responses per item (n), mean values ($\tilde{x}$) and standard deviations (SDs). A factor analysis was conducted, which rotated the items into factors for the phenomenon of mindfulness during interpersonal communication (Pietersen & Maree, 2020a:267). The Pearson chi-square (two-sided) test (x^2) was used to accept or reject the set null hypotheses, on the claim that no relationship existed between two sets of data or variables (student groups and mindfulness). A significant level (probability to reject the null hypothesis if it is true) of $p < 0.05$ was used. A

Cochran-Armitage Trend test with the Continuity Correction (Z) further refined the results obtained by the Pearson chi-square test, if the results accepted the null-hypotheses.

The findings led to the development of guidelines (Chapter 5) using the method of Muller (2006:204-205).

1.10 RELIABILITY AND VALIDITY

The reliability and validity of the research process followed, are discussed in Chapter 3.

1.11 ETHICAL PRINCIPLES

The researcher's primary responsibility was to protect the rights of the respondents who were taking part in a research study. Ethical clearance was obtained from the Faculty of Community and Health Sciences Research and Ethics Committee (CPUT/HW-REC 2020H8) at a HEI for the study where the researcher was a registered student (Annexure E). Permission to conduct the study was further obtained from the Western Cape Department of Health (Reference number: WC 202005_024) (Annexure I), after which the Director of the HEI with three campuses were contacted (Annexure H).

The rights of respondents were protected included the right to privacy, confidentiality, and anonymity; the right to justice and equality; the right to protection and truthfulness; and the right to freedom of choice and withdrawal (Jooste, 2018:307), as discussed in more detail in Chapter 3.

1.12 SIGNIFICANCE OF THE STUDY

Mindfulness can lead to an increase in learning and creative (mental) possibilities that can enhance nursing practises for student nurses during interaction with patients. Mindfulness enables a person to have an open mind, adjust priorities and beliefs, and allows for better problem-solving skills by freeing one from distractions and giving one a new angle to reflect on (Henriksen & Gruber, 2022:129). The anticipated benefits of the proposed study for student nurses were that they; could become more self-aware and mindful in their interpersonal communication with others. This could improve their decision-making abilities in their professional and personal environments. Another benefit of the study was the development of guidelines for student nurses on being mindful during interpersonal communication with colleagues and patients in clinical facilities. The actions in the guidelines could be incorporated into the curriculum content for student nurses and orientation of students and staff in the clinical settings.

1.13 CONCLUSION

Chapter 1 outlined an introduction and background of the topic that led to a clear problem statement that was appropriate to be explored through a quantitative study. From the problem statement, two research questions were formulated that corresponded with the two objectives of the study. The purpose was aligned with the topic under investigation. The design was debated and found appropriate for investigating the phenomenon and total sampling chosen. It was indicated that an instrument would be developed from the literature, an appropriate data collection method employed through a survey and data analysed with the support of a statistician. This could contribute to the reliability and validity of the research process.

CHAPTER 2
LITERATURE

2.1 INTRODUCTION

The purpose of a literature review is to evaluate what is known about a specific area of interest (Schurink, Roestenburg & Fouché, 2022:93; Polit & Beck, 2022:107). By doing a comprehensive literature review, the existing body of knowledge as well as gaps in the literature on the field of interest can be identified (Polit & Beck, 2022:98; Harvey & Land, 2016:49).

The literature review of this study was focused on mindfulness during interpersonal communication of student nurses, with colleagues and patients in clinical facilities. The health science databases that were searched for literature included but were not limited to the following: EBSCO's Medline, Cumulative Index for Nursing and Allied Health Literature (CINAHL), Google Scholar, National Research Foundation, Nursing Reference Center Plus, PubMed, Sabinet Reference, Sage Research Methods, Research Gate and Google Chrome. Journals that were searched included the Journal of Evidence Based Medicine and Healthcare, Nurse Care Open Access Journal, Global Academic Journal of Humanities and Social Sciences, Journal of Clinical Medicine, International Journal of Health Studies, International Journal of Caring Sciences, Journal of Hospice and Palliative Nursing, Elsevier, BMC Medical Education, Journal of Nursing Management, Health SA Gesondheid, International Africa Journal of Nursing and Midwifery and the Scientific World Journal. The keywords used in the search were mindfulness, interpersonal communication, student nurses, patients, nursing education and clinical facilities.

The literature study aimed at compiling a general summary of the latest findings of the research completed about the phenomenon, while a systematic review would have focused on answering a specific question linked to evidence-based practices (Panse, 2022: n.d.). The data collection questionnaire (instrument), compiled by the researcher, was based on the literature in Chapter 2. Items compiled for the instrument are indicated in the literature. Some items were compiled by integrating more than one part of a section in the literature and therefore indicated more than once.

2.2 OVERALL THEORETICAL DEPARTURE OF MINDFULNESS

The literature is presented regarding mindfulness within the theoretical framework of Neil Bierbaum (2018: n.d.) that focuses on the *three dimensions of mindfulness (psychological, physiological, and spiritual)* (Nilsson, 2022:1; Bierbaum, 2018: n.d.) (Figure 2.1); that incorporated the three key elements of mindfulness (Bierbaum, 2018: n.d.) namely; (i) having deliberate awareness; (ii) being non-judgmental; and (iii) being non-reactive during interpersonal communication (Figure 2.2).

2.2.1 Overview of dimensions of mindfulness

Studies support the positive nature of mindfulness. The development of positive traits, to enhance mental health can be initiated with mindfulness (Xu et al., 2023: n.d.). Studies have shown that the three (psychological, physiological as well as spiritual) dimensions of mindfulness can improve students' practices, e.g., student nurses (Olson, Hansen & Vermeesch, 2020: n.d.; Roslan, Ismail, Zaremohzzabieh et al., 2022:1944). The three dimensions (psychological, physiological, and spiritual) of mindfulness, addressing specific aspects that are interwoven and similar to pieces of a puzzle (holistically), rather than stand-alone aspects (Figure 2.1).

Different concepts are associated with describing the meaning of the dimensions of mindfulness. Mindfulness is both a responsive awareness and attention, to current events and experiences. A person's degrees of mindfulness vary from situation to situation (Conversano et al., 2020:5). Nilsson (2022: n.d.) drafted a four-dimensional framework of mindfulness with psychological, spiritual, social and biological (physiological) dimensions. In addition, Oberholzer (2022: n.d.) describes a three-dimensional framework that includes spiritual, social and physiological dimensions. For *this study,* the focus *was on the psychological, physiological, and spiritual dimensions of mindfulness*.

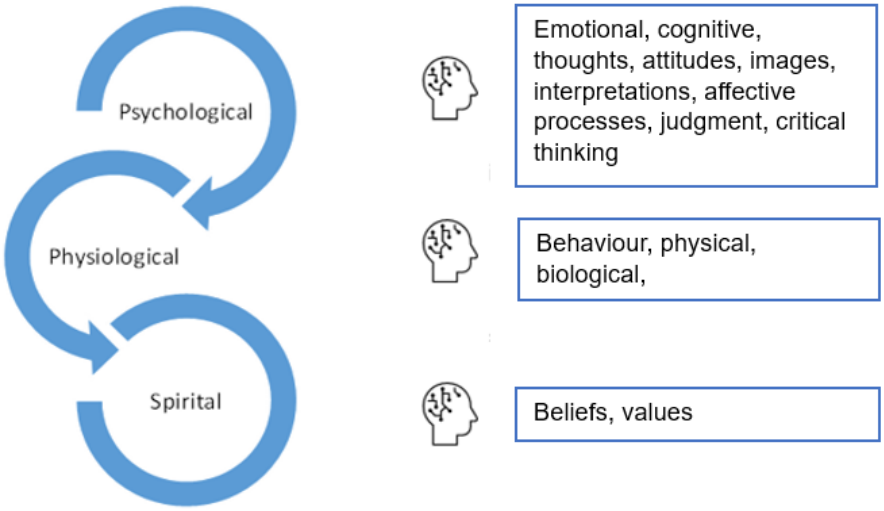


Figure 2.1: Three dimensions of mindfulness in this study

Jones, Bodie and Hughes (2019:838) address *the psychological dimension* by mentioning that mindfulness assists persons in controlling difficult emotions. This dimension of mindfulness speaks to cognitive-affective processes of interpersonal communication. Cognitive processes include thinking, problem-solving, judging, remembering as well as knowing (Cherry, 2022a: n.d.). In this study, the psychological dimension of mindfulness is seen as cognitive, mental, and affective processes, while the physiological dimension is viewed as pertaining to physical, behavioural and biological processes (Figure 2.1).

Mindfulness suggests an intensified awareness of *physical* (sensory) stimuli such as noticing e.g., the feeling of bodily sensations, breathing and what one is seeing and feeling at a specific moment in time (Scott, 2022: n.d.). This is linked to mindful practices that flow from *mindful reflection on actions* (behaviour, thoughts, sensations, images, interpretations, and emotions) (Moore, 2022a: n.d.).

The third dimension, the spiritual dimension, includes concepts such as religion, values, and beliefs (Figure 2.1).

2.2.2 Elements of mindfulness

Mindfulness incorporates three elements in the dimensions of mindfulness (Figure 2.2). This refers to perceiving, relating, and acting with awareness (psychological, physiological, and spiritual dimensions), being non-judgmental (psychological, physiological, and spiritual dimensions), and non-reactivity (psychological, physiological and spiritual dimensions) to personal experiences (Travers, 2022b: n.d.; Koren, 2017:1710).

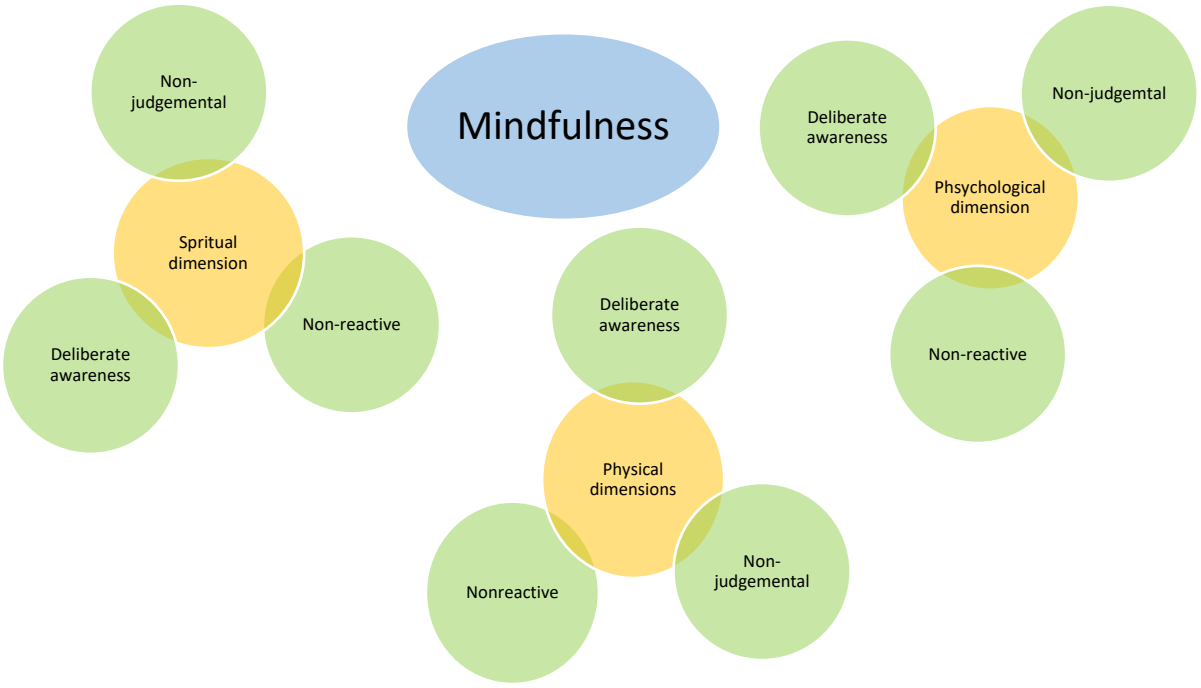


Figure 2.2 Elements in the dimensions of mindfulness

Students should demonstrate the elements *of being aware* (paying attention deliberately), *being non-judgmental* (seeing things as they are and not necessarily as good or bad), and *non-reactive* (not reacting automatically) in all three dimensions, during interpersonal communication with colleagues and patients (Bierbaum, 2018: n.d.). Bierbaum compares the three elements of

mindfulness to exercising. Once persons start becoming mindful, they will discover naturally that mindfulness is easier the more they use it (Bierbaum, 2018: n.d.).

To be *self-aware,* persons must be cognisant of their mindset, which includes feelings, opinions, actions as well as their immediate surroundings (Cherry, 2023b: n.d.). A person who is not self-aware will be unable to experience mindfulness (Phan, Ngu, Chen et al., 2020:13). This means that to be truly self-aware, one must see yourself and your limitations objectively and clearly, through reflection and self-examination (Ackerman, 2021a: n.d.). Younas, Rasheed, Sundus et al. (2020: n.d.) state that student nurses who are self-aware have increased confidence levels, are more competent in managing demanding situations and provide competent care to patients from various backgrounds.

To judge or be judged can be a positive or negative experience (Willroth, Young, Tamir et al., 2023: n.d.). *Non-judgmental* as a part of being mindful, implies that one should not judge others, irrespective of circumstances, situations, background, or differences (Phan et al., 2020:13). To be non-judgmental therefore implies that a healthcare professional can deliberately choose to separate, for example, from a person's destructive behaviour from who they are as a person (Torres, 2022: n.d.). Studies indicate that student nurses who receive mindfulness-based training during their studies could be *non-reactive*, as they can consider others' viewpoints, show more compassion and are less emotionally distressed during stressful interpersonal situations (Ardenghi, Russo, Luciani et al., 2022:2).

Mindfulness is not always intrinsic within a person but is sometimes prompted and formed by situations (Reina & Kudesia, 2020:78). A study by Yang, Gao and Ji (2023:1), addresses all three elements of being mindful, through addressing self-regulation, which is associated with improvement in academic performance and psychological health. Improvement in academic performance is particularly beneficial in the clinical learning area and could ultimately cultivate the love for lifelong learning and career development. Mindfulness, results from the ability of self-regulation (attitudes and emotions) as well as from metacognitive beliefs (drive resources into self-regulation), mental fatigue (draws resources away from self-regulation) and situational appraisals (influence how much self-regulation is needed) (Reina & Kudesia, 2020:78). The latter related to the assumption in Chapter 1 that interpersonal relationships involve cognitive (mind) and emotional aspects (Mertens et al., 2022).

2.3 DIMENSIONS OF MINDFULNESS

Literature found that mindfulness interventions for nurses or guidelines for mindfulness can improve the negative impact that nursing training can have on a student nurse's well-being (McVeigh, Reid, Carswell et al., 2021:1; Sartorius, 2018: n.d.). Nurses can learn to manage

challenging and stressful situations effectively by practicing mindfulness. The elements integrated in mindfulness have been discussed under Point 2.2.2.

A critical review of the literature relating to the effectiveness of mindfulness and meditation on nurses confirms that meditation, in addition to the positive impact of mindfulness, have positive effects *on psychological, physiological, and spiritual well-being* (Tang & Braver, 2020:1). *Firstly*, the psychological benefits include reduced anxiety, stress, and depression (physical), and improve mood regulation and an overall sense of well-being. Mindfulness is viewed as a shield against depressive and anxiety disorders (Li, Ju, Hofmann et al., 2023: n.d.). *Secondly*, the physiological benefits include lowered cortisol levels, improved immune responses as well as lowered blood pressure (Mamede, Merkelbach, Noordzij et al., 2022:15; Van der Riet, Levett-Jones & Aquino-Russell, 2018:202). *Thirdly*, the benefits of spiritual well-being include but are not limited to a decrease in unhealthy stress and reactivity and an increase in a sense of belonging, self-confidence, creativity, and mind-body connection (Stokes, 2021: n.d.).

2.3.1 Psychological dimension of mindfulness

Although the concept of mindfulness is 2,500 years old, the psychological dimension thereof has only been regarded as important in the last 25 to 30 years (Vail, 2023: n.d.). The psychological dimension of mindfulness in this study refers to synonymous terms such as cognitive, mind or mental (Figure 2.1).

Mindfulness can be viewed from a cognitive dimension as a person's interest in the present moment (Do, Hoang, Nguyen et al., 2023:318). This interest will inspire a non-judgmental openness and acceptance (spiritual and psychological beliefs), which can facilitate calmness (Konte, 2022:12-13; Van der Riet et al., 2018:201) (Items 9, 39). To be in the present moment means that a person should be consciously aware and committed to the 'here and now' (Perry, 2022: n.d.). It also means that one does not ponder on what was or agonies on what the future might hold (Ackerman, 2021a: n.d.) (Items 34, 35). It was found that student nurses who do not practice mindfulness in their academic lives tend to procrastinate when they need to complete tasks such as studying, completing assessments and so forth, which, in turn, results in poor academic performance (Lina, Yang & Qing, 2023: n.d.; Rozental, Forsström, Hussoon et al., 2022: n.d.). Another study concludes that there is a positive correlation between the sense of consistency and academic performance (Uzdil & Günaydin, 2022: n.d.).

With the psychological dimension of mindfulness, the importance is placed on a person's abilities to be able to *self-regulate* their thoughts and behaviour (Phan et al., 2020:14) (Items 6, 14). If an individual constantly avoids dealing with, for example, difficult memories such as the loss of a loved one, the psychological system becomes weakened, insecure, defensive, and vulnerable (Alberts, 2020: n.d.), which can lead to chronic anxiety, defensiveness as well as depression

(Hwang & Kim, 2022:8). A study conducted with students in mindfulness and psychological distress, states that adolescents who display high levels of mindfulness are less inclined to develop psychological distress (Ma & Fang, 2019: n.d.). Various psychological activities are important for providing safe, effective, and skilled nursing care (Ílaslan, Adibelli, Teskereci et al., 2023:152).

Nurses make use of *decision-making* as a basic psychological activity on a daily basis in their professional lives (Item 21). During the decision-making process, mindfulness influences attention, compassion, and cognitive control (Liu et al., 2018:229). Real, Fields-Elswick and Bernard (2017:503) indicate that various medical professionals have validated mindful practices in decision-making as vital to their clinical practice. It was found that e.g., interpersonal communication and emotions, are important parts of the decision-making process (Indeed Editorial Team, 2023b: n.d.).

To enable a person to make better judgements and decisions, one must master *critical thinking* skills (Katowa-Mukwato, Chitundu, Monde, Maimbolwa & Jere, 2022:65). *Critical thinking* implies the ability to analyse and evaluate evidence and arguments to make informed decisions that forms an integral part of rationality (Katowa-Mukwato et al., 2022:65; Holland, Dooley, Fedock et al., 2017:170). By introducing mindfulness into critical thinking, reflection and observations can be deepened, leading to a clearer understanding of the causes and conditions of phenomena (Skobalj, 2018:1371) (Items 24, 48). It can therefore be said that mindfulness during critical thinking leads to the acquisition of knowledge (Item 21).

Problem-solving must be seen as part of decision-making and critical thinking processes. Student nurses should be encouraged to think critically throughout their theoretical as well as practical education to acquire sufficient problem-solving skills (Yadigar, Emine & Hilal, 2018:1772) (Item 23). Problem-solving involves the identification of a problem and then developing a strategy with the use of a framework to resolve this problem or manage it in the best possible way (MasterClass, 2020b: n.d.) (Items 24, 46). Since problems will differ, different methods will be needed to solve them (Items 23, 25). Mindfulness focuses on the present moment with honesty and curiosity (Item 1), which helps in the progression of problem-solving skills by improving mental flexibility, focus, and understanding (AI and the LinkedIn community, 2023: n.d.). Studies indicate that nursing education institutions should incorporate well-designed simulation training to enable student nurses to develop clinical decision-making, critical thinking as well as problem-solving skills to become more mindful in the clinical area (Ílaslan et al., 2023:152; Abdulmohdi & Mcvicar, 2022:811) (Item 30).

Empathy is a critical trait that enables nurses *to perfect their problem-solving skills* (Williamson, 2023: n.d.) as being empathic will enable them to understand and *'feel'* the personal experience

of a patient (Moudatsou, Stavropoulou, Philalithis et al., 2020:2) (Items 7, 16, 17). *Empathy* makes use of cognitive and emotional processes which allow a person to embrace another person's perspective on a situation (Reniers, Abu-Akel & Seara-Cardoso, 2022: n.d.; Fernando, Skinner & Consedine, 2016:276).

Healthcare practitioners, including student nurses, need to have good interpersonal communication skills to be emphatic. These skills include active listening, responding empathically and being able to apply these skills in different situations (Bird, 2022: n.d.; Dean, Foureur, Zaslawski et al., 2017:2). When one is aware of and accepts an existing situation, it means that a person gets used to a phenomenon (Items 16, 34, 35, 36). This may lead to a decrease in action when a patient needs assistance, preventing an intelligent nurse from helping such a patient (Crevacore, Jacob, Coventry et al., 2023:885).

In addition to the characteristics of empathy, *compassion* means that a person wants to relieve the suffering of others (Item 49). Compassion is an essential characteristic of healthcare professionals; however, it tends to be difficult to maintain compassion in the long run (Baguley, Pavlova & Consedine, 2022:1691; Fernando et al., 2016:276). Additionally, findings indicate that self-compassion increases well-being, resilience, and pleasure, and assists in keeping healthy behaviour (Baldini & Grow, 2022: n.d.).

Compassion originates in the cognitive centers of the brain, which means that one can consciously reflect and improve on decisions and resolutions that need to be made (Hougaard, 2020: n.d.) (Item 21). It is believed that healthcare practitioners who experience empathy and compassion are more effective, and their morale could be higher. Furthermore, patient satisfaction and overall safety can improve (Hofmeyer, Taylor & Kennedy, 2020:6). Findings indicate that self-compassion is associated with meeting personal goals, having better relationships, and healthy ageing (Baldini & Grow., 2022: n.d.).

Cura and Atay (2023:92) state that there is a stronger correlation between the mindfulness levels of student nurses and their level of compassion, than their mindfulness and level of empathy (Item 17). For student nurses to be able to act with compassion, they need to be self-aware. This corresponds with the *assumption in Chapter 1 that, to be a mindful practitioner, it is important to have the self-knowledge to be able to express the core values in nursing, like empathy and compassion* (Rezapour-Mirsaleh et al., 2022:1; Raglan & Schulkin, 2014:168).

An *assertive* healthcare professional and student nurse can communicate their wants and beliefs (Item 17) and express their needs and opinions healthily and confidently without the fear of being judged or alienated (Fouts, 2020: n.d.). Being assertive enhances a person's personal as well as professional life (Travers, 2023a: n.d.). Benefits include an increase in self-confidence,

effective communication techniques, the achievement of personal goals, the confidence to become a great leader and a decrease in stress (MasterClass, 2020a: n.d.). Student nurses use assertiveness in their studies e.g., to get clinical procedures completed and signed off, but do not use it to maintain their workload and manage their health (Bril, Boer, Degens et al., 2022:388) (Item 19). Placing student nurses in realistic simulation scenarios not only exposes them to authentic situations but also provides valuable opportunities to practice and experience assertive communication. Enhancing their communication skills in this context contributes to a boost in self-confidence (Aul, Ferguson & Russo, 2023:264) (Item 38). For a student nurse to master the art of being assertive and self-confident, it is important to also master the skill of being attentive.

Being *attentive* can be described as paying attention or being thoughtful of others (Your Dictionary, 2022: n.d.) (Item 37). Being attentive is to be mindful, observant, and focused (Merriam-Webster Dictionary, 2022a: n.d.). Sleimen-Malkoun, Devillers-Réolon and Temprado (2023: n.d.) are of the opinion that senior participants who listen attentively to recordings are more attentive than youngsters. It was found that younger nurses often have more negative experiences when they interact with patients or members of the healthcare team (Shahoei, Nemati & Valjee, 2022: n.d.; Penque, 2019:39,43). It may stem from their inexperience in managing incidences they still need to learn in their clinical training. A lack of mental and psychological training along with the lack of knowledge and skills can have a negative influence on their learning and therefore also on patient outcomes (Søvold, Naslund, Kousoulis et al., 2021:2; Jamshidi et al., 2016:6).

To display focused *attentiveness* means that a healthcare practitioner needs to pay attention to what the patient is saying but also to what is not said (Epstein, 2018:12, 19 & 29) (Items 15, 16). A scenario can be; A student nurse who is admitting a 16-year-old female patient to the emergency centre with acute abdominal pain of an unknown, notices that the patient is avoiding eye contact when asked about her sexual behaviour. The student nurse puts her pen down, sits next to the patient, maintains eye contact, and calmly asks questions in such a manner that there is room for the patient to expand as well as trust the student (Items 16, 15). A healthcare professional shows attentiveness when he/she can stop e.g., in the middle of the history taking of a patient to make sure that he/she understands (by paraphrasing and reflecting) exactly what the patient is conveying (Item 17) (Cuncic, 2022: n.d.).

For student nurses to possess the ability to be truly attentive, they *must change their ways of thinking and doing* (Item 47). A study conducted on nurses' attunement to patients' meaning of life, reveals that patients have positive experiences when nurses are interested in them being a whole person (Hupkens, Goumans, Derkx et al., 2020: n.d.) (Item 18). In other words, nurses should reflect and be attentive to what the patients are saying and cater for all their needs. Another study found that professional nurses feel more confident in their abilities to fully engage

with patients through effective communication channels whereas student nurses struggle to do so. It was perceived that student nurses, who know medical terminology and are competent in clinical procedures, will be better nurses. They therefore focus on 'soft skills' such as effective communication while 'being present' (attentive) to a patient's needs (Huang & Pun, 2022: n.d.).

The ability of a person to change a certain way of thinking or doing to a more favorable approach is called *cognitive flexibility* (Miller, 2021: n.d.). Flexible thinking is considered to spark new ideas, uplift creative performance, and enable multiple ways to use ideas. This will ultimately assist in balancing goals, stress levels as well as pressures from work and personal life (Sheerha, 2020:2349). In addition, it is confirmed that a person who has high levels of mindfulness has more positive emotions and resilience through cognitive flexibility (Sünbül, 2020:285) (Item 26). For student nurses, this means that they need to be open-minded (Item 28), which will enable them to consider ideas and opinions that might differ from their own (Cherry, 2023b: n.d.). Findings indicate that more courageous student nurses tend to have more cognitive flexibility and positive emotions towards their learning environments (Lee, 2022: n.d.).

A small number of research studies have been conducted regarding the connection between resilience and mindfulness when student nurses are faced with adversity such as workplace stress (Oh et al., 2022: n.d.). Resilience can be defined as being able to 'bounce back' or recover from adverse work (or life) events. Mindfulness and wisdom can result in higher levels of personal resilience and heightened life satisfaction (Kütük, Hatun, Ekşi et al., 2022: n.d.; Moore, 2022b:536).

Interpersonal communication forms an integral part of mindfulness. A healthcare practitioner must possess the ability to listen actively with an open mind while staying focused and non-judgmental on the message given by another person, be it a patient or a colleague (Bird, 2022: n.d.; Dean et al., 2017:2). Good interpersonal communication skills are needed during the progression of decision-making (Zyoud, Hamdan, Alkouri et al., 2022: n.d.; Croskerry, 2017:11) to ensure good patient outcomes. It was found that student nurses interpersonal communication skills were influenced by factors such as life experiences, learning styles as well as cultural effects (Hardie, Darley, Langan et al., 2022: n.d.). In addition, studies have shown that interpersonal communication is multidimensional, and the topic of communication (Item 45) differs between different circumstances and according to communication styles (Höglander, Holmström, Lövenmark et al., 2023: n.d.) (Item 27).

In addition to having good interpersonal communication skills and being mindful and present, all healthcare professionals, including student nurses, should be *curious* (Item 31). Student nurses who are curious and ask questions acquire valuable knowledge and retain more information related or unrelated to the questions they have (Coutts, 2019: n.d.). For example, a student nurse

who asks questions about a certain diagnosis of a patient during a doctor's round in the ward will also learn what the best course of treatment and management for that patient is. Persons often listen with the intent to reply, but if they listen with curiosity and a sense of "wonder" they will avoid coming to a premature conclusion and rather understand fully what the other person is trying to convey (Ferrell, 2018:427-428). Research confirms the importance of developing curiosity in student nurses on attributes such as knowledge, creativity, and insight. However, the same research found that more investigation is needed on best practices for this development (Nadelson, Reed, Massey et al., 2022:7).

Nursing educators should employ strategies to teach student nurses to be mindful during interpersonal communication (Del Vecchio, Moschella, Lanham et al., 2022:289; Huang & Pun, 2022: n.d.). In addition, results revealed that, while the physical and psychological effects of mindfulness-based training are well-documented, there is a clear and pressing need for further research on the impacts of such training on interpersonal communication (Khoury, Manova, Adel et al., 2023: n.d.).

It is suggested that mindfulness not only promotes personal well-being but also has a definite effect on interpersonal communication and aptitudes. Effective communication is imperative for being an effective leader and therefore mindfulness-based training can be a promising instrument for effective leadership development (Arendt, Pircher-Verdorfer & Kugler, 2019:12).

2.3.2 Physiological dimension of mindfulness

Stress occurs when any type of change that causes psychological, physical, or emotional tension is experienced by a person (Waters, 2022: n.d.). All people experience stress from time to time, but it is how a person responds to these stressful situations (Item 13) that influences overall health and well-being (Scott, 2020: n.d.). High stress levels might include the following symptoms: irritability, restless sleeping, low energy levels, being self-critical or critical towards others, difficulty to concentrate, skin rashes, clenched jaw muscles, grinding teeth at night. headaches or migraines (Ackerman, 2021a: n.d.). Recent research indicate that distress tolerance plays a role as an essential transdiagnostic element in emotional disorders, that can mediate the relationship between mindfulness and anxiety or depression (Li et al., 2023: n.d.).

Nursing involves high stress levels that can, for one, lead to *physical conditions* such as hypertension, gastrointestinal conditions as well as immunodeficiency disorders (Colino, 2022: n.d.; Alsaqri, 2017:2). Changes in weight and menstruation patterns, as well as frequent colds and susceptibility to minor ailments, are physical signs of high stress levels (Scott, 2020: n.d.). A study on university students reveals that physiological stressors are prevalent with these students and that they use negative ways to deal with their stresses such as sleeping too much, which ultimately also affects their psychological health (Attia, Ibrahim, Elsady et al., 2022: n.d.)

(Item 13). Students in a university setting cope with stress and resilience daily. This requires an understanding of oneself, as well as an understanding of others through mindful interpersonal communication (Chen et al., 2022:12; Ramasubramanian, 2017:317). High stress levels among student nurses contribute to burnout and psychological distress, which includes depression and anxiety as well as failing physical health (Hwang & Kim, 2022:7; Sartorius, 2018: n.d.). Student nurses experience unique stressors during their nursing training, which can thus harm their mental (psychological) health. A recent study indicates that mindfulness-based interventions can reduce anxiety levels among nurses effectively (Alkhawaldeh, Khawaldeh, Mrayyan et al., 2024: n.d.; Sartorius, 2018: n.d.).

Research studies indicate that student nurses experience high *stress* levels from the beginning of their training, being afraid to hurt a patient or use certain equipment. The sources of these stress levels can originate in the clinical areas and include amongst other things, a lack of confidence in performing procedures (Mofatteh, 2021:36). These could be the *fear* of doing something that might cost a patient their life, the caring for sick and/or dying patients and uncertainty about how to use medical equipment (Hwang & Kim, 2022:7; Karaca, Yildirim, Ankarali et al., 2017:32). Similarly, it has been found that students who lack clinical practice experience *anxiety* and *depression* which in return have a negative influence on their academic performance (Hwang & Kim, 2022:7). In addition to all the adverse effects mentioned, a quantitative study done by Li, Liu, Yu, Mills and Yang (2020: n.d.), states that work-related stress has a negative impact on the behaviour of student nurses (Zabin, Abu Zaitoun et al., 2023:39), which can impact patient care negatively. Furthermore, the management of a disaster, irregularities in clinical facilities, as well as working in specialised units such as an ICU, theatre or emergency also cause high stress levels in student nurses (Onieva-Zafra, Fernández-Muñoz, Fernández-Martínez et al., 2020:2). Another study concludes that student nurses who experience academic stress may temporarily lack the capacity for self-control (Yuhuan, Pengyue, Dong et al., 2022:789), which ultimately means that the student cannot display mindful behaviour.

It is therefore imperative that all medical professionals, including student nurses, practice mindfulness in their lives to be *more conscious* (Item 35) and able to combat the effects of stress (Scott, 2020: n.d.). One of the strategies that enhances mindfulness is meditation. Practicing meditation can alleviate the stress of dealing with difficult persons and situations or problems and could ultimately equip the nurse with the skills of self-compassion and serenity (Shahoei et al., 2022: n.d.; Penque, 2019:39,43). A single mindfulness meditation session can rapidly increase attention as well as cognitive performance, irrespective of previous experiences in mindfulness meditation session practice (Sleimen-Malkoun et al., 2023: n.d.).

According to the Merriam-Webster Dictionary (2022b: n.d.), the synonym for *consciousness* is amongst other things *attention* (Item 4) and *awareness.* Ackerman (2021a: n.d.) is of the opinion

that being mindful (which includes being conscious, aware, and attentive) of one's own feelings, thoughts, and reactions, and improves general health, depression and stress, facilitates recovery and the ability to deal with illness. In addition to being aware, through paying attention, being in the present moment and being non-judgmental, mindfulness in psychological terms is also characterised by a calm, composed and constant awareness of one's distinctive mental state (Bierbaum, 2018: n.d.).

Mindfulness suggests an intensified *awareness* of *physical* (sensory) stimuli such as noticing e.g., bodily sensations, breathing and what one is seeing and feeling at a specific moment in time (Scott, 2022: n.d.), (Item 4). The physical benefits of being mindful include a decrease in blood pressure, stress, anxiety, chronic pain, and an improvement in sleep (HelpGuide, 2022: n.d.). This is linked to mindful practices that flow from mindful reflection on actions (behaviour, thoughts, sensations, images, interpretations, and emotions (Moore, 2022a: n.d.). Being *in the present* moment means that people are physically as well as mentally *focused* (Items 27, 29) on what they are doing at that specific moment (Perry, 2022: n.d.). It means that when, for example, student nurses are busy listening to a patient who went through a traumatic experience, they are in body and mind present for support to the patient, not thinking about their own troubles at home (Item 11). Being focused forms a big part of being mindful (Cherry, 2022a: n.d.). One can use a mindpower technique in which one sees oneself through one's own eyes in a specific situation without judgement by taking a step back and viewing the world around oneself (Robson, 2020: n.d.). Being *non-judgmental* towards yourself gives a whole new perspective of the true meaning of the word "mindful" and lets one see what is 'right' and 'wrong' without acting on this knowledge (Wellington, 2022: n.d.) (Item 45).

From the above discussion, it seems that the psychological dimensions of mindfulness and physiological are interrelated. A study suggests that a holistic approach should be taken to address the psychological, physical, and spiritual well-being of nurses daily (Nilsson, 2022:70). To understand our place in the universe, it is important to also explore our spiritual side.

2.3.3 Spiritual dimension of mindfulness

If one thinks of the spiritual dimension, words like ethereal, transcendent, heavenly, religion and sacred come to mind (Thesaurus Dictionary, 2023: n.d.). Mindful individuals can reflect on their spiritual dimension (Phan et al., 2020:12). Spirituality can be found in many forms such as being in nature, meditating, doing yoga, going to church on a Sunday or even walking between old buildings on their majestic features and rich histories (Stokes, 2021: n.d.) (Item 28).

Spirituality could be interpreted as the cornerstone of the nursing profession without which holistic patient-centered care cannot be delivered (García-Navarro, Medina-Ortega & García-Navarro, 2021: n.d.). A study on undergraduate student nurses found that student nurses do not

reflect on their own spirituality, during the care they provide to their patients; however, these students were not completely sure about the difference between spirituality and religion (O'Connell-Persaud & Isaacson, 2022: n.d.). Religion represents an individual's personalised framework of organised religious attitudes, beliefs (Item 28), and rituals. It involves a dedicated commitment and admiration towards a higher power, encompassing both the worship of a god and a set of guiding principles (Merriam-Webster, 2023: n.d.). Spiritual well-being is a multifaceted notion, and there is a positive connection between spiritual well-being, satisfaction with life, as well as *self-compassion* (Sullivan, 2022: n.d.; Mathad, Rajesh & Pradhan, 2017: n.d.). This was confirmed by a study with student nurses as respondents, where spiritual well-being and emotional regulation indeed had an impact on professional, personal as well as academic well-being (Reena, Velayudhan & Yesodharan, 2023:1533). It was found that satisfaction with life and self-compassion have an impact on the domains of spiritual well-being. Domains of spiritual well-being include, amongst others, personal, mutual, environmental, and inspirational aspects (Michaelson, Šmigelskas, King et al., 2021:1; Mathad et al., 2017: n.d.), that are all essential in mindful interpersonal communication for patients. Another benefit of spiritual well-being for nurses is that the affirmation of a life in a relationship with God, oneself, others in the community and the environment, fosters and praise wholeness (Parviniannasab, Bijani & Dehghani, 2022:230; Mathad et al., 2017: n.d.). Spiritual well-being is seen as an inner resource that helps healthcare practitioners to cope with stress.

All persons on earth have strengths and weaknesses (Items 40, 41). Strengths include being honest, creative, attentive, empathetic, and patient (Indeed Editorial Team, 2022d: n.d.). Persons who *focus* on their *strengths* in general seem to be happier and more motivated to seek opportunities for self-growth (Colebourne, 2020: n.d.). Those who are more focused on their weaknesses, might be disorganised, self-critical, unfocused, and not detail orientated and might have limited experience in essential as well as non-essential skills (Indeed Editorial Team, 2022a: n.d.). These are all qualities that a healthcare professional should not have. It is therefore important for student nurses, as for all persons, to do self-reflection to identify their weaknesses (Alsalamah, Albagawi, Babkair et al., 2022:545) (Item 40, 41). A study states the importance of using strategies, e.g., meditation, to address *weaknesses,* and, by doing so, become a mindful and happy person in life (Simpson, Posa, Langer et al., 2023:726) (Item 33). The meaning of the word 'tolerance' is to *accept* behaviour (Item 48), spiritual beliefs, and opinions that are different from your own and with which you might not agree or approve (Cambridge Dictionary, 2022: n.d.).

Therefore, to be tolerant, one must be able to put oneself in another person's shoes and understand their e.g., spiritual viewpoint, feelings, and opinions (Items 7, 10). When persons, in general, are more tolerant (Item 10) or accepting towards others, unpleasant situations can be settled by honouring different viewpoints (Items 12,44). A tolerant person is ultimately in a better

spirit, which in return will enhance spiritual well-being (Abdolkarimi, Masoomi, Lotfipur et al., 2022:1).

In addition to being tolerant (*accepting*) towards one another, a student nurse should always work with *integrity* (Item 42). Academic *integrity* implies that a student nurse makes a commitment to act with fairness, honesty, respect, trustworthiness as well as accountability in all academic (and clinical) work (UniSA, 2022:43). Student nurses are educated about integrity as well as ethical principles and behaviour in the classroom but need to integrate this knowledge and principles during their clinical WIL (work integrated learning) placements in the clinical facilities (Miron, Wilson, Freeman & Sears, 2022:1). To value principles and stand up for what is right and wrong, goes hand in hand with always maintaining integrity (Indeed Editorial Team, 2023e: n.d.) (Item 43). An investigation into the conducted about the professional values of registered nurses and student nurses, reveals that the 'professional values' of student nurses are considerably higher than those of the registered nurses (Poorchangizi, Borhani, Abbaszadeh, Mirzaee & Farokhzadian, 2019:438).

Poor communication by healthcare professionals, including student nurses, can lead to e.g., serious medical errors, destroying team coherence, and misunderstanding patients in their e.g., context (USAHS, 2020: n.d.). Many barriers hinder effective communication. One can only think that, in South Africa, we have such a diverse and unique country, with 12 official languages (Monzon, 2023: n.d.). Miscommunication happens more frequently than we want to admit. It is therefore crucial that student nurses learn the value of effective communication principles at an early stage, as well as how to *change communication methods* (Item 45) when they find, that how they are communicating, is not yielding the anticipated results (Farrell, Butler, Towsley et al., 2022: n.d.). To become effective in communication, one needs to listen to understand, show compassion, care, and be culturally aware (Tennant, Long & Toney-Butler, 2022: n.d.). One should speak in a clear voice and mind the tone, inspire trust by keeping your word, and be mindful of *nonverbal* communication which includes eye contact and body posture (Mills, 2022: n.d.). A literature-based study confirms that effective communication is an essential nursing skill which will result in patient-centered care that allows for trust and mutual respect between the nurse and patient and promotes quality practices (Kwame & Petrucka, 2021: n.d.).

In addition to being attentive and aware of thoughts, being *non-judgmental* is one of the cornerstones of being mindful. Being non-judgmental does not mean that we will never judge a person or situation (Edubirdie, 2023: n.d.). It means that we can pay attention to what is on our minds, and then, after conscious consideration, decide if there is a need to react, how to react or if it will be better to just keep quiet (Lynnwood Times Staff, 2022: n.d.) (Item 29). As part of a multidisciplinary team, a (student) nurse is a link between the patient and the rest of the team (Creighton & Smart, 2022:5). By listening without being judgmental, trust is earned from

colleagues and patients, which will ensure effective communication and better decision-making (Guelcé, 2022: n.d.).

Critical reflection skills enable a student nurse to develop excellent critical thinking abilities and ultimately enable him/her to make sound decisions regarding the care and treatment of a patient with e.g., a specific religion (Gonzalez, Hsiao, Dees et al., 2022:41). The ability to critically reflect on own shortcomings, and the attempt to better oneself will aid in personal as well as professional growth (Shin, Hong, Do et al., 2022:9) (Items 24, 32). In addition to being able to critically reflect, student nurses also use acquired knowledge as an anchor, from which they can use and develop their critical thinking skills (Makhene, 2022: n.d.).

Lastly, *compassion*. Synonyms for compassion are empathy, concern, kindness and being considerate of a unique person with e.g., a religion that differs from others (Thesaurus Dictionary, 2022: n.d.). Studies found that compassion from healthcare professionals, which includes student nurses, has a positive impact on the experiences as well as the outcomes of a patient (Sinclair, Kondejewski, Hack et al., 2022:400). Studies have indicated that there is a strong correlation between being happy (physiological) and one's spiritual well-being (Abdolkarimi et al., 2022:1) (Item 8).

2.4 EXISTING INSTRUMENTS

The researcher did explore other existing instruments to use in this study; however, none were relevant or could be adapted to address the theoretical departure that guided the research.

It was important to note that the past and the present are not always possible to measure at the same time. However, Epstein (1999: n.d.) states that mindfulness leads the mind back to the experience itself, enabling one to attend to the ordinary, the obvious and *thus the present* (Epstein, 1999:835), Therefore, when measuring the state of mindfulness, measurement should occur after the experience (as in this study). Ackerman (2017b: n.d.) states that it is difficult to be both present and have an awareness of your experience, "while taking a survey on your current level of mindfulness". Therefore, an instrument should be completed, where the respondent can recall her/his state of mind when practicing mindfulness. Furthermore, the rating scales of the existing instruments found varied between four and eight points (Ackerman, 2017b: n.d.). This study chose to use a rating scale of six, with not too narrow or to broad rating scale that indicated the extent of agreement (Table 2.1).

Table 2.1: Existing Instruments measuring the level of mindfulness

Name of instrument to determine mindfulness levels	Year	Purpose	Scale
Mindful Attention awareness Scale	2003	Excludes any reference to attitudes, motivations, or moods, leaving the trait of mindfulness neutral concerning other constructs like well-being	1 = almost always, to 6 = almost never
Kentucky Inventory of Mindfulness Skills	2004	Measure four mindfulness related skills, and an overall tendency to be mindful during daily life	Unknow
Freiburg Mindfulness Inventory	2006	Focus on curiosity of the respondent as an important piece of mindfulness	1 = rarely, to 4 = almost always
Toronto Mindfulness Scale	2006	Measure mindfulness when actively practicing it	0 = not at all, to 4 = very much
Five Facet Mindfulness trait measure	2006	Correlate highly with the related constructs of openness to experience, emotional intelligence, and self-compassion	Agree on their personality or general tendencies 1 = never or very rarely true to 5 = very often or always true
Cognitive and Affective Mindfulness Scale	2007	Attention present-focused, Awareness	This scale measures trait mindfulness by agreement with 12 statements pertaining
Solloway Mindfulness Survey (SMS	2007	Tracking the progress of mindfulness of students as they learn about mindfulness and begin to engage in the practice and progress through a long-term attempt to be more mindful. Survey before beginning a mindfulness practice and continue to complete it at periodic points in time	Respondent provides an indication of their agreement with, on a scale from 1 = absolutely disagree, to 8 = absolutely agree
Philadelphia Mindfulness Scale	2008	Measure mindfulness as a bi-dimensional construct, namely present-moment awareness and acceptance of the present state	On a scale of 1 = never, and 5 = very often
Langer Mindfulness Scale	2012	Capture a measure of mindfulness that incorporated a socio-cognitive perspective	1 = strongly disagree, to 7 = strongly agree.
State Mindfulness Scale	2013	Address the lack of state mindfulness measurements in psychological literature	Indicate how often the phenomena was perceived

2.5 CONCLUSION

Student nurses have their distinctive style of mindfulness during interpersonal communication when they start their studies, which is formed by their unique backgrounds, cultural experiences, life experiences, as well as learning styles. The researcher focused on studies that investigated mindfulness during interpersonal communication of student nurses. Numerous articles indicated that mindfulness-based interpersonal training should be incorporated into nursing education (Huang & Pun, 2022: n.d.; Rathiram, Neilson, Kassim et al., 2022:1; Fadana & Vember, 2021: n.d.; McVeigh, Ace, Ski et al., 2021: n.d.).

CHAPTER 3
METHODOLOGY

3.1 INTRODUCTION

A research methodology should justify the design choices that lead to scientifically sound conclusions (Jansen & Warren, 2020: n.d.). The methodology chosen, as recommended by Nieuwenhuis (2020:57-58), Brown and Duenas (2019:548) was well thought through, to be understood within the paradigm of the research study. The methodology as stated by Polit and Beck (2022:390) and Arries (2018:298) referred to the style in which the researcher designed the study for reliability and validity to be ensured.

3.2 PARADIGM

A paradigm is a set of assumptions of how the researcher views the world or certain occurrences before commencing with research (Nieuwenhuis, 2020:58; Brown & Duenas, 2019:545). This study was systematically conducted within a positivistic paradigm, which suggested that the researcher was objective in the pursuit of gaining insight into the phenomenon of mindfulness (Jansen, 2020:22). With a positivistic paradigm, the objective is to understand the fundamental causes of a phenomenon (Polit & Beck, 2022:6-7), in this study, the mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape. The positivistic paradigm related to a cause-effect relationship between a phenomenon (mindfulness of student nurses) and the social world (nursing academic and clinical environment of the student) (Fuhse, 2022:118-120). A postmodern paradigm was not followed, as it would have embraced the principle that "reality only comes into being through interpretations of what the world means" to an individual (Trivedi, 2020:12). The nature of quantitative research is more particularistic (an objective approach as the researcher is not involved) oppose to a qualitative paradigm, with a subjective approach in which the researcher would have been more engaged in personally (Hameed, 2020:8). A descriptive quantitative study was conducted within the positivistic paradigm.

Within the nursing profession, there are theorists who, over many decades, shaped and formed nursing as a science. Florence Nightingale (1820–1910) is regarded as the first nurse theorist. However, Fawcett (1986: n.d.) in later years, was the first person who developed and explained that a nursing meta-paradigm consists of four components:(i) person; (ii) environment (can change according to student needs); (iii) nursing; and (iv) health (Gilbert, 2020: n.d.; Sher & Akhtar, 2018:1). For the purposes of this study, these four components were:

A *person* was viewed as a holistic being with psychological, physical, social (spiritual) and dimensions. In this study, a person refers to a *student*, registered for a four-year nursing programme at a HEI, a *colleague* in the working environment, or a *patient* who is cared for by the student nurse. It was assumed that the student had the capacity to be deliberately aware, non-

judgmental, and non-reactive during interpersonal communication with others (colleagues and patients).

The *environment* referred to the internal and external environments of a person. The internal environment of the person, such as the student, referred to the holistic nature of the person who had the capacity to be mindful during interpersonal communication. The external environment was the clinical facilities, physical structures, and human interactions in which the student (person) had to be mindful during interpersonal communication with colleagues and patients (other students, nurses and healthcare professionals) and provide nursing care to patients.

Nursing referred to the context of *clinical practice*, that was person-centred, in which the student was placed. The student was viewed as a person who used psychological, physiological, and spiritual dimensions (Lyhne, Bjerrum & Jørgensen, 2022: n.d.), in being mindful during interpersonal communication. The person-centred approach followed in nursing clinical practice meant that the student should being empathetic, demonstrate interpersonal competence and experience decreased perceived stress (Kim, 2020: n.d.).

Health, referred to the well-being of the student who should be mindful during interpersonal communication. The students in their clinical learning academic surroundings should be "healthy" to successfully deliver nursing care to patients and promote relationships with colleagues in the environment.

3.3 RESEARCH DESIGN

The design was well-organised and addressed the purpose of the research study, as emphasized by Jansen and Warren (2020: n.d.). A non-experimental design is often used in descriptive studies, as was the case in this study. As in a non-experimental design, the researcher was a witness who did not introduce any interventions, or controlled independent variables (Skidmore, 2022: n.d.; Polit & Beck, 2022:146). A survey (the method) was conducted where all the items (variables) in the instrument were measured at a particular time by selected respondents who partook in completing an instrument during the data gathering process (Polit & Beck, 2022:127).

It was decided to use a quantitative design because this allowed for the selection of a large sample from the accessible population. Data analysis was also less time-consuming because statistical software was used (Chukwuemeka, 2021: n.d.; Rahman, 2017:106). Other advantages in choosing of a quantitative design were that it was cost-effective, the relationship between two variables could be tested, several statistical tests and techniques could be used, and extensive information and domains could be explored (Ivankova, Creswell & Clark, 2020:329; Queirós, Faria & Almeida, 2017:383).

In the descriptive study that followed the occurrence namely mindfulness during interpersonal communication was explored (Pietersen & Maree, 2020a:267). The researcher first used an

exploratory design to investigate interesting facts about the research topic. The descriptive quantitative design as pointed out by McCombes (2022: n.d.), Gray, Grove and Sutherland (2020:200), was used to answer research questions related to the number of responses on the phenomenon mindfulness. A detailed representation of a relationship, situation or social setting could therefore be described (Polit & Beck, 2022:127).

The researcher went through five phases to ensure that a detailed report was delivered (Anonymous 2022/2023). Each phase was broken down into subdivisions, which clarifies the structure of the research process (Table 3.1), for the purposes of this study.

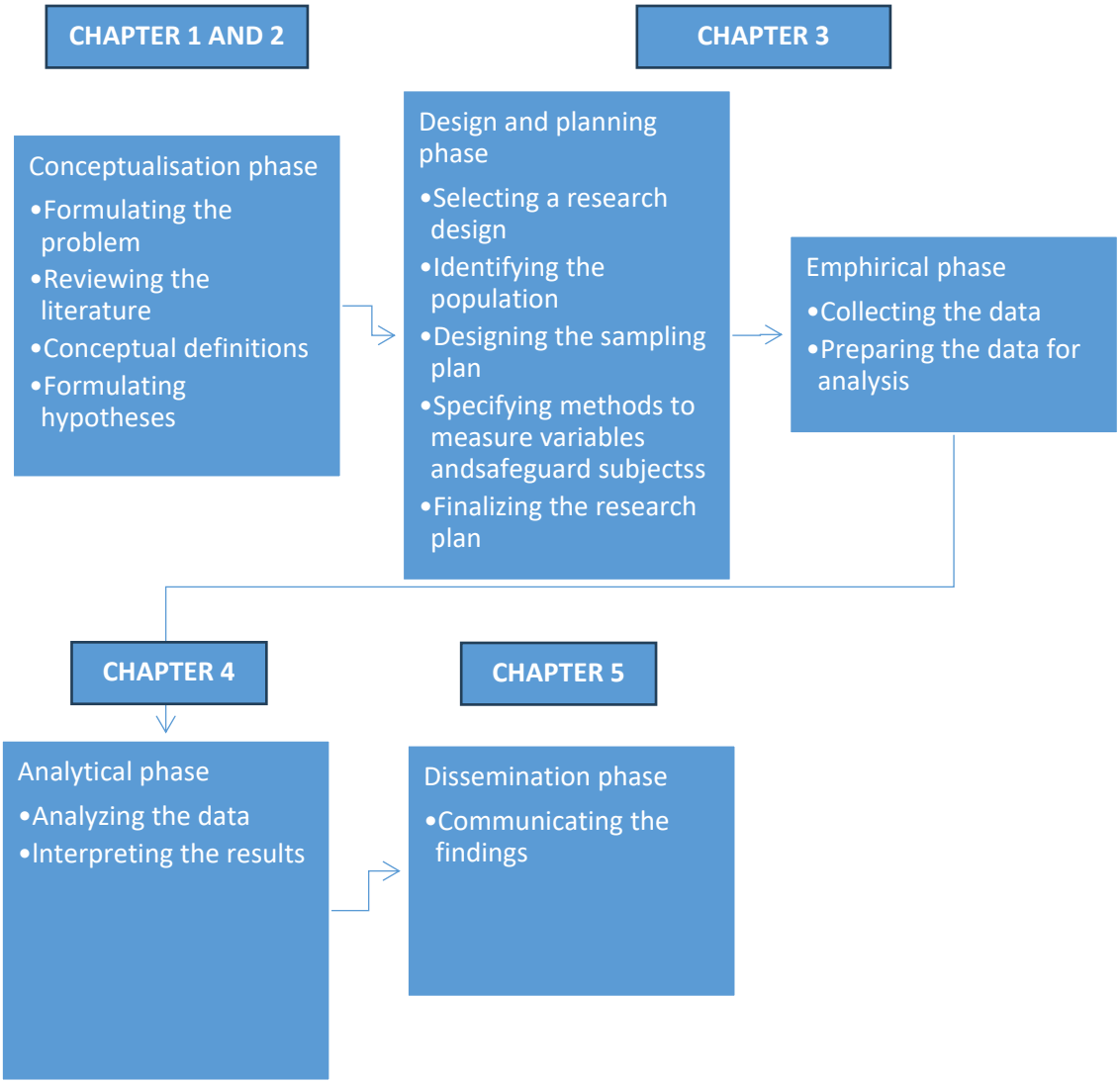


Figure 3.1: Phases of the research process

3.4 THE SETTING

The research setting refers to the environment in which the research is conducted (Kshetrimayum, 2021: n.d.). There are four HEI's in the Western Cape. The Western Cape

College of Nursing has become a HEI and has three campuses (one main campus and two rural campuses) (Figure 3.2), offering a four-year nursing programme, with a total of 600 students. The three campuses taught the same content, and students received the same presentations and assessments from lecturers, on the same day, in a block system.

Figure 3.2: Map with campusses

3.5 POPULATION AND SAMPLE

3.5.1 Population

A population can be defined as the group of people that were of interest to the researcher, restricted to a geographical region such as the Western Cape, and certain institutions that had at least one characteristic in common. The population was all student nurses in the Western Cape who were registered at a HEI, offering a four-year nursing programme.

A target population refers to all the members who meet the criteria specified for a research investigation, corresponding to a portion of the total population which one intends to include, part of the population whose characteristics are of interest to the investigator (Casteel & Bridier, 2021:339). This was all students at a Western Cape College of Nursing being a HEI, in the Western Cape, with three campuses (N=600). The target population also served as the accessible population. Accessible population refers to the segment of the target population that the researcher can readily reach or engage with (Polit & Beck, 2022:141).

3.5.2 Sampling

The accessible population served as the total sample (n=600). Total sampling meant that all the students in the programme were included in the study (Polit & Beck, 2022:143). If non-probability sampling was used, not every element within the population would have had an equal opportunity for inclusion. The sample therefore would have been based on alternative criteria such as convenience or specific attributes (Nikolopoulou, 2023: n.d.). The study sample

was representative of students on the three campuses of the HEI, which, for the purposes of this study, were considered as one sample.

Table 3.1: Sample

Respondents	Total sample (n)	Responses received (n)	Response rate %
1st years	89	15	16.8%
2nd years	91	87	95.6%
Total juniors	**180**	**102**	**56.7%**
3rd years	238	27	11.3%
4th years	182	75	41.2%
Total seniors	**420**	**102**	**24.2%**
Total respondents (n)	**600**	**204**	**34.0%**

The study did not aim to distinguish between the responses of students on different campuses but between the responses of junior and senior students.

The response rate for the juniors (56.7%) was higher than that of the seniors (24.2%). According to Wu et al. (2022:1), the average response rate for an online instrument is 44.1%. Another study revealed that an average response rate can range from 30.0% to 33.0%, while a response rate of 50.0% or higher is generally considered excellent, regardless of the survey type (Cleave, 2020: n.d.; Lindemann, 2019): n.d. Similarly, Wu, Zhao and Fils-Aime (2022:1) indicate an average online response rate of 44.1%. The response rate for the completion of the electronic questionnaires in this study was 34.0%, which was interpreted as an average response rate.

3.6 METHOD

Various research methods can be used to explore variables in descriptive studies. In this study, it was decided to use a survey to gather information on mindfulness, which could differ from person to person depending on many factors. The researcher investigated the perceptions of junior and senior students on mindfulness.

Surveys by using an instrument can be done in different forms. These include interviews (personal or telephonic) with the instrument, electronic or self-administered instruments (Roestenburg, 2022:222-223). On the other hand, the observation method, for example observing the behaviour of persons, is used more in qualitative than in quantitative research methods (Strydom, 2022:337; Minnaar, 2018:342). Interviews were not chosen as a data collection method, as they are mostly used in a qualitative research design where a researcher

wants to obtain data “through the eyes of the participants” (Nieuwenhuis, 2020:108). The purpose of this study aligned to conducting a survey, and a self-developed questionnaire (instrument) developed from the literature was the data collection tool.

The *advantages* of using a survey were that it:

→ did not require ongoing commitment from the respondents as it was a once off task;

→ allowed the use of a large sample such as the accessible population;

→ provided widespread data from three sites;

→ saved on time, overheads, and resources;

→ ensured a democratic process in which individual respondents could not dominate the responses;

→ was flexible;

→ ensured a relatively fast way of obtaining the completed instruments (Maree & Pietersen, 2020a:196; Gaille, 2020: n.d.).

3.6.1 Research instrument

Quantitative data collection methods use well-designed tools to collect valid data of e.g., perceptions on a phenomenon (Busetto, Wick & Gumbinger, 2020:1). On the other hand, a qualitative data collection instrument, such as an interview schedule, has semi-structured questions on certain experiences (Ugwu & Eze, 2023:20). The researcher chose to use a structured questionnaire as a data collection method for this study (Roestenburg, 2022:199). The self-developed questionnaire originated from literature (Chapter 2) and the underlying theoretical assumptions (Chapter 1, Point 1.3.2).

Wigmore states that it is difficult to determine the time allocation for completing a questionnaire. The more items a questionnaire has, the less time a respondent will spend reading and answering the questions (Chudoba, 2022: n.d.). It was found that, for a better response rate, surveys should take under 12 minutes to complete (Wigmore, 2022: n.d.). In a separate investigation, findings indicate that the optimal duration for an online survey falls within the 10 to 15-minute range, with the upper limit ranging from 20 to 30 minutes (Revilla & Höhne, 2022:538). A sound questionnaire is suggested to have 30 questions and should be able to be completed within 30 minutes to keep the interest and attention of the respondents intact (Sharma, 2022:66). The online questionnaire (Annexure D) took 30 minutes to complete. The items (variables) in the instrument were not controlled or influenced by the researcher in any way (McCombes, 2022: n.d.; Polit & Beck, 2022: 26-27). The characteristics of student nurses were measured in the three dimensions of mindfulness (psychological, physiological, and spiritual) during interpersonal relationships.

Apart from the advantages of using a questionnaire, this tool was chosen because it ensured that:

→ answers were not affected by the subjectivity of the researcher;
→ statistical methods could be used for data analysis;
→ data could easily be analysed as well as visualised for example in a graph;
→ responses could be compared to the results of other studies;
→ data analysis was made easier due to the online format of the questionnaire;
→ the anonymity of respondents was upheld;
→ respondents could complete the questionnaire in their own time as well as the location of their choice (Debois, 2019: n.d.; Queirós et al., 2017:381-382).

The data collection method was changed from a paper-based instrument (Annexure C) to an electronic instrument before the data gathering, for which ethical clearance was obtained from the Faculty of Community and Health Sciences Research and Ethics committee. The background on this change is that, with the outbreak of the COVID-19 pandemic, a national lockdown was announced by President Cyril Ramaphosa starting on the 23rd of March 2020. Initially, it was announced that the lockdown restrictions would be gradually eased from alert Level 5 to alert Level 4 from the 1st of May 2020.

The lockdown was extended, and alternative ways were explored to accommodate the education of student nurses after all educational institutions were closed by Minister Blade Nzimande (Minister of Higher Education) to curb the spread of the Coronavirus. The main and two rural campuses of this HEI, like many sites of other higher education institutions, started with online teaching strategies during COVID-19. This was a further reason why the researcher changed the instrument from a paper-based (Annexure C) to an online instrument, using Google Forms (Annexure D) that distributed the instrument via an e-mail link, sent by an administrator from the main campus to all students.

It was relatively easy to send emails to the university addresses of students that served as the total sample, with the necessary information on the study and a link as an administered mode (Sharma, 2022:66).

The researcher was aware of possible disadvantages of using electronic questionnaires, that were:
→ The response rate could be poor in comparison to offline survey methods.
→ Data stored online might be lost if there were server issues (the Cloud was used to store data).
→ If the respondent did not have data or internet connectivity, the accessibility of the questionnaire could have been an issue (all students had access as the HEI provided data during COVID-19) (Roestenburg, 2022:224; Nayak & Narayan, 2019:33-35; Debois, 2019: n.d.).

3.6.1.1 Composition of the instrument

The questionnaire (Annexure C) consisted of 49 closed-ended questions spread over two sections. Section A addressed the demographic and biographical data of the respondents, regarding the year of study, age, and ethnicity of the students. A nominal scale was used in Section A of the instrument addressing the demographic and biographical data. A nominal scale describes a variable with categories that do not have a natural order or ranking (Akman, 2023: n.d.).

Section B was divided into three subsections. For the psychological dimension, 33 items were developed, while the physiological dimension consisted of six (6) items and the spiritual dimension consisted of 10 items. An ordinal scale was used in Section B of the instrument to understand the higher or lower value of a data set. that could analyse the extent of agreement among respondents on the variables (Bhat, 2023: n.d.). The ordinal scale could also be used as a comparison parameter, to understand whether the variables are greater or lesser than one another. It was therefore vitally important to develop a well-structured questionnaire, taking the respondents' profile and the purpose of the questionnaire into consideration.

Table 3.2: Items in the instrument (49 items)

Dimension	**Items numbering per dimension**	**Items per element**		
		Deliberate Awareness	**Being non-judgmental**	**Being non-reactive**
Psychological Dimension	1-33	1, 2, 4, 5, 8, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, 24, 26, 27, 29, 30, 31, 32 and 33	3, 7, 9, 10, 23 and 28	6, 14, 15 and 25
Physiological Dimension	34-39	34, 35, 36, 37 and 38	39	None
Spiritual Dimension	40-49	40, 41, 43, 45 and 48	46 and 49	42, 44 and 47

The scale used in the questionnaire is a summated rating scale on which students could indicate the extent to which they agreed on items regarding mindfulness during interpersonal communication (Roestenburg, 2022:211). To enable the respondents to answer the closed-ended questions on the questionnaire, a 6-point Likert scale was used. A Likert scale comprises statements/items on a topic that is studied and provides an ordinal measure of the respondents' perspectives (Maree & Pietersen, 2020a: 208). The 6-point scale allowed the respondents to

express to what extent they agreed or disagreed with each statement/item (Polit & Beck, 2022:148; McLeod, 2023: n.d.) (Table 3.1) and prompted thoughtful considerations in answering (Thompson, 2018: n.d.). The questions were written in a consistent manner, which ensured that there were fewer chances for bias.

Thompson (2018: n.d.) states that a 6-point scale allows the respondents to consider questions more wisely, to decide on a choice, being it more positive or negative. Responses are seldom neutral, and the 6-point scale demonstrates this fact. Alba (2021: n.d.) indicates that a 6-point rating scale, e.g., "the extent of agreement" makes answering an item clearer, and better to understand the original interpretation such as, the level of mindfulness (Table 3.3).

For purposes of this study, the description of the ratings from "Totally Disagree" to "Totally Agree" were interpreted as the extent to which the students perceived their mindfulness (Table 3.3).

Table 3.3: Rating scale of the questionnaire

Rating	Description	Interpretation of mindfulness level
1	*Totally Disagree*	*Definitely Not Mindful*
2	*Disagree*	*Not Mindful*
3	*Somewhat Disagree*	*Rarely Mindful*
4	*Somewhat Agree*	*Somewhat Mindful*
5	*Agree*	*Mindful*
6	*Totally Agree*	*Completely Mindful*

The researcher has been aware of debates around the relevance to include a question around ethnicity in an instrument. However, in nursing, it is important that diverse voices are heard, as nurse educators should identify the different challenges that student nurses experience in training, e.g., struggle with mindfulness in taking care of patients. Programmes should also allow for interventions to meet all the specific learning needs of different ethnic groups (Vijayamohan, 2023: n.d.). The researcher added a sentence at the end of the Google Form questionnaire to thank the respondents for partaking in this research study.

3.6.2 Pre-testing of the instrument

A pilot study is a small-scale study, following a similar process as the main study, that is conducted before the main study to determine if there are any weaknesses in the instrument of the planned study. The researcher wanted to identify flaws in e.g., the clarity and the understandable level of the questions (Polit & Beck, 2022:394), to rectify them before the main study. For the purposes of this study, pretesting of the instrument was done by four students, one (1) of each of the four (4) year levels was selected. Face validity was conducted to establish if there were no ambiguity in the instrument as terminologies used were clear, instructions and questions were understood, the questionnaire could be completed within a reasonable time

frame. An electronic link was sent to them on the 17th of August 2020 via student e-mails by the administrator at the main campus. During the pre-testing, the respondents completed the instrument within 30 minutes. A Teams meeting was held with them to obtain feedback on the completion of the instrument. The comments from the respondents regarding the questionnaire were editorial and the need to add a definition of mindfulness was mentioned. Students mentioned that the questions were clear and easily understandable as well as very interesting.

The researcher included a definition of mindfulness on the instrument and re-checked items to ensure that only one variable was to be measured in an item and that questions had no double meanings. The researcher also revisited the questions with the intent to make the questionnaire shorter but found that all the questions were relevant and important to the topic.

The four students who partook in the pre-testing were not included in the sample of the main study, as they read the instrument that could have led them to be biased or subjective if they completed the same items twice (Maree & Pietersen, 2020b:189).

Furthermore, four (4) nursing educators, one of each year level scrutinised the instrument; (i) the structure of the questions, (ii) the content of the questions related to the topic, (ii) the understandability level according to the level of the students, (iv) appropriateness of the questions, (v) exclusion of leading questions developed, before executing the main study.

3.6.3 Preparation of the field

Ethical clearance was obtained from the Faculty of Community and Health Sciences Research and Ethics Committee and renewed annually (CPUT/HWS-REC 2020/H8) (Annexure E). Ethical permission was then granted from the Western Cape Provincial Department of Health (Annexure I). The researcher met online via a Microsoft Teams meeting to obtain permission for the study, from the Director of the HEI, of a main and two rural campuses, where the students were registered (Annexure F). The heads of the respective main and two rural campuses of the HEI where students received education, were invited to join this online information discussion (Annexure G). During this meeting, the information letter, the purpose, and proposed method used in the study, the written consent form and the instrument were explained, which were also before the meeting sent to the attendees. The researcher invited management members to at any time during the research contact her if there were any uncertainties.

The main campus of the HEI was requested to appoint an administrator to assist with the distribution of the instrument. Existing email groups of all students according to levels were available as they were created during COVID-19. The administrator was orientated to send all students in the HEI, on the main and two rural campuses, an email using their university email addresses.

3.6.4 Data gathering

The initial plan was to train administrators at the selected three campuses (sites) of a HEI in the Western Cape Province to distribute the instruments personally for completion and send them back to the researcher in enclosed envelopes. However, with the COVID-19 pandemic, this method of data collection was changed to an online completion of the questionnaires. In the current information era, an online instrument is a modern and relevant method for data gathering and students are familiar with using their electronic devices. Almost all persons have and are using some form of digital technology, whether it is a smartphone, iPad, laptop, or desktop computer (Mahmutović, 2021:1211). Moreover, it is a faster, more accurate, flexible, and honest way to collect data electronically.

The email was a request to students for voluntary participation in the study, The information sheet and the description of the purpose and process of the project were outlined on (Annexure A). The email included the link to the questionnaire on Google Drive. They could complete the instrument online in their own time and place. The student could via her/his own HEI student e-mail address receive a link to the survey tool. The student could click on the link and had to:

- Read the information sheet and consent to voluntary partake by indicating it on the informed consent form.
- Agree to participate in the study.

The student could then proceed to answering the questions and after completion, press the submission button. After a student submitted the completed electronic instrument, the student's e-mail was de-activated not to allow the same student to access the instrument via the link twice.

The researcher received the completed questionnaires in Google Drive. The questionnaires were allocated in corresponding folders (Figure 3.3). Folder 1 was labelled as 1st year respondents (blue); Folder 2 was labelled as 2nd year respondents (red); Folder 3 was labelled as 3rd year respondents (yellow); and Folder 4 was labelled as 4th year respondents (green). The computer setting "Respondent's input" was chosen to collect all the student email addresses, including addresses with the gmail.com domain (if they wanted to use it). The Google Forms' built-in 'limit to 1 response' feature ensured that all the respondents submitted only one response. The link was only once active, and another submission was disabled.

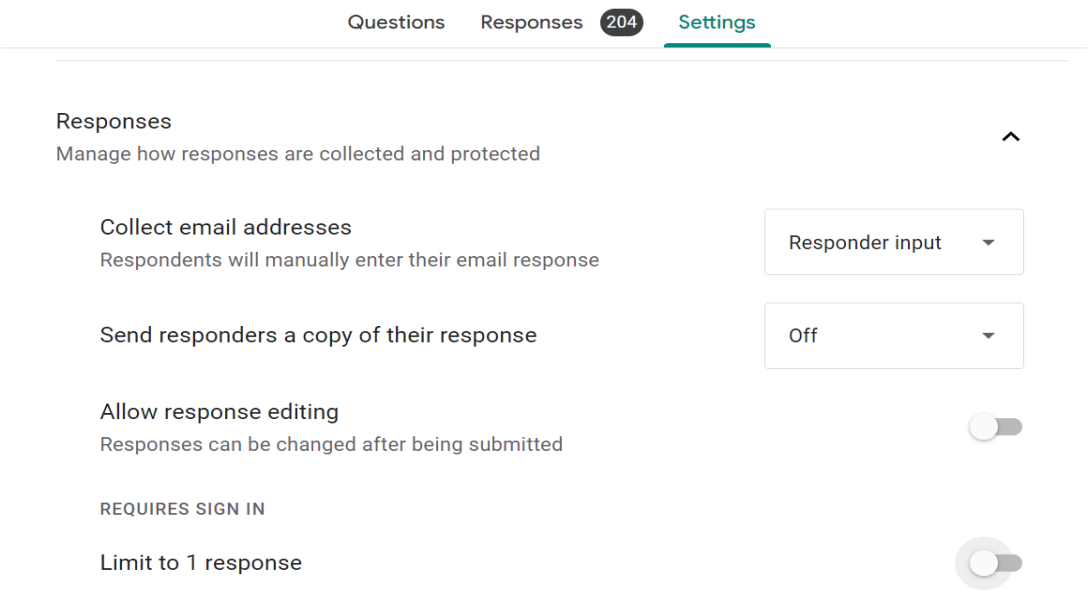


Figure 3.3: Example of 'built-in' limit to 1 response on Google Forms

The administrator sent a reminder to students weekly from the 24th of August 2020 until the 3rd of October 2020, for those who might have forgotten. The link was then deactivated. Google Forms allows one to access the responses in the form of tables. The researcher then shared it with the statistician who did the statistical analysis for this research study.

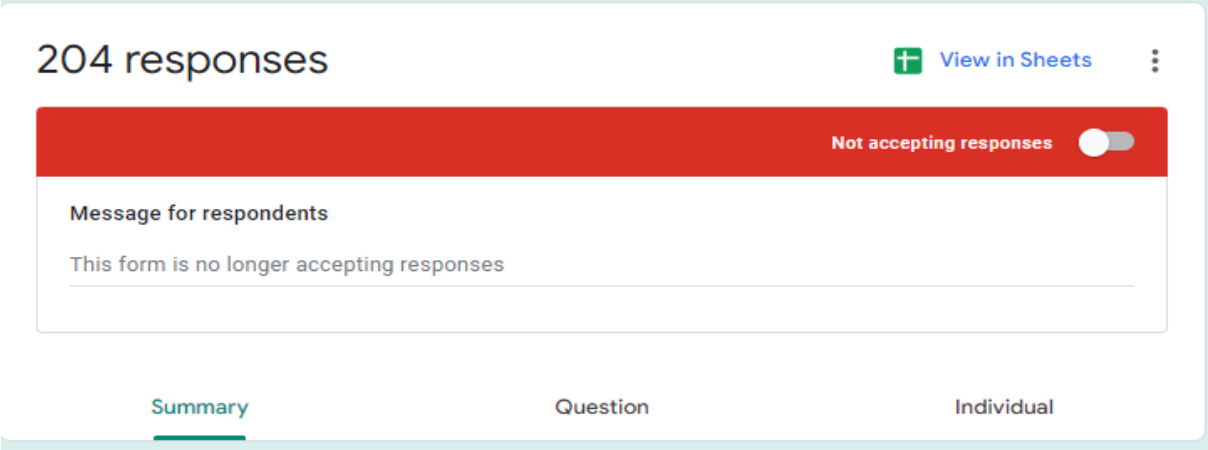


Figure 3.4: Example of responses on Google Drive

It was only the researcher who had access to the information on Google Forms which ensured the anonymity, confidentiality as well as privacy of all respondents (Figures 3.4 and 3.5).

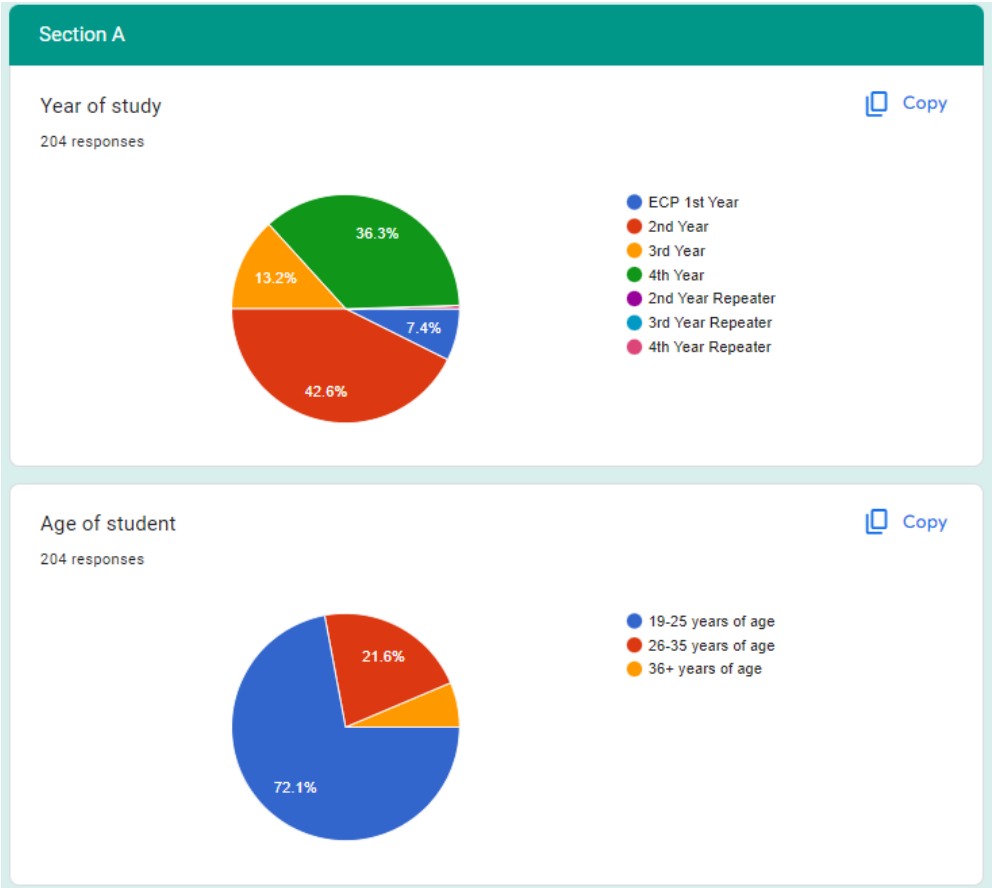


Figure 3.5: Example of how the results were displayed on Google Drive

The instrument in the main study, was shared for the first time on the 20th of August 2020 and the administrator re-sent the same link weekly as reminders until 3 October 2020. The last day of accepting completed questionnaires was on the 31st of October 2020, when the data analysis process started. All respondents completed the instrument online.

3.7 DATA ANALYSIS

The data collected was analysed to answer the research questions (Ali, Azman, Mallick et al., 2022:177-178). A statistician (Annexure J) conducted the data analysis. The data collected from the completed online questionnaires was transferred to an Excel spreadsheet counting each response for each question. The statistician used the NCSS PASS Professional (2021: n.d.) software that is an extremely reliable and potent statistical system which correctly measures the sample size and strength in statistical studies (NCSS PASS 2021; n.d.).

Descriptive statistics is the method used to summarise the statistics that describe a sample's average and consistency (Mahsin, 2022:240). Descriptive statistics were presented in tables, graphs and figures referring to the number of responses (n), percentages (%), mean values ($\tilde{x}$) and standard deviations (SDs). The mean value ($\tilde{x}$), commonly referred to as the average, is calculated by dividing the sum of all values within a sample by the count of values present in the

same sample (Hurley & Tenny, 2022: n.d.). The SD is a statistical measure that calculates the dispersion or spread of a set of data points around the mean (average) value ($\tilde{x}$). In essence, it indicates how far individual data points lie within one (1) standard deviation from the mean value (Omda & Sergent, 2022: n.d.). A wide SD indicates that the data points are further spread out from the mean value, reflecting greater variability or dispersion within the dataset. Equally, a smaller SD suggests that the data points are closer to the mean value, indicating less variability (Andrade, 2020:409).

Inferential statistics were used to describe the findings, make conclusions, and make inferences or suggestions about the total sample (Pietersen & Maree, 2020b:242). It determined if two variables in the population were related to each other (Turney, 2023b: n.d.). A non-parametric test was used in analysing the data that was inherently in categories (two groups), as the study included all respondents of the total sample (Haldar, 2018: n.d.). Pearson chi-square test (x^2) is an inferential non-parametric statistical chi-square test of independence that allows for making conclusions of the accessible based on a sample. The chi-square test is used to test whether two categorical variables are related to each other (Turney, 2023a: n.d.). The chi-square reports: x^2 = (degrees of freedom, (N = sample size) = chi-square value, p = value, $p < 0.05$).

Pearson chi-square test (x^2) determined the significant differences in responses in items between the junior and senior years of study as well as their age groups (<19 – 25 and > 26 years of age) and ethnicity. The significant differences between responses of the two groups of juniors and seniors on items were indicated by $p < 0.05$. A significant difference indicated that a relationship between the two groups and a variable related to mindfulness existed. A non-significant difference in responses was indicated in Chapter 4 by a NS as indicated in statistical terms. The Cochran-Armitage Alternative Trend Test (Z) was performed to refine the results of the Pearson chi-square test (x^2) on finding significant differences in responses that existed in an item.

- *Overall null hypothesis (H_0) of the students*:

A null hypothesis supports that there are no statistically significant effects, differences or relationships among the variables being studied (Fonseca, 2024: n.d.).

Application in this study

There is no significant relationship between the responses of the juniors and seniors and their mindfulness levels during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape; the proportions of Variable 1 (levels of study) are the same for different values of Variable 2 (mindfulness during interpersonal communication). If a null hypothesis was accepted in this study, only the chi-square value and the significant value were indicated.

- *Overall alternative hypothesis* (H_A):

There is a significant relationship between the junior and senior students and their level of mindfulness during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape. The proportions of Variable 1 are not the same for different values of Variable 2.

If the Pearson chi-square test did not support the null hypothesis, a Trend Test was conducted. An alternative hypothesis was tested by the Cochran-Armitage Trend test (will refer to the Trend Test in Chapter 4). This test has a higher power than the Pearson chi-square test when a suspected trend could be correct. The Cochran-Armitage Trend test (Z) for trend, was used to assess for the presence of an association/ relationship between a variable with two categories and an ordinal variable with *k* categories (Tekindal, 2022:211).

Three null hypotheses were tested to be accepted or rejected:

- *H_0: There is no relationship between the seniority of the students and their level of mindfulness during interpersonal communication with colleagues and patients.*
  H_A: There is a relationship between the seniority of the students and their level of mindfulness during interpersonal communication with colleagues and patients.

- *H_0: There is no relationship between the age of students and their level of mindfulness during interpersonal communication with colleagues and patients.*
  H_A: There is a relationship between the age of students and their level of mindfulness during interpersonal communication with colleagues and patients.

- *H_0: There is no relationship between the ethnicity of students and their level of mindfulness during interpersonal communication with colleagues and patients.*
  H_A: There is a relationship between the ethnicity of students and their level of mindfulness during interpersonal communication with colleagues and patients.

A factor analysis, an exploratory data analysis was conducted, which determined the number of factors in the phenomenon (Pietersen & Maree, 2020a:267; Gray et al., 2020:381) of mindfulness during interpersonal communication. This was followed by the component analysis (PCA), which is a method of reducing the number of variables in a dataset. PCA functions as a valuable instrument for data investigation and is frequently used within the realm of exploratory data analysis (Malhotra & Zolaktaf, 2019: n.d.), as in this study. The analysis summarises the group of variables into factors that maximize the likely information from the data in the original group variables (Alavi, Visentin, Thapa et al.,2020: n.d.). The Principal Component Analysis (PCA) identifies underlying factors which explain variance among observed variables. It reduces cases-

by-variables data to essential features or principal components, approximating the original data (Greenacre, Groenen, Hastie et al., 2022:100).

Table 3.4: Dimensions of the instrument, factors, factors loadings and eigenvalues

Factors corresponding with elements of mindfulness	Item no	Factor loadings	Eigenvalues
Psychological dimension			
Factor 1	9	0.51	
	10	0.41	
	4	0.30	
	5	0.30	
	8	0.32	
	33	0.22	2.06
Factor 2	20	0.41	
	13	0.36	
	19	0.32	
	2	0.21	
	29	0.32	
	28	0.31	1.93
Factor 3	17	0.54	
	16	0.34	0.88
Physiological dimension			
Factor 4	36	0.65	
	35	0.57	
	38	0.40	1.62
Factor 5	39	0.78	
	37	0.38	1.16
Factor 6	34	0.74	0.74
Spiritual dimension			
Factor 7	44	0.62	
	43	0.52	
	42	0.32	1.46
Factor 8	49	0.65	
	45	0.41	
	48	0.40	1.46
Factor 9	46	0.54	
	41	0.25	0.82

The relationship between an observed variable and a factor is called factor loading (ranging from 0 to 1), which quantifies the sum of the variance in the variable enlightened by the factor (Alavi et al., 2020: n.d.). Child (2006: n.d.) suggests that the value of an item with a loading of below 0.2 should be removed from a factor. *Items with a factor loading of 0.2 and above (28 items of Section B of the questionnaire) were included in the varimax rotation and more factors emerged that were ordered under the three (3) dimensions* (Table 3.4). *Factors were named* by the similar characteristics of the set of items/variables with which the most correlated (Alavi et al., 2020: n.d.). The results of the factor analysis that indicated two or less items in a factor were acknowledged and left as is, with no further interpretation. In the Psychological dimension, Factor 3 rotated two items (Items 17, 16); in the Physiological dimension, Factor 5 rotated two items (Items 39, 37) and Factor 6 rotated one item (Item 34); and in the Spiritual dimension Factor 9 rotated two items (Items 46, 41).

Table 3.5: Factors and reliability

		Name of the factor	**Cronbach alpha (α)**
Psychological Dimension	1	Mindfulness adaptability	
	2	Assertiveness through focused and open-minded communication	
	3	Awareness of self and others in solving problems and making the correct decisions	0.81
Physiological dimension	4	Being consciously aware of self and surroundings	
	5	Listen with attentiveness and without being judgmental	
	6	Being aware and attentive to all finer details	0.73
Spiritual Dimension	7	Valuing principles as well as tolerating the opinions of others	
	8	Show compassion, able to change the way of interaction. Can critically reflect and focus on strengths	
	9	In acceptance of failures and work to strengthen weaknesses	0.63

A description of the factors was done for each of the three dimensions (Table 3.7).

Varimax rotation was further conducted to maximise the simplicity and interpretation of the factors that remained uncorrelated with each other. Rotation was used to explain and streamline the results of factor analysis. Rotation aimed to achieve an uncomplicated structure which attempts to have each variable loaded, on as few factors as possible, and to make the most of the number of high loadings of each variable (Yamashita & Adachi, 2020:1; Yong & Pearce,

2013:84). An eigenvalue explained how much variance exists in the data of the factor. The eigenvalue determines how many factors are included in the analysis, and the Empirical Kaiser Criterion was used to keep only factors with eigenvalues ≥ 1 (Braeken & Van Assen, 2016:450). The eigenvalues of the factors ranged between 0.74 and 2.06 (Table 3.5). The Cronbach's Alpha Coefficient (α) measured the internal reliability of the items in the instrument (Frost, 2023b). A high value of a Cronbach alpha indicated that the value of the responses for each respondent, across a set of questions, was consistent. For this study, reliability estimates of 0.80, were acceptable, whereas reliability estimates of 0.60 and less, were regarded as unacceptable. The three dimensions showed reasonable value of the Cronbach alphas of between 0.679 and 0.835 (Table 3.6).

3.8 RELIABILITY AND VALIDITY

3.8.1 Reliability

Reliability in essence indicates the consistency or precision of an instrument. In other words, reliability indicates if that instrument can be administered at a different time or with different respondents from the same population and still have the same outcomes (Pietersen & Maree, 2020a:260). In other words, if the same instrument is used on another day and time, for the same respondents, the results should be the same.

Table 3.6: Reliability of instrument

Dimension and description of mindfulness	Cronbach alpha (α)
Psychological dimension Mindful adaptability involves being attentive and consciously aware of what you hear while putting thoughts aside. It encourages an optimistic and tolerant outlook, all while valuing principles as a guide for flexible and resilient responses to change and challenges	0.81
Physiological dimension Cognitive balance is the art of maintaining focus and attentiveness while engaging in open-minded, non-judgemental, and critical reflections. It encourages assertive communication, staying calm even during disagreements, and fostering compassion in all interactions	0.73
Spiritual dimension Embrace and growth entail being aware of your thoughts and observing your emotions and feelings. It is about accepting failures and using them to strengthen your weaknesses	0.63

The different types of reliability are test-retest reliability, equivalent form reliability, split-half reliability, and internal reliability. In this study, internal reliability was evident. This occurs when items strongly correlate with each other. The internal reliability of the instrument was measured with the Cronbach alpha-coefficient (α) (Polit & Beck, 2022:229). It measured the level of agreement between the items in the instrument and if its value was between '0' and '1' (Frost,

2023b: n.d.). Different literature interprets these values in different ways (Sürücü & Maslakci, 200:2713).

A reliability estimates of 0.80 is regarded as acceptable, whereas a reliability estimates of 0.60 is regarded as unacceptable (Pietersen & Maree 2020a:261). The three dimensions obtained in the factor analysis of the study (Table 3.7) had Cronbach's alpha (α) values of between 0.60 and 0.80 which were considered as acceptable reliability values.

3.8.2 Validity

Validity indicates to what degree the instrument measures what it was intended to measure (Pietersen & Maree, 2020a:261). The validity of an instrument suggests that the instrument measures what it was designed to measure. The different types of validity adhered to in this study were, face validity, content validity, construct validity and criterion validity (Pietersen & Maree, 2020a:261-262).

a) *Face validity*: Face validity is important because it represents the initial assessment of a measure's (including a questionnaire) overall validity (Arteaga, 2023: n.d.). It provides an uncomplicated means to initiate an evaluation of whether a new measure appears to have value upon initial examination. A strong face validity implies that individuals repeating the completion of items confirm that it appears to measure what it intended to measure (Bhandari, 2023b: n.d.). To identify potential problems in the instrument and to adjust it, four student nurses (one from each level) completed the pre-testing of the instrument. Minor editorial corrections were made.

b) *Content validity*: Content validity assesses whether a measurement tool, such as a questionnaire, adequately covers its intended content or construct, ensuring its relevance and suitability (Hassan, 2023: n.d.). Therefore, it had to be established if the instrument covered all the content of the specific concept that it was set out to include (Pietersen & Maree, 2020a:262). Four (4) nursing educators, representative of the main as well as two rural campuses, lecturing junior and senior students were requested to look at *the face and content validity of* the instrument and to evaluate if it represented the topic of interest.

c) *Construct validity*: This type of validity indicates the degree to which an instrument measures what it claims to be measuring, and how accurately the constructs covered in the instrument represent the phenomenon (Bhandari, 2023a: n.d.). The factor analysis indicated nine (9) factors that corresponded with the content of the dimensions of mindfulness (constructs) in the theoretical framework of the study.

3.9 ETHICS

The researcher's primary responsibility was to protect the rights of the respondents who were taking part in the research study. The framework of Jooste (2018) was used to protect the rights of respondents during this study.

- *Confidentiality and anonymity*

No knowledge regarding a respondent should be gathered or shared without the permission of the respondent. It is therefore important to ensure that a respondent sign informed consent (Jooste, 2018:310). To protect the respondents' right to confidentiality and anonymity, no identifying details such as names, surnames or identity numbers were indicated on the data collection instrument. The instruments were numbered and completed online via a questionnaire created on Google Forms.

- *The right to justice and equality*

The researcher should treat participants fairly in the selection process in addition to compile a contract stipulating the role of the respondent as well as the researcher. This contract should be respected (Jooste, 2018:311). Respondents were selected fairly using probability sampling on the research sample. This ensured that all respondents had an equal chance to be included in the study.

- *The right to protection and truthfulness*

No actions that could cause harm or discomfort to the respondents were taken, and instruments could be completed without fear of unjust or prejudicial treatment by the researcher or being penalised by a lecturer in the programme (Jooste, 2018:311). All information regarding the research project was explained to the respondents in a detailed information sheet, including the purpose of this study, what was expected of each respondent (to be as honest as possible), as well as in which way the researcher could be contacted to clarify any questions the respondents might have. No names were mentioned on the instrument or will be published in reporting the findings.

- *The right to freedom of choice and withdrawal*

Respondents must sign informed consent before participating in a study, without pressure, and be free to withdraw at any time without embarrassment or bias (Jooste, 2018:311). No pressure was put on respondents to take part in this research study and voluntary participation was essential. The respondents could withdraw their participation at any time during the completion of the instrument.

- *The protection of respondents' rights*

Informed consent to take part in this research project was obtained from each respondent (Jooste, 2018:312). The document on Google Drive had three sections. The information sheet

was in Section 1. The written informed consent, which needed to be signed electronically, was also in Section 1.
The respondents had to read all the information, and they needed to click 'yes' on the informed consent form to continue with the completion of the instrument. Note that the respondents could withdraw at any time throughout the research study, as discussed. Section 2 contained the demographic and biographical data to be completed, and in Section 3 the respondents could access and complete all the questions.

- *Data management*

Respondents must be fully informed about the nature, purpose, and benefits of the study. They should also know that any data collected will be shared only with the researchers or supervisors directly involved in the study (Jooste, 2018:311). To ensure confidentiality, the gathered data was not shared with anyone apart from the supervisors and statistician. Data was kept on Google Drive on a computer with a password and will be kept for five years after the report has been published, after which the data files will be destroyed.

- *Benefits for the community*

The researcher must uphold high standards in planning, conducting, and reporting research, ensuring honesty, neutrality, and transparency about any limitations. They should avoid unethical behavior, use appropriate methods, provide justification for all findings, and refrain from plagiarism (Jooste, 2018:311-312). After the completion of the study, the findings will be presented to the Director of the HEI, heads of the three campuses and student representatives, on an agreed-upon date. All the respondents and other students in the HEI will be invited to a Teams presentation. Respondents could also contact the researcher if they wanted information on the findings. An article based on this study had been submitted to an accredited peer-reviewed journal for publication, that would be made available via email to all students.

3.10 CONCLUSION

In this chapter the attention was focused on a sound research process, using the specific methodology following a quantitative research design (Alharahsheh & Pius, 2020:40). A non-experimental design was followed to investigate the extent (level) of mindfulness of junior and senior students as well as to develop guidelines for student nurses on their mindfulness during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape. The research field was prepared for the survey that included an appropriate measuring tool, a self-developed instrument that was distributed using online technology, after pre-testing of the tool. The instrument was reliable and found valid through a factor analysis. Descriptive and inferential statistics were correctly applied to measure the objectives of the study. The length of the instrument and time to complete it were adequate and the items included the content of the literature. Three null hypotheses were set to test significant differences between the two

groups on mindfulness during interpersonal communication. important principles to ensure ethics adherence and rigour were outlined.

CHAPTER 4
FINDINGS

4.1 INTRODUCTION

Data analysis is important for answering the research questions by interpreting the collected data (Polit & Beck, 2022:390) and presenting the findings. This study's data was analysed by a statistician who used NCCS Statistical Software (2021: n.d.).

In Chapter 4, Objective 1 is addressed that states:

- To determine the extent to which students are mindful during interpersonal communication in clinical facilities.

4.2 PRESENTATIONS OF THE FINDINGS

The findings were presented according to the sections in the questionnaire, namely:
Section 1: Demographic and biographical data, including the year of study, age, and ethnicity.
Section 2: The three (3) dimensions of mindfulness, namely the:

- Psychological dimension (Items 1 – 33)
- Physiological dimension (Items 34 – 39)
- Spiritual dimension (Items 40 – 49)

Findings were presented in charts, figures, and tables.

Wu et al. (2022:1) state that online instruments, as used in this study, typically have an average response rate of 44.1%. Another study demonstrated that the average response rate spans 5.0% to 30.0% (Cleave, 2020: n.d.). In addition, the opinion is that a survey response rate of 50.0% and higher should, in most circumstances, be considered as excellent (Yousuf, 2023). Considering the accessible population served as the total sample (n=600), a *reasonable overall response rate of 34.0%* was obtained. Of a total of 600, 102 were juniors. They had a response rate of 56.6%. Similarly, there were 102 seniors with a response rate of 24.3%. The number of respondents in each group was therefore 102. Considering the latter study from Yousuf (2023), the response rate of the junior students' sample (n=102;100.0%) could be seen as excellent versus the final sample size of the senior respondents (n=102;100.0%) with an average response rate.

Respondents' participation in the study was voluntary, and no incentives were given to them to complete the instrument. The researcher realised that recruitment methods could influence the size and representativeness of individuals who partake, and by using effective recruitment methods, an acceptable sample could be achieved. These methods refer to how and when the instrument was distributed and followed up with non-responders to ensure an effective response rate and a quality research process (Ponto, 2015:168). As this study was conducted during the

COVID-19 period, the questionnaire was set up in the Google Drive of the researcher (password protected), and students were given access to it via a link sent to their student e-mails.

In the findings, the

- term “nurse” refers to a student nurse
- word “others” refers to colleagues and patients
- two (2) groups, juniors (1st and 2nd year) and seniors (3rd and 4th year), refer to student nurses

The number of responses below ten (10) was written in words (e.g., seven, three), and numerical values were used for numbers ten (10) and higher (Purdue, 2022: n.d.). Due to statistical calculations, totals of items do not always add up to 100.0% in tables; their totals were indicated with an *asterisk* (*). The number of responses (n) on items varied, as some students did not respond to all the items.

4.3 SECTION 1: DEMOGRAPHIC AND BIOGRAPHICAL DATA

4.3.1 Respondents’ year of study

The intake of students in the different years of study in the 4-year programme varied due to, e.g., the uncertainty around a planned merger between two institutions. The programme was offered over three campuses with an accessible population of 600 (100.0%) students, who also served as the total sample.

Table 4.1: Responses as per year level (n=204)

Year of study	Number of respondents (n)	Percentage %
Junior respondents		
1st Year	15	7.4
2nd Year	87	42.6
Senior respondents		
3rd Year	27	13.2
4th Year	75	36.8
Overall total	**204**	**100.0**

Out of the 204 (100.0%) overall responses, half (n=102, 50.0%) were junior student nurses and a similar number, the seniors (n=102, 50.0%) (Table 4.1). Only one (0.5%) of the 204 (100.0%) students was a 4th-year repeater.

The fluctuation in student intake numbers could be due to financial constraints. In 2018, the number of 27 for the third year (Figure 4.1) was viewed as low.

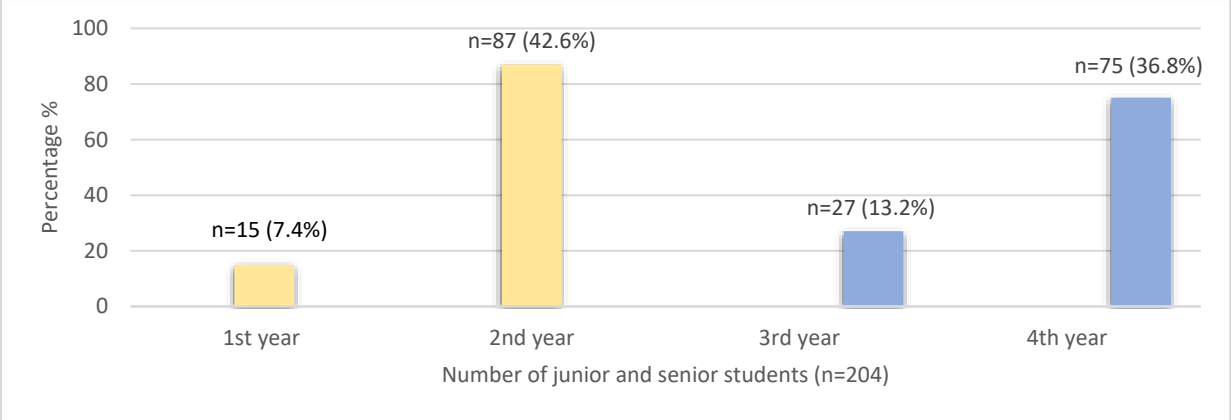


Figure 4.1: Total number of junior and senior respondents in 2020 (n=204; 100.0%)

During the period of the study, many reasons can be provided for the various number of students on the different year levels. Prospective student nurses could not register at institutions such as the Department of Health in South Africa, which had no budget allocated for these students (Mnqabashe, 2018: n.d.). The COVID-19 pandemic had a major effect on the higher education environment in South Africa, as universities closed, and many students were unable to obtain funds from the National Student Financial Aid Scheme (NASFAS). Globally, e.g., in the United Kingdom, nursing applications in 2023 decreased in all age groups compared to 2022 (Ford, 2023: n.d.).

In South Africa, the Nursing Act (2005, Section 42) gives the South African Nursing Council (SANC) the authority to approve qualifications for HEI's. In return, the HEI must adhere to certain requirements such as the intake number of students per year as well as per programme and per institution. The intake number of students could not be met during the period of 2019–2022 (Figure 4.1).

4.3.2 Respondent's age

Almost a third of the respondents (n=57, 28.0%) were 26 years of age and above (Table 4.2). A study states that older individuals have more mindfulness characteristics than younger individuals (Roshgadol, 2020: n.d.). Interestingly, the number of students over the age of 30 years has shown the largest increase in the UK since 2020 (Maguire, 2021; Ardenghi et al., 2022:6).

Table 4.2: Age distribution of respondents (n=204; 100.0%)

Age in years	n	%
<19 – 25	147	72.1%
26 – 35	44	21.6%
>35	13	6.4%

Total	**204**	***100.0%**

**Due to statistical calculation, this does not add up to 100.0%*

Apart from young students entering the profession, older students in nursing can benefit from the profession, as it has been found that a person of 40 years is likely to be more mindful in certain aspects, e.g., acting more attentively and being non-judgmental and in the present moment (Mahlo & Windson, 2020:1321). It has been found that older adults are significantly more mindful and feeling good, than younger adults (Shook, Ford, Strough et al., 2017: n.d.).

Table 4.3: Breakdown of the age distribution of respondents (n=204; 100.0%)

Age	**1st year (n=15)**		**2nd year (n=87)**		**Total**			**3rd year (n=27)**		**4th year (n=75)**		**Total**	
Years	**n**	**%**	**n**	**%**	**n**	**%**		**n**	**%**	**n**	**%**	**n**	**%**
19-25	10	9.8	68	66.7	78	76.5		17	16.6	52	50.9	69	67.6
26-35	3	2.9	12	11.7	15	14.7		10	9.8	19	18.6	29	28.5
36+	2	1.9	7	6.8	9	8.8		0	0.0	4	3.9	4	3.9
Total					**102**	**100.0**						**102**	**100.0**

4.3.3 Ethnicity

The ethnicity of the respondents was diverse. Four (2.0%) of the 204 (100.0%) respondents did not disclose their ethnicity. The findings indicate that Black students (43.1%), followed by Coloured students (38.2%), were more than White (16.7%) and other ethnical groups of students.

Table 4.4: Ethnic representation of respondents (n=204; 100.0%)

Ethnicity	**n**	**%**
Coloured	78	38.2
Black	88	43.1
White	34	16.7
No disclosure	4	2.0
Total	**204**	**100.0**

The findings corresponded with StatsSA (2022) who indicates the ethnic representation of the Western Cape as Coloured (42.1%), Black African (38.8%), White (16.4%), Indian/Asian (1.1%) and other (1.6%) (StatsSA, 2022: n.d.).

4.4 SECTION 2: PRESENTATION OF THE FINDINGS ON MINDFULNESS OF STUDENT NURSES DURING INTERPERSONAL COMMUNICATION

Section 2 addresses the results according to the three (3) dimensions of mindfulness indicated in the instrument, that also served as the framework for the discussion of the items.

4.4.1 Interpretation of the items

For purposes of this study, the scale indicating *the extent of agreement* of a respondent on an item regarding mindfulness in the instrument (Tables 4.6 to 4.18) that also referred to as *the level of mindfulness* of the student.

Table 4.5: Extent of agreement level of mindfulness

Extent of agreement	Level of mindfulness
1. Totally disagree	1. Definitely not mindful
2. Disagree	2. Not mindful
3. Somewhat disagree	3. Rarely mindful
4. Somewhat agree	4. Somewhat mindful
5. Agree	5. Mindful
6. Totally agree	6. Completely mindful

Table 4.6: Criteria for presenting the findings of items

Extend to which agreed	**Extend of being mindful**	
Totally to somewhat disagreed (≥ 20.0%)	Definitely not to rarely mindful (≥ 20.0%)	
Somewhat disagreed to somewhat agreed (≥ 20.0%)	Rarely to somewhat mindful (≥ 20.0%)	
Somewhat agreed (≤ 15.0%)	Somewhat mindful (≤ 15.0%)	
Somewhat to totally agreed (≤ 50.0%)	Somewhat to completely mindful (≤ 50.0%)	
Agreed (≥ 50.0%)	Mindful (≥ 50.0%)	
Agreed to totally agreed (≥ 90.0%)	Mindful to completely mindful (≥ 90.0%)	
Totally agreed (≥ 60.0%)	Completely mindful (≥ 60.0%)	

**The colours accentuating distinct findings* – see Table 4.8 as example

Rehman (2023: n.d.) emphasises that an individual's perception is formed by their past experiences and beliefs, shaping their current state of mind. Consequently, this view, rooted in personal history, informed the interpretation of the scale measuring *mindfulness levels*, ranging from a *definitely not mindful level* to a *completely mindful level.* Reference to the extent of agreement and level of mindfulness were interchangeable used. The researcher identified certain tendencies (trends) in the data. For purposes of this study, the findings on the items, were discussed according to criteria that focus on these trends (Table 4.6). The mean value of items of ($\tilde{x}$) 1.0 – 2.9 were interpreted as a low mean value, ($\tilde{x}$) > 2.9 – 4.4 a moderate mean value and a mean value ($\tilde{x}$) of ≥ 4.50 a high value, interpreted as a positive outcome of mindfulness (responses were rated from somewhat mindful to totally mindful).

A standard deviation (SD) of 1, is a normal distribution of responses when around 68% of scores/responses are around the mean plus 1 SD. For purposes of this study, an SD of ≤ 0.7 was a narrow distribution around a mean value, while an item with an SD of ≥ 1.2 indicated a wider distribution of responses around the mean value. A normal distribution was a SD > than 0.7 and < 1.2. An SD with a narrow distribution of responses around a mean value indicated that the students in their peer group (junior or senior group) were *more alike* in their mindfulness level on a specific item. A SD that indicated a wide distribution of the responses around a mean value, was interpreted as students in a peer group (junior or senior group), who differed in their mindfulness levels regarding that specific item.

4.4.2 The layout of the findings

In each of the three dimensions of mindfulness;

- Psychological dimension (Items 1–33)
- Physiological dimension (Items 34–39)
- Spiritual dimension (Items 40–49)

the items were presented according to the *elements of mindfulness*, namely:

- having deliberate awareness (DA)
- being non-judgmental (NJ)
- being non-reactive (NR)

For each of the three dimensions of mindfulness, items were grouped and presented in the sequence of:

(i) The factor analysis (see Chapter 3), and the findings of the factors that rotated on the three dimensions of mindfulness (three sections of the instrument) are the departure point in presenting the findings of the dimensions. It is important to note that a factor should have at least three (3) items. If, after a factor rotation, the results indicate two or fewer items in a factor, such as in Factor 3 (Items 17 and 16). Mitja (2017: n.d.) is of the opinion that the results should only be acknowledged, left as is, and not further interpreted. For purposes of this study, these items were described.

(ii) Descriptive statistics, including the number of responses on items (n), their mean values ($\tilde{x}$) and standard deviations (SDs). Figures 4.2 to 4.50 indicate the percentage (%) and number of responses (n).

(iii) Significant differences in responses between the year level groups, age and/or ethnicity of respondents on some items were found. The level of significance was set, and the p-value had to be less than 5.0% ($p < 0.05$) (Similar Stats Tool, 2023: n.d.). A 5.0% probability was used in

this study, which meant that the observed relationship was due to chance (confidence level of 95.0%).

4.5 FINDINGS ON THE PSYCHOLOGICAL DIMENSION OF MINDFULNESS

This dimension consisted of 33 items and included (not limited to) concepts such as decision-making, critical thinking, problem-solving, empathy, compassion, assertiveness, self-awareness and being non-judgmental.

4.5.1 The factor analysis

Three factors rotated in the psychological dimension of mindfulness (Table 4.6). In the description of the three factors in the psychological dimension (Table 4.7), the elements of mindfulness are indicated. In **Factor 1**, the elements of non-judgmental and deliberate awareness emerged.

4.5.2 Description of the factor analysis

Students should show *non-judgmental behaviour* (Høegh-Larsen, Gonzalez, Reierson et al., 2023:64), particularly towards patients who repeatedly inquire about their illness (Item 9). Thus, they should be tolerant of human flaws and assist colleagues in mastering challenging procedures, even if they require multiple demonstrations (Item 10). Having *deliberate awareness* is essential for mindfulness among students (Oh et al., 2022: n.d.), who should show attentive behaviour when delegated duties (Item 4). Students are expected, to be confident in practice by demonstrating their willingness to connect with patients on important matters while setting aside their personal thoughts and own challenges (Items 5). Deliberative awareness refers to a consistent partnership with a patient, which implies communication and ensuring that the patient is listened to (Cellier, 2021: n.d.). Student nurses should go beyond their duty to learn and seek help to acquire new skills, like suturing lacerations. By this, they display their optimism (Item 8) and enjoyment in performing routine tasks in the clinical area (Item 33).

Factor 2 addressed students who should demonstrate assertiveness by being focused and open-minded during communication with others. Having *deliberate awareness* during interpersonal communication is an especially important trait a student nurse should master. Students should be mindful to stay calm, even when in a demanding situation (Item 20), such as disagreeing with a colleague. Showing the ability to stay focused during disagreements is vital (Alshehry, 2022:1). It is also important to disengage one's thoughts (Item 13) in a stressful situation and display the confidence to communicate with assertiveness (Item 19) during disagreements. Developing and maintaining a dynamic awareness of a situation, and the risks present in an activity, are essential (Anderson, 2023: n.d.). Student nurses should also be able to use control in deliberate thinking (*deliberately aware)* (Item 2) when they communicate important information such as placement changes. In addition, a student nurse needs to stay focused (*deliberately* aware) when they are addressing problems that must be resolved in the

clinical area (Item 29) (Kim & Kim, 2023:1889). They are likely to show *deliberate awareness* by being open-minded (Item 28) and non-judgmental towards others (Wang, Cao & Du, 2022:234) whose way of thinking might differ from their own.

Table 4.7: Factors in the psychological dimension with elements of mindfulness

Factor	Elements of mindfulness	Item	Description
1	Non-judgmental and non-deliberate awareness that demonstrate satisfactory achievements in the workplace	9	Non-judgmental towards others who ask many questions to be able to understand, e.g., various medical conditions
		10	Tolerant of human flaws, e.g., will assist others to repeat a procedure until they are competent
		4	Pay full attention when superiors delegate tasks to minimise mistakes
		5	Put own personal thoughts aside when, e.g., interacting with a patient on a matter of importance for him/her
		8	Optimistic in different situations
		33	Enjoy routine tasks in the clinical area, such as ‘fixes’ or observation rounds
2	Assertiveness through focused and open-minded communication	20	Can keep calm, even during a disagreement with a colleague
		13	Less defensive and being able to disengage thoughts in stressful situations
		19	Communicate assertive in difficult situations
		2	Use control in deliberate thinking when communicating with peers regarding, e.g., duty rosters
		29	Stay focussed when addressing problems to be resolved, e.g., colleagues who seem as if they are not pulling their weight in the clinical area
		28	Open-minded during discussions with colleagues on, e.g., different belief systems

3	Awareness of self and others in solving problems and making the correct decisions	17	Observant of emotions and can therefore be more empathetic in difficult situations
		16	Understand a patient's thoughts to show empathy

Factor 3 rotated only two items, and statistically, the factor should not be interpreted. However, the questions were similar in that they addressed an awareness and observation of the thoughts and emotions of others and can, therefore, be more empathetic for example in difficult situations (Items 16 and 17).

4.5.3 The findings according to the elements in the factor analysis on the psychological dimension

4.5.3.1 The element of deliberate awareness during interpersonal communication

- **Feel calm when I give my honest opinion to colleagues on sensitive matters, e.g., executing abortions (Item 1)**

A small number of the juniors (n=26, 26.0%; n=100, 100.0%) and seniors (n=22, 21.8%; n=101,100.0%) indicated that they were *rarely* to *somewhat mindful* (somewhat disagreed to somewhat agreed) on feeling calm when they shared their opinions with colleagues on sensitive matters (Table 4.8). High mean values (≥ 4.50) were found on the responses of both the juniors ($\tilde{x}$ 4.79, SD 1.09) and seniors ($\tilde{x}$ 4.60, SD 1.23) on being calm when giving honest opinions on sensitive matters. The standard deviation of ≥ 1.2 of the seniors ($\tilde{x}$ 4.60, SD 1.23*)* indicated that seniors were more diverse in their mindfulness levels than their peers, on feeling calm when giving honest opinions on sensitive matters. The null hypothesis (H_0) was accepted as no significant relationship was found between junior and senior students and their feelings of calmness when giving honest opinions on sensitive matters (p = 0.717, NS).

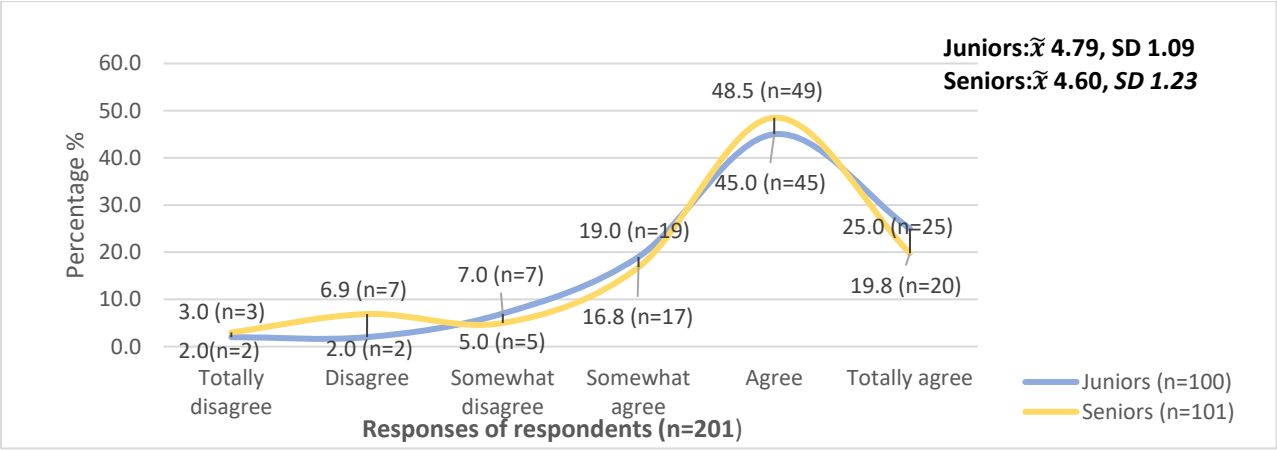


Figure 4.2: Feeling calm when giving an honest opinion on sensitive matters (Item 1)

The findings in Item 1 tend to be more positive in that 70 (70.0%) of the respondents agreed to totally agreed on it. However, literature states that student nurses find it difficult to show deliberate awareness and openly share their opinions on sensitive matters (Raypole, 2020a: n.d.).

- **Use control in deliberate thinking when informing peers about duty placement changes (Item 2)**

Deliberate (careful) thinking is the thorough consideration of an issue, being aware of the effects of your actions or decisions and allowing time for making informed decisions (Merriam-Webster, 2023c: n.d.). More than half, 53 (54.6%) of the 97 (100.0%) juniors ($\tilde{x}$ 4.85, SD 0.87) was *mindful* (agreed), whereas a third (n=34, 34.0%) of the 100 (100.0%) seniors ($\tilde{x}$ 4.48, SD 1.05) *were not mindful* to *somewhat mindful* (disagreed to somewhat agreed) on using control in deliberate thinking when they had to inform peers of their duty roster changes (Table 4.8; Figure 4.3). The standard deviation for the juniors (SD 0.87) and seniors (SD 1.05) were normal, with the mean value of the seniors ($\tilde{x}$ 4.48) indicating a value.

A significant decreasing trend (association) was found between the responses of the junior and senior students. The Cochran-Armitage test supported the alternative hypothesis, Z (3, (N = 197) = 2.6525, p = 0.00, $p < 0.05$), and the H_0 was rejected. Literature confirms that, to be able to think carefully about issues of importance, is imperative for decision-making about quality patient care (Williamson, 2023: n.d.).

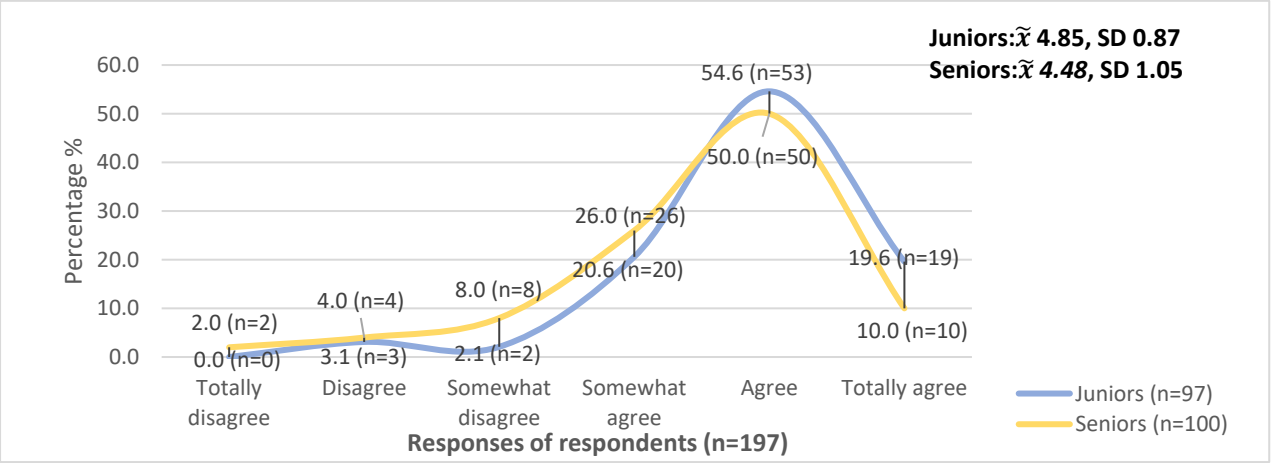


Figure 4.3: Use control in deliberate thinking when informing peers about schedule and placement changes (Item 2)

- **Pay full attention to the charge sister when she delegates certain duties to me (Item 4)**

More than two-thirds of the juniors (n=71, 69.6%; n=102, 100.0%), and half of the seniors (n=58, 56.9%; n=102, 100.0%) were *totally mindful* (totally agreed) in their ability to pay full attention to the charge sister. A large majority of 100 (98.0%) juniors and 95 (93.1%) seniors were *mindful to*

completely mindful (agreed to totally agreed) in paying full attention during, e.g., the delegation of duties by the professional nurse (Table 4.8; Figure 4.4). The standard deviation of ≤ 0.7 for the juniors ($\tilde{x}$ 5.56, SD 0.61) indicated a narrow distribution of responses, and the standard deviation of the seniors ($\tilde{x}$ 5.47, SD 0.75) was normally distributed, around its mean value. The responses of the seniors and juniors (≥ 4.50) indicated that the mindfulness levels amongst peers in their group were more diverse in terms of paying attention to their off duties (Figure 4.4).

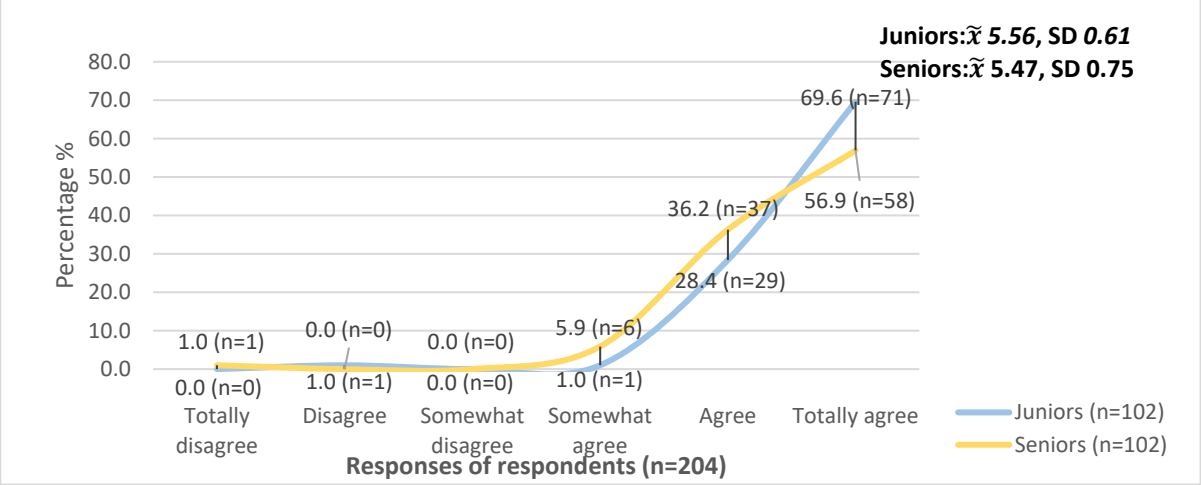


Figure 4.4: Paying full attention to charge sister when duties are delegated (Item 4)

A negatively skewed response distribution and significant decreasing trend were found in the responses of the junior and senior groups on giving attention to charge sister when duties are delegated. Their responses indicating a diversion at "somewhat agree" on the scale, to a higher response on "agree to totally agree" (Figure 4.4). The Cochran-Armitage test supported the alternative hypothesis, Z (3, (N = 204) = 4.2695, p = 0.0282, $p < 0.05$), and the H_0 was rejected. Students were deliberately focusing on paying attention to professional nurses, being "in the moment", and that the seniority of the professional nurses did not necessarily play a role (Ardenghi et al., 2022:6).

A significant increasing trend was found for both the age groups, as their responses diverted at the scores "somewhat agreed" and "agreed" (see Figure 4.4). Responses of a third, 51 (35.0%) increased to two thirds (n=87; 60.0%) of the 147 (100.0%) responses of the younger group (19-25 years), and 16 (26.0%) responses increasing to a number of 41 (76.0%) of the 57 (100.0%) responses in the older group (> 26 years), indicated a trend to increasingly positively responses, on paying attention to delegated duties. The Cochran-Armitage test supported the alternative hypothesis, Z = (3, (N = 204) = 3.9065, p = 0.0444, $p < 0.05$), and the H_0 was rejected.

Table 4.8: Responses on the psychological dimension (Deliberate Awareness)

Key element	Items	I, as a student nurse	Psychological dimension															$\tilde{x}$	SD
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Deliberate Awareness	1	feel calm when I give my honest opinion to colleagues on sensitive matters, e.g., conducting abortions	JR	2	2.0	2	2.0	7	7.0	19	19.0	45	45.0	25	25.0	100	100.0	4.79	1.09
			SR	3	3.0	7	6.9	5	5.0	17	16.8	49	48.5	20	19.8	101	100.0	4.60	1.23
	2	use control in deliberate thinking when informing peers about duty placement changes that have been made	JR	0	0.0	3	3.1	2	2.1	20	20.6	53	54.6	19	19.6	97	100.0	4.85	0.87
			SR	2	2.0	4	4.0	8	8.0	26	26.0	50	50.0	10	10.0	100	100.0	4.48	1.05
	4	pay full attention to the charge sister when she delegates certain duties to me	JR	0	0.0	1	1.0	0	0.0	1	1.0	29	28.4	71	69.6	102	100.0	5.65	0.61
			SR	1	1.0	0	0.0	0	0.0	6	5.9	37	36.2	58	56.9	102	100.0	5.47	0.75
	5	put my own personal thoughts aside when I interact with a patient on a matter that is important to them	JR	1	1.0	0	0.0	4	3.9	8	7.8	35	34.3	54	53.0	102	100.0	5.34	0.91
			SR	1	1.0	3	2.9	4	3.9	13	12.7	39	38.2	42	41.2	102	*100.0	5.08	1.06
	8	am optimistic in a situation in which a group task must be completed successfully	JR	1	1.0	3	2.9	2	2.0	11	10.8	54	52.9	31	30.4	102	100.0	5.03	0.96
			SR	9	8.8	7	6.9	4	3.9	11	10.8	39	38.2	32	31.4	102	100.0	4.57	1.56
	11	am willing to connect with those who are in distress due to their own personal challenges	JR	1	1.0	0	0.0	1	1.0	9	8.8	47	46.1	44	43.1	102	100.0	5.30	0.79
			SR	0	0.0	1	1.0	0	0.0	9	8.8	58	56.9	34	33.3	102	100.0	5.22	0.68
	12	feel less threatened when a peer confronts me	JR	4	4.0	7	6.9	14	13.9	22	21.8	38	37.6	16	15.8	101	100.0	4.30	1.31
			SR	3	2.9	8	7.8	17	16.7	22	21.6	33	32.4	19	18.6	102	100.0	4.28	1.32
	13	disengage my thoughts during stressful situations and is, therefore, less defensive, e.g., when a senior colleague accuses me of something I did not do, I am able to stay calm and correct them after they stop talking	JR	3	2.9	6	5.9	3	2.9	23	22.5	42	41.2	25	24.5	102	*100.0	4.66	1.23
			SR	3	2.9	8	7.8	12	11.8	21	20.6	40	39.2	18	17.6	102	*100.0	4.38	1.29
	16	am aware of the thoughts of a patient so as to be empathetic	JR	0	0.0	0	0.0	1	1.0	8	7.8	56	54.9	37	36.3	102	100.0	5.27	0.65
			SR	0	0.0	1	1.0	0	0.0	16	15.7	48	47.0	37	36.3	102	100.0	5.18	0.76
	17	observe the emotions of a patient who received a poor diagnosis with empathy	JR	0	0.0	1	1.0	1	1.0	11	10.8	56	54.9	33	32.3	102	100.0	5.17	0.74
			SR	1	1.0	0	0.0	1	1.0	11	10.8	56	54.9	33	32.3	102	100.0	5.16	0.78

- **Put my own personal thoughts aside when I interact with a patient on a matter that is important to him/her (Item 5)**

More than half (n=54, 53.0%) of the juniors (n=102, 100.0%), versus less than half of the seniors (n=42, 41.2%; n=102, 100.0%) were *completely mindful* (totally agreed) about not paying attention to personal thoughts when dealing with patients. A higher majority (n=89, 87.3.%) of the 102 (100.0%) juniors and more than three-quarters (n=81, 79.4%) of the 102 (100.0%) seniors were *mindful* to *completely mindful* (agreed to totally agreed) about putting their thoughts aside when dealing with a patient on a matter of importance (Table 4.8; Figure 4.5).

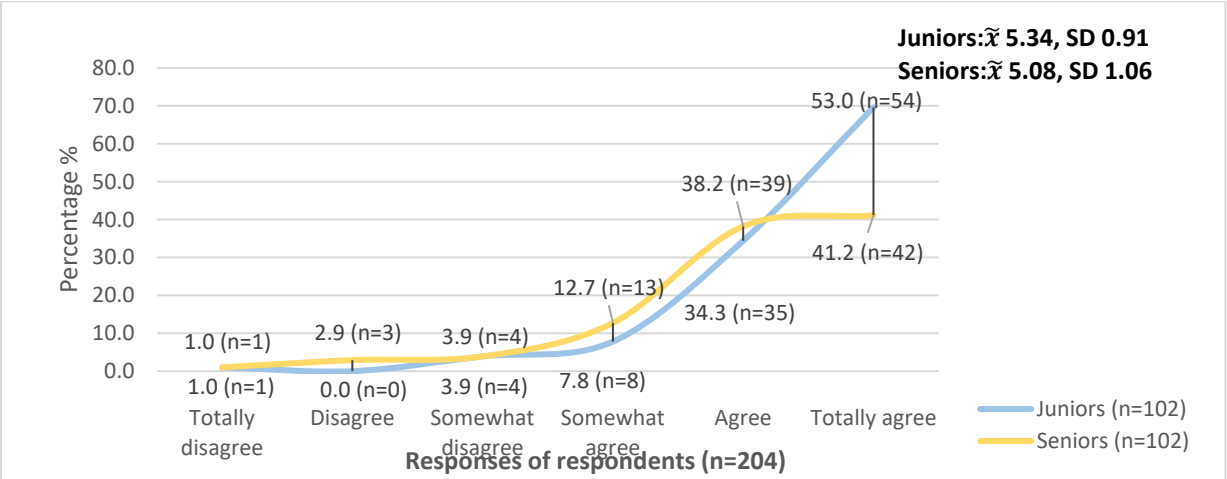


Figure 4.5: Put personal thoughts aside when interacting with patients on matters of importance (Item 5)

Regarding focusing on matters of importance, both normal the mean values of the juniors and seniors (≥ 4.5, with standard normal standard deviations ($\tilde{x}$ 5.34, SD 0.91), ($\tilde{x}$ 5.08, SD 1.06) indicated that the majority of the responses of students in their respective groups, were within the normal level of being mindful. The null hypothesis (H_0) was accepted as no significant relationship was found between the two groups regarding being mindful about putting their thoughts aside when interacting with patients (p = 0.293, NS). When nurses put their own thoughts aside, a patient perceives the nurse as empathetic and more open, which encourages patients to share problems and feel more accountable for their own health (Bird, 2022: n.d.).

- **An optimistic in a situation in which a group task must be completed successfully (Item 8)**

Half (n=54, 52.9%) of the juniors (n=102, 100.0%) versus more than a third of the senior group (n=39 38.2%; n=102, 100.0%), were *mindful* (agreed) about feeling optimistic in a situation in which a group task that had to be completed successfully (Table 4.8). The juniors ($\tilde{x}$ 5.03, SD 0.96) and seniors ($\tilde{x}$ 4.57, SD 1.56) had high mean values ($\tilde{x}$ ≥ 4.5), and SDs (≥ 1.2) which indicated a wide distribution of responses around their mean values, and thus more diversity of mindfulness levels in both groups.

Pearson's Chi-Square test indicated a significant difference between the responses of being optimistic in a situation in which a group task had to be completed successfully, The responses of the juniors diverted from “totally to somewhat agree” to more positive responses on “agree to totally agree”, oppose to their counterparts (x^2 = (3, (N=204), 9.6801, p = 0.021, *p* < .05)) (Figure 4.6). As a nurse, you are part of a team that provides safe, patient-centred and high-quality care activities to ensure good patient outcomes (Creighton & Smart, 2022: n.d.; Hooper, 2023:1).

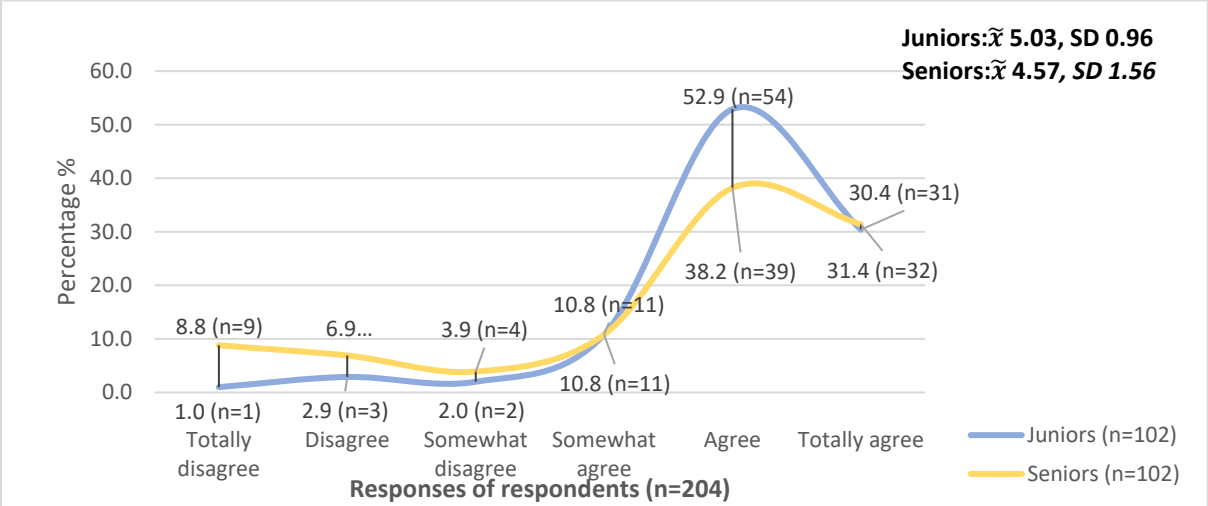


Figure 4.6: Optimistic during group activities that must be completed (Item 8)

The Pearson's Chi-Square test indicated a significant difference between the responses of the black (n=42, 51.0%), and less colored (n=17, 22.0%), and only 2 (6.0%) white respondents, on being optimistic in a situation in which a group task had to be completed successfully. Rejection of the null hypothesis (H_0), (x^2= (6, (N=204), 36.8811, 9.6801, *p* < .05)). Factors that can influence the students’ perception of group activities can be related to, among other things, the group size, group composition, being together after class time, cultural influences, and the teaching approaches of the lecturer (Allari, 2021:950, 953).

- **Am willing to connect with those who are in distress due to their own personal challenges (Item 11)**

Almost all respondents, 100 (98.0%) of the juniors (n=102, 100.0%) and 101 (99.0%) of the seniors (n=102, 100.0%), were *somewhat mindful* to *completely mindful* (somewhat agreed to totally agreed), in showing their willingness to bond with those in stress due to their own personal challenges (Table 4.8). The responses of both the junior and senior groups indicated normal mean values (≥ 4.50) ($\tilde{x}$ 5.30, SD 0.79; $\tilde{x}$ 5.22, SD 0.68). The value of the SD of ≤ 0.7; the senior students, indicated that they were more alike their peer, in being mindful about connecting with others in distress due to their own personal challenges (Figure 4.7). No significant differences between the responses of the students in their two groups were found regarding their willingness to connect with others in distress and the null hypothesis (H_0) was accepted (p = 0. 359, NS).

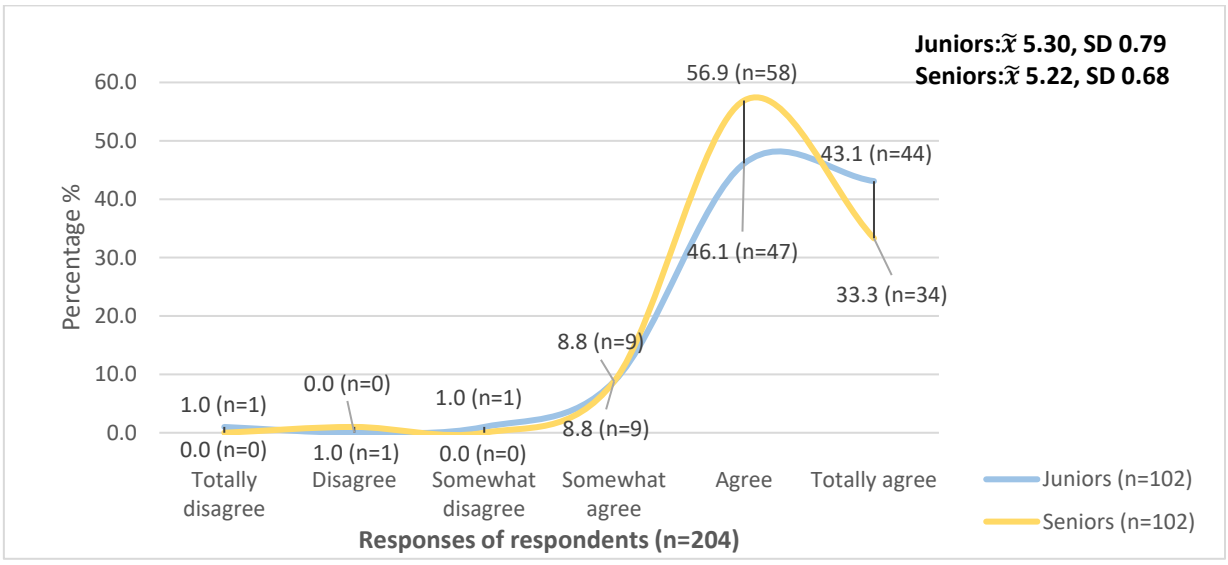


Figure 4.7: Willing to connect with those in distress (Item 11)

Deliberate awareness is demonstrated through being able to connect to those in distress and ensuring the reduction of medical errors and the overall well-being of others, such as a patient (Avalos, Roy, Asan & Zhang, 2021).

- **Feel less threatened when a peer confronts me (Item 12)**

Feeling threatened during a confrontation can potentially hamper a student's personal as well as academic ambitions (Gallardo-Williams & Schwartzman, 2023: n.d.). Almost half (n=47, 46.6%), of the junior (n=101, 100.0%) and senior (n=50, 49.0%; n=102, 100.0%) respondents were *definitely not mindful* to *rarely mindful* (totally disagreed to somewhat agreed) in feeling less threatened when being confronted by a peer (Table 4.8).

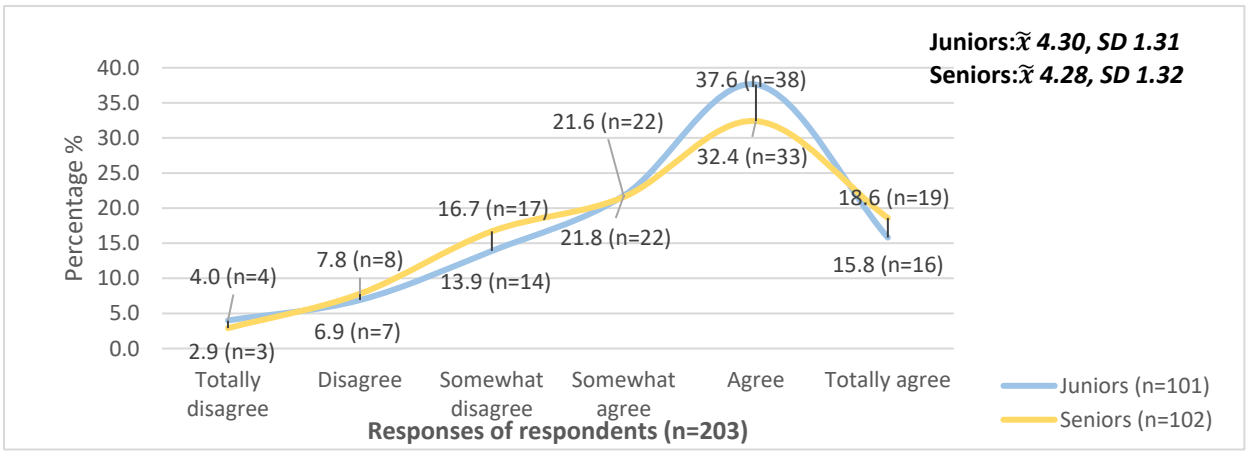


Figure 4.8: Feel less threatened when confronted by a peer (Item 12)

The juniors and seniors had similar moderate mean values, and the standard deviations of both groups were high (≥ 1.2), that resulted in a negative skewness of responses around the mean values ($\tilde{x}$ 4.30, SD 1.31; $\tilde{x}$ 4.28, SD 1.32). The standard deviations indicated that the responses of the students in their respective groups were more diverse in being mindful about feelings that made them less threatened when confronted by a peer.

The responses diverted in the opposite direction, at the rating point of "somewhat agree". Slightly more juniors (n=38) obtained a score on "agree" than the seniors (n=33) about feeling less threatened when confronted by a peer (Figure 4.8). There was no significant relationship found between the responses of the two groups and being mindful when threatened by a peer (p = 0.952, NS), and the null hypothesis (H_0) was accepted. Pearson Chi-Square test (x^2) indicated a significant difference amongst the responses of the two age groups ($x^{2=}$ (5, (N = 203), = 12.232, p = 0.03 p < 0.05)). Less, namely half (n=72, 50.0%) of the younger group (19–26 years) agreed to totally agreed on their ability to feel less threatened when confronted by a peer, oppose to their older counterparts (n=35, 62.0%). When a student feel threatened or intimidated, they may become despondent and doubt their ability to perform even a simple task, even though they have previously been found to be fully competent in doing so (Rutherford, Smith, Bresler et al., 2020:54).

- **Disengage thoughts and be less defensive during stressful situations with a senior colleague (Item 13)**

The junior and senior groups each had 102 (100.0%) students, from which a quarter of the juniors (n=26, 25.4%) and a third of the seniors (n=33, 32.4%) were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) in their ability to disengage their thoughts during stressful situations (Table 4.8). The juniors and seniors had normal mean values with a wide distribution of responses around their mean values (≥ 1.2) in Item 13 ($\tilde{x}$ 4.66, SD 1.23; $\tilde{x}$ 4.38, SD 1.29) (Figure 4.9). The responses of the students in each of their respective groups indicated that they were more alike in their mindfulness level, to disengaged in stressful situations. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups and mindfulness about being defensive in a stressful situation (p = 0.822, NS).

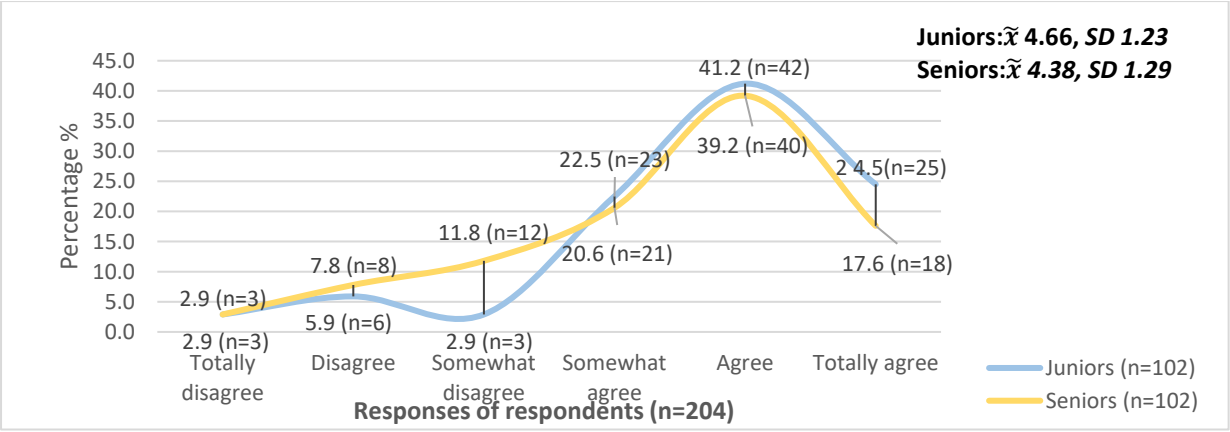


Figure 4.9: Disengage thoughts in stressful situations (Item 13)

Being able to disengage one's thoughts and becoming less defensive towards a senior in a stressful situation could be viewed as deliberate awareness and could enable a person to

overcome stressful situations by using problem-solving skills to achieve their goals (Kreibich, Wolf, Bettschart et al., 2022:825).

- **Am aware of the thoughts of a patient to be empathetic (Item 16)**

Nearly two-thirds (n=64, 62.7%) of the juniors (n=102, 100.0%) were *somewhat mindful* to *mindful* (somewhat agreed to agreed) of the thoughts of a patient (being empathetic), as opposed to only 16 (15.7%) of the seniors (n=102, 100.0%) who were *mindful* (agreed) of the thoughts of a patient, as indicated in Table 4.8. Figure 4.10 indicates the highest peak of the

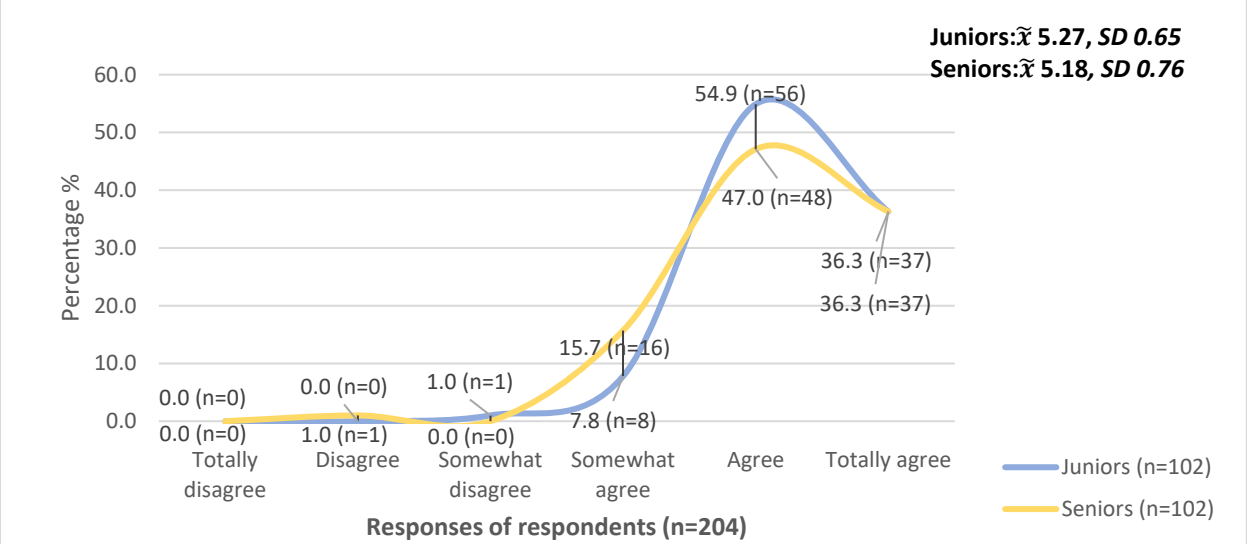


Figure 4.10: Aware of thoughts of a patient and being empathetic (Item 16)

curve as that of the juniors. Both the mean values of the two groups ($\tilde{x}$ 5.27, SD 0.65; $\tilde{x}$ 5.18, SD 0.76) were high (≥ 4.50), and their SDs were > 0.7- < 1.2, were more alike in their mindfulness of being aware of their own thoughts. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and being aware of the thoughts of someone else (p = 0. 599, NS). To truly become aware of a patient's thoughts (to show empathy), student nurses must initiate conversations during which they acknowledge the fears and uncertainties of the patients, give supportive feedback, and share similar experiences with the patients being truly attentive (Wu, 2021:1-2).

- **Observe the emotions of a patient who received a poor diagnosis with empathy (Item 17)**

To put yourself in another's shoes and really observe what that person experience needs a special kind of compassion (Valadon, 2023: n.d.). It was found that more than half of the junior (n=56, 54.9%; n=102, 100.0%) and senior (n=56, 54.9%; n=102, 100.0%) respondents were *mindful* (agreed) about being able to observe the emotions (*deliberate awareness*) of patients who received a poor diagnosis (Table 4.8). Both the mean values of the junior ($\tilde{x}$ 5.17, SD 0.74) and senior ($\tilde{x}$ 5.16, SD 0.78) groups were ≥ 4.50, with normal distribution of responses around the mean values. The students in their respective groups had a reasonable mindfulness level

(0.7-1.1), in observing the emotions of a patient with empathy. Figure 4.11 shows a similar pattern in the distribution of responses of the two groups. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and being mindful in showing empathy to patients (p = 0.104, NS).

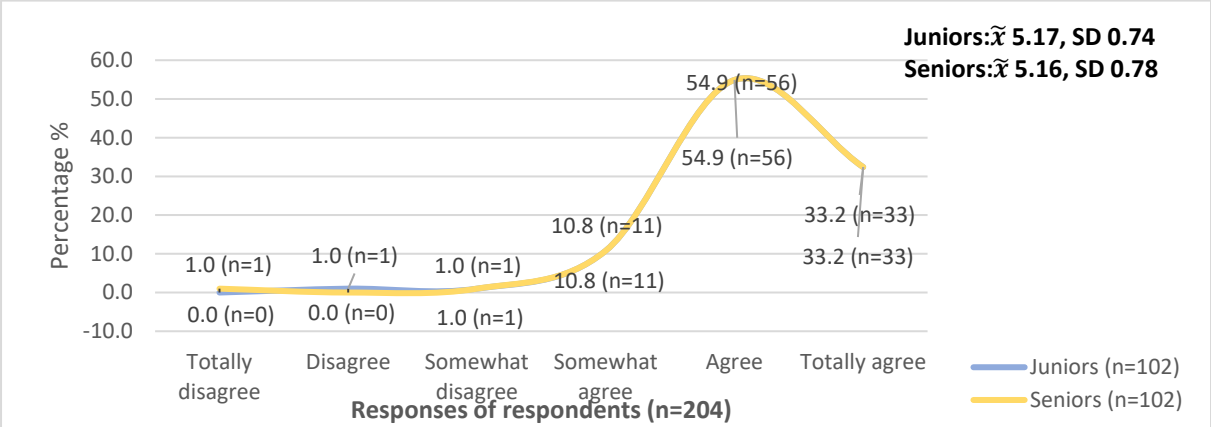


Figure 4.11: Observe emotions of patients with empathy (Item 17)

Empathetic care might change the patient's perspective on how they view the true meaning of their quality of life, which in return could combat depression and anxiety as well as improve compliance with treatment (Wang & Shan, 2021:12055).

- Listen to what a patient says without interruption (Item 18)

Most juniors (n=100, 98.0%; n=102, 100.0%) and 91 (89.2%) of the seniors (n=102, 100.0%) indicated that they were *mindful* to *completely mindful* (agreed to totally agreed) about listening to what patients had to say without interrupting them (Table 4.9).

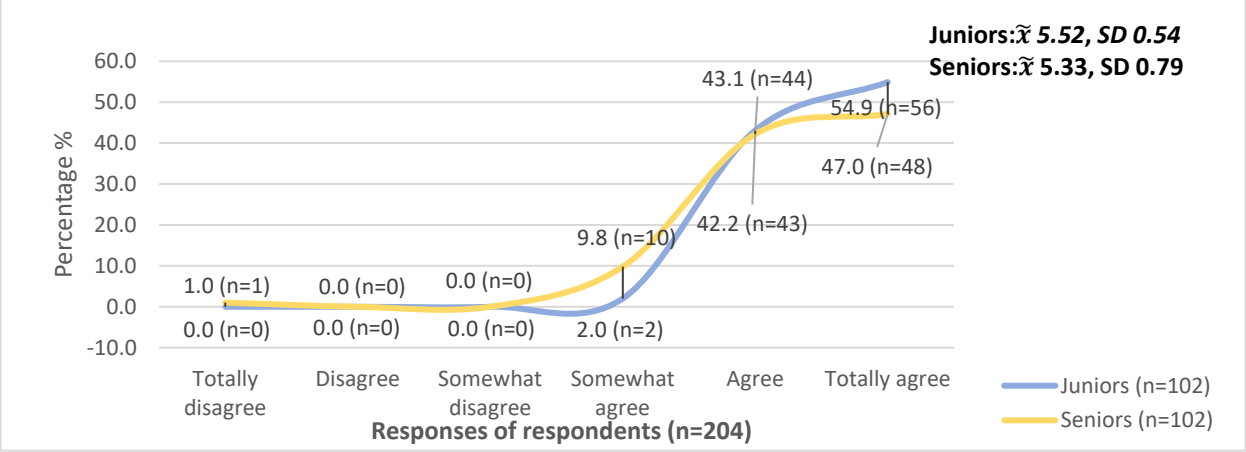


Figure 4.12: Listen to what a patient says without interruption (Item 18)

The mean values obtained by the juniors ($\tilde{x}$ 5.52, SD 0.54) and seniors ($\tilde{x}$ 5.33, SD 0.79) indicated a very narrow distribution of responses around the mean values (≤ 0.7), with seniors having a slightly wider SD than juniors. The results indicated that the respondents in their respective peer groups (juniors and seniors) were more alike in their mindfulness levels, about listening to a patient without interrupting them.

Figure 4.12 has an almost J-shaped negative skewness of responses with less rating scores on the left. The Cochran-Armitage test supported the alternative hypothesis, and a decreasing trend was found among the different year groups, Z (3, (N = 204) = 1.8381, p = 0.03, p < 0.05)), and being mindful in their ability to listen to the patient without interruption.

Listening to someone without interrupting the other person, is an active listening skill. It can help build a trusting relationship, demonstrate empathy, and truly understand what the other person is saying, and refine overall communication (Martins, 2022: n.d.).

- **Can communicate assertiveness in difficult situations such as standing firm, maintaining eye contact or controlling breathing while a colleague scolds me in front of others (Item 19)**

More than a third (n=39, 38.2%) of the juniors (n=102, 100.0%) and seniors (n=41, 40.6%; n=101, 100.0%) indicated being *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) in communicating assertively during difficult situations (Table 4.9; Figure 4.13).
In Item 19, the standard deviation of the juniors ($\tilde{x}$ 4.53, SD 1.20) was higher than seniors SD (1.18) who indicated a normal distribution around the mean value ($\tilde{x}$ 4.38). Responses indicated that students in the junior group were more diverse in mindfulness level than seniors, on communicating assertively during difficult situations.

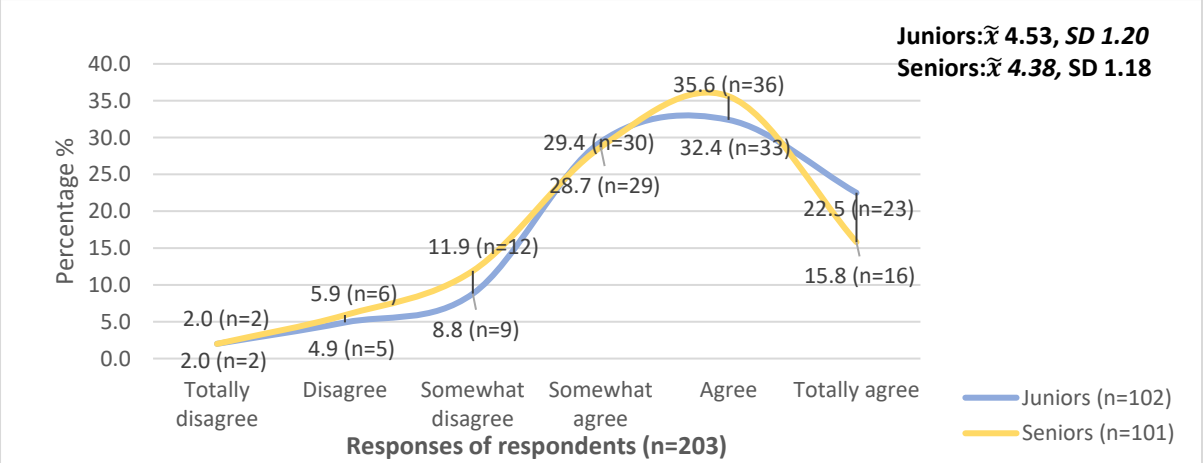


Figure 4.13: Can communicate assertiveness in difficult situations (Item 19)

In Item 19, the null hypothesis (H_0) was accepted (p = 0. 213, NS).

- **Can keep calm even when disagreeing with a colleague, e.g., my classmates disagree with my viewpoint on the importance of aseptic handwashing before an intra-venous cannulation procedure (Item 20)**

It is normal in nursing practices to disagree with people from time to time. The challenge is to remain calm and composed during these confrontations (Cheraghi, Ebrahimi, Kheibar et al., 2023:310). Just under a quarter (n=23, 22.5%) of the juniors (n=102, 100.0%) and nearly a third (n=30, 29.4%) of the seniors (n=102, 100.0%) were *rarely* to *somewhat mindful* (somewhat

disagreed to somewhat agreed) that they were able to stay calm when disagreeing with a colleague (Table 4.9). Almost half (n=56, 54.9%) of the juniors and seniors (n=47, 46.1%), were *mindful* (agreed) when disagreeing with a colleague on, e.g., a nursing procedure of aseptic handwashing before an intra-venous cannulation procedure (Figure 4.14). Juniors had a high standard deviation ($\tilde{x}$ 4.78, SD 0.94), while the seniors had a moderate mean value ($\tilde{x}$ 4.49, SD 1.17), and respondents in each of their respective groups were alike in the mindfulness level by keeping calm during a disagreement with a colleague.

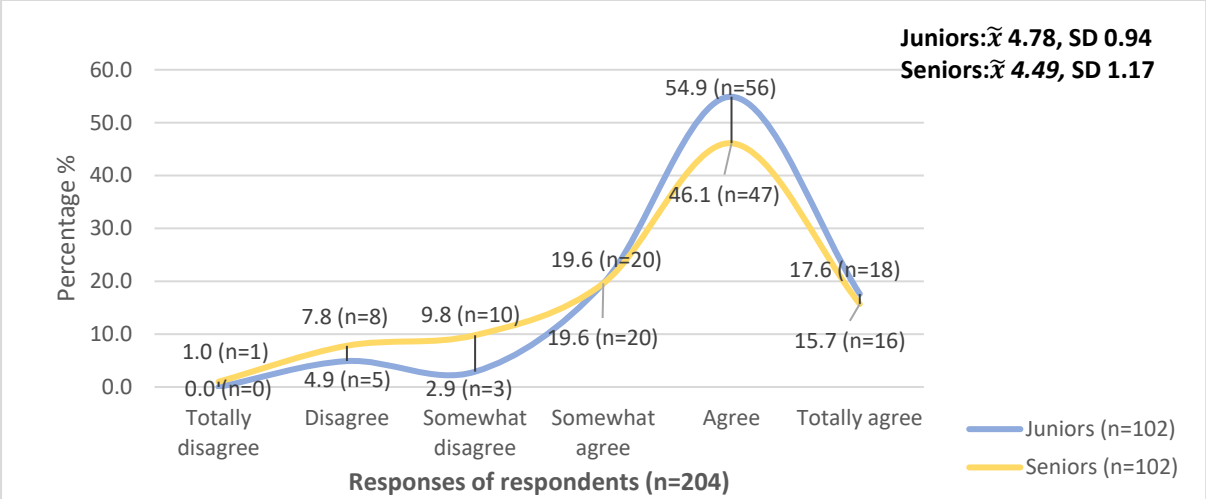


Figure 4.14: Keep calm even when disagreeing (Item 20)

Figure 4.14 indicates a negative skewness in responses. The Cochran-Armitage test indicated a decreasing trend among the junior and senior year groups, (Z (3, (N = 204) = 1.8522, p = 0.03, p < 0.05)), in Item 20. Seniors had more negative responses on the lower scores, which diverted to more positive scores (somewhat to totally agree) on keeping calm even when disagreeing, oppose to their counterparts.

The most important approaches to use in a disagreement are to be open-minded, listen to understand, be mindful of your body language, disagree with what the person is saying rather than with the person themselves, and lastly, to remember that how you say something sometimes matters more than what you say (SACAP, 2021: n.d.).

- **Can make decisions after researching all options e.g., asking for the opinion of a peer and reading articles before deciding on a topic for an assignment (Item 21)**

Half (n=53, 53.0%) of the juniors and seniors (n=54, 54.0%) were *mindful* (agreed) that they would research all options before deciding (Table 4.9). Positively, a majority of 88 (88.0%) juniors and 82 (82.0%) seniors were *mindful* to *completely mindful* (agreed to totally agreed) that they could ask for the opinions of a peer and read articles before e.g., deciding on a topic for an assignment (Figure 4.15). Both the mean values of the junior ($\tilde{x}$ 5.17, SD 0.85) and senior ($\tilde{x}$ 4.95, SD 1.04) respondents were high. The mindfulness levels of the respondents in the senior (SD 1.07) and junior groups (SD 0.85) were on a normal level when it came to making informed

Table 4.9: Responses on the psychological dimension (Deliberate Awareness) (continue)

Key element	Items	I, as a student nurse	Psychological dimension														$\tilde{x}$	SD
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Deliberate Awareness	18	listen to what a patient says without interruption	JR	0	0.0	0	0.0	0	0.0	2	2.0	44	43.1	56	54.9	102	100.0	5.52	0.54
			SR	1	1.0	0	0.0	0	0.0	10	9.8	43	42.2	48	47.0	102	100.0	5.33	0.79
	19	can communicate assertiveness in a difficult situation, such as standing firm, maintaining eye contact or controlling breathing while a colleague scolds me in front of others	JR	2	2.0	5	4.9	9	8.8	30	29.4	33	32.4	23	22.5	102	100.0	4.53	1.20
			SR	2	2.0	6	5.9	12	11.9	29	28.7	36	35.6	16	15.8	101	*100.0	4.38	1.18
	20	can keep calm even when *disagree*ing with a colleague, e.g., my classmate *disagree*s with my viewpoint on the importance of aseptic handwashing before an intra-venous cannulation procedure	JR	0	0.0	5	4.9	3	2.9	20	19.6	56	54.9	18	17.6	102	100.0	4.78	0.94
			SR	1	1.0	8	7.8	10	9.8	20	19.6	47	46.1	16	15.7	102	100.0	4.49	1.17
	21	am able to make decisions after researching all options e.g., asking for the opinion of a peer and reading articles before deciding on a topic for an assignment	JR	1	1.0	1	1.0	1	1.0	9	9.0	53	53.0	35	35.0	100	100.0	5.17	0.85
			SR	3	3.0	1	1.0	2	2.0	12	12.0	54	54.0	28	28.0	100	100.0	4.95	1.04
	22	will go above and beyond the call of duty when I identify a problem that needs to be resolved, e.g., after discovering that a student friend is struggling with personal issues, I will do everything to assist him/her in getting the help he/she need	JR	1	1.0	1	1.0	0	0.0	15	14.7	47	46.1	38	37.2	102	100.0	5.17	0.86
			SR	1	1.0	2	2.0	2	2.0	19	18.8	44	43.6	33	32.6	101	100.0	5.00	0.97
	24	know when I can solve a problem on my own and when I need to ask for help, e.g., I will ask for help to draw blood on a child for the first time if I've never done it before	JR	1	1.0	1	1.0	0	0.0	4	3.9	25	24.5	71	69.6	102	100.0	5.59	0.80
			SR	1	1.0	0	0.0	0	0.0	6	5.9	30	29.4	65	63.7	102	100.0	5.54	0.75

decisions. Figure 4.15 indicates a negative skewness of response distribution, including a remarkably similar pattern in responses of the two groups.

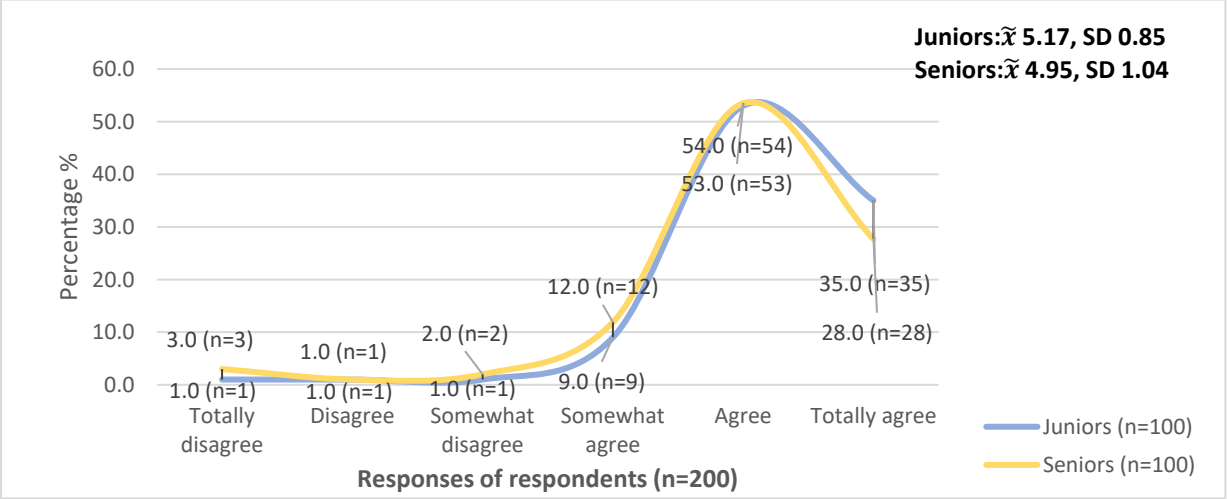


Figure 4.15: Make informed decisions after researching options (Item 21)

Research suggests that persons, e.g., nurses who are deliberately aware and mindful of something else enhance their level-headedness and reasoning and consequently better decision-making (Maymin & Langer, 2021:9). The null hypothesis (H_0) was accepted as no significant difference was found between the responses of the groups and mindfulness in making informed decisions (p = 0.419, NS).

- **Will go above and beyond the call of duty when I identify a problem that needs to be resolved, e.g., after discovering that a student friend is struggling with personal issues, I will do everything to assist them in getting the help they need (Item 22)**

More than a third (n=38, 37.2%) of the juniors (n=102, 100.0%) and seniors (n=33, 32.6%; n=101, 100.0%) were *completely mindful* (totally agreed) that they would go above and beyond their call of duty for a struggling fellow student (Table 4.9). Only 15 (14.7%) of the juniors (n=102, 100.0%) versus a fifth (n=19, 18.8%) of the seniors (n=101, 100.0%) were *somewhat mindful* (somewhat agreed) that they would do everything they could to assist a fellow student to get the help that they needed when they were struggling with personal issues. Both the mean values of The junior and senior had a normal distribution of responses around normal mean values ($\tilde{x}$ 5.17, SD 0.86; $\tilde{x}$ 5.00, SD 0.97). Figure 4.16 indicates a negative skewness in responses of both groups that swerve to a higher peak of “agreement” on the rating scale.

Shrikant (2022: n.d.) indicates that persons (e.g., students) who are helping others are underestimated, and that people feel good if they know they can help others. The abilities of student nurses to assist others, can be related to their year of study as well as to the way they study (Machul, Dziurka, Gniadek et al., 2022: n.d.). The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and their mindfulness of

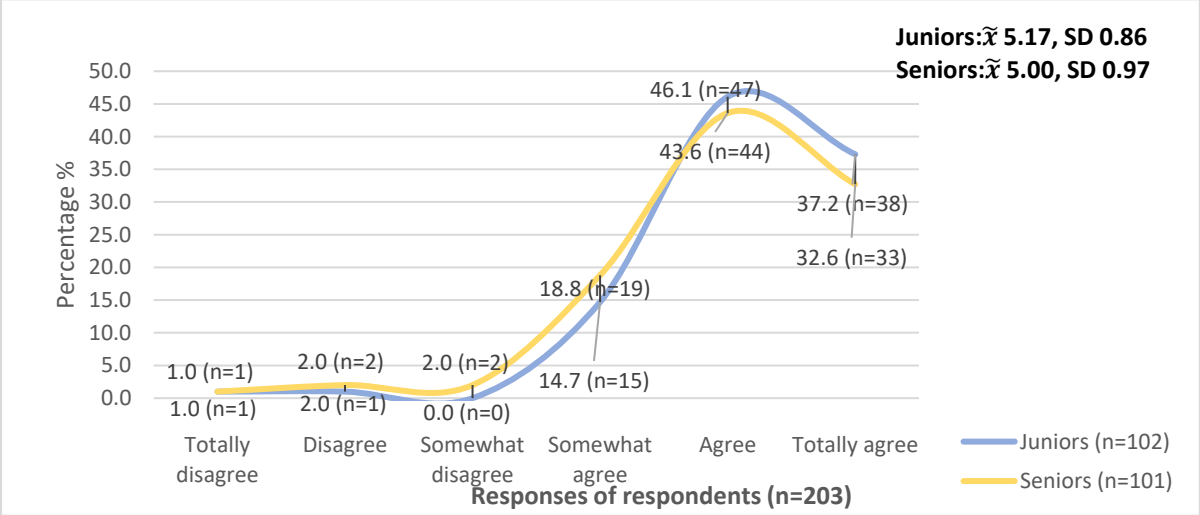


Figure 4.16: Go beyond the call of duty to assist a student friend in need (Item 22)

going beyond the call of duty to assist a student friend who is struggling with personal issues (p = 0.476, NS).

- **Know when I can solve a problem on my own and when I need to ask for help, e.g., I will ask for help to draw blood from a child for the first time if I have never done it before (Item 24)**

Almost two-thirds (n=71, 69.6%) of the 102 (100.0%) juniors and seniors (n=65, 63.7%; n=102, 100.0%) were *completely mindful* (totally agreed) when solving their own problems (Table 4.9). In addition, a quarter (n=25, 24.5%) of the juniors and a third (n=30, 29.4%) of the seniors were *mindful* (agreed) that they knew when they needed to ask for help e.g., to draw blood from a child if they have never done it before (Figure 4.17).

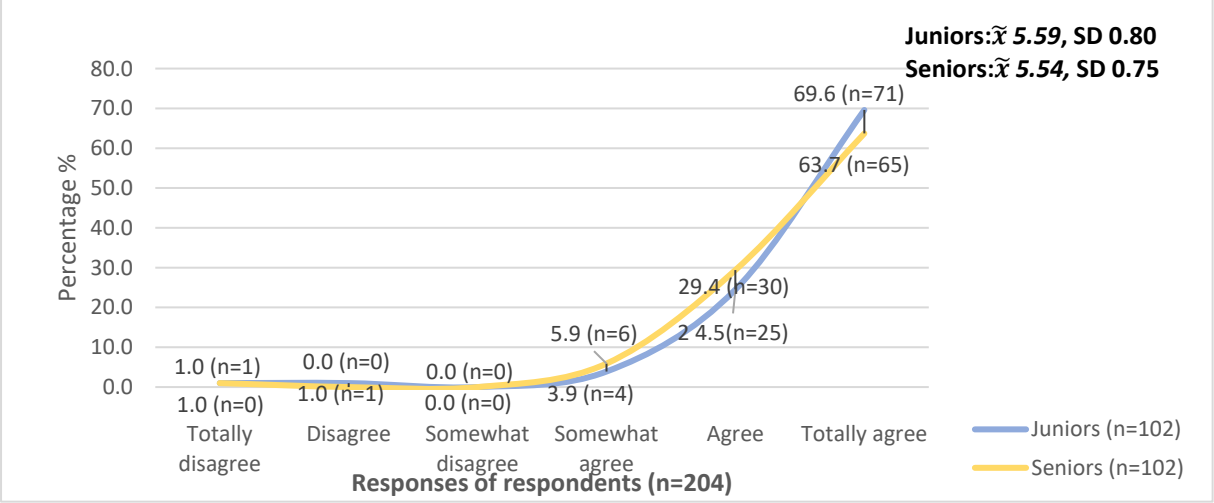


Figure 4.17: Solve problem on own (Item 24)

Both the juniors and seniors had high mean values ($\tilde{x}$ 5.59, SD 0.80; $\tilde{x}$ 5.54, SD 0.75) of ≥ 4.50, and similar normal standard deviations. This indicated that the responses of students, each in

their respective peer groups, met the level of being mindful to solve problems on their own, e.g., asking for help in drawing blood from a child for the first time if they have never done it before. Figure 4.17 shows a similar distribution pattern in the responses of the two groups. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and their mindfulness about solving problems (p = 0.645, NS). Student nurses are not afraid to ask for help if needed. However, people in general are reluctant to ask for help because they fear feeling vulnerable or dependent on the person who wants to stay in control (De Vries, 2023).

- **Give my 'brain a break' to increase my ability to learn to be creative (Item 26)**

Less than a quarter (n=16, 15.8%) of the juniors (n=101, 100.0%) and 20 (19.6%) of the seniors (n=102, 100.0%) were *somewhat mindful* (somewhat agreed) that they were able to give their 'brain a break' and be creative (Table 4.10). More than half (n=55, 54.5%) of the juniors, as opposed to 42 (41.1%) of the seniors, were *mindful* (agreed) with their ability in being more creative by giving their brain a break. The mean values obtained by the juniors ($\tilde{x}$ 4.87, SD 0.93) and seniors ($\tilde{x}$ 4.64, SD 1.24) were high (≥ 4.50) on students being mindful of their ability to learn to be more creative. Senior participants' levels of mindfulness to learn being creative widely differed (SD 1.24). Figure 4.18 shows a negative skewness of the responses with a diversion of the number of responses of seniors (n=6) at the score of 2 (disagreed) and the juniors (n=55) at the score of 5 (agreed). The null hypothesis (H_0) was accepted as no significant relationship was found between the groups' responses and being mindful to give their "brain a break" (p = 0.236, NS). The ability to concentrate and be attentive could improve one's mood as well as overall functioning (Gupta, 2023: n.d.).

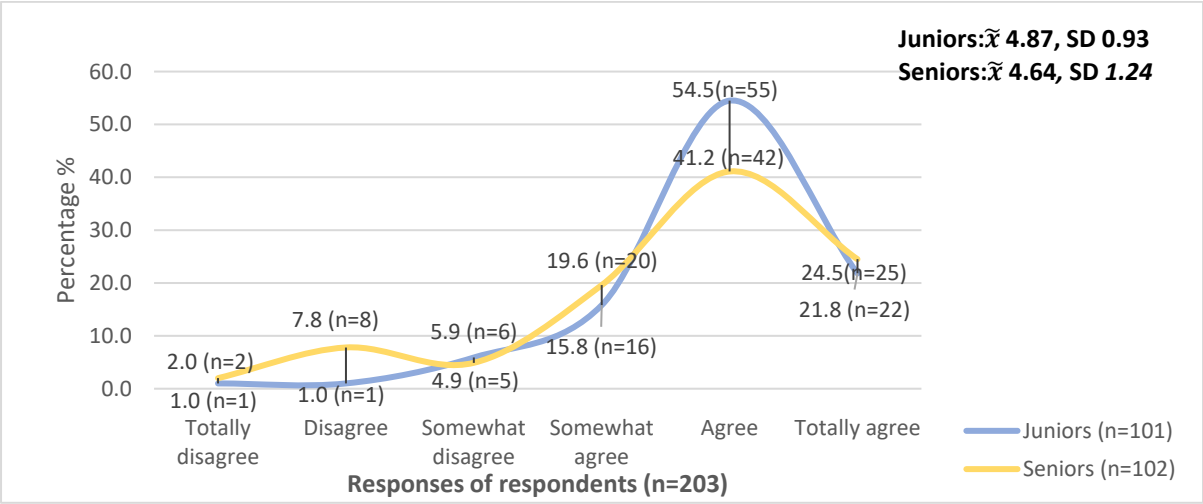


Figure 4.18: Give the brain a break (Item 26)

It is well known that student nurses experience a tremendous amount of stress during their studies. It is therefore imperative that a student nurse can recognise signs of stress, which in the instance of Item 26 could include either a racing mind or a feeling of being 'blank'. To ensure

psychological well-being and safe nursing practices, student nurses should take responsibility for their own well-being by choosing self-care strategies that suit their needs (Creighton & Smart, 2022:2).

- **Stay focused in a busy ward even though priorities constantly change, such as being busy with the handover of patients during shift change and suddenly having to attend to a medical emergency (Item 27)**

Merely 15 (14.7%) of the juniors (n=102, 100.0%) as opposed to a quarter (n=24, 23.5%) of the seniors (n=102, 100.0%) were *somewhat mindful* (somewhat agreed) about their ability to stay focused in a busy ward (Table 4.10). More than* half (n=58, 56.9%) of both the juniors and seniors were *mindful* (agreed) of staying focused even when priorities were constantly changing, e.g., being busy with the handover of patients during a shift change and suddenly having to attend to a medical emergency (Figure 4.19).

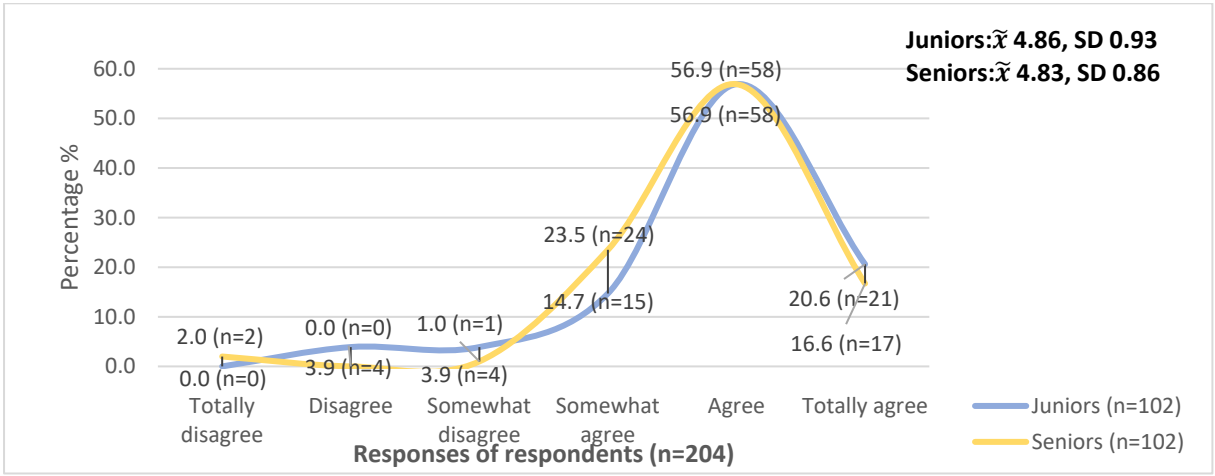


Figure 4.19: Staying focused during changing priorities (Item 27)

Both the standard deviations obtained by the juniors ($\tilde{x}$ 4.86, SD 0.93) and seniors ($\tilde{x}$ 4.83, SD 0.86) on students staying focused in an emergency were high (≥ 4.50) with normal distribution of responses around their mean values. Figure 4.19 shows a negative skewness with the distribution of responses of the two groups on the higher score (agreed). The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and mindfulness in staying focused throughout changing priorities (p = 0.189, NS). It has been proven that doing more than one task at a time (multi-tasking) causes your attention and focus to change, which can initiate a mental block, being distracted, and slowing you down. This could result in medical errors (Cherry, 2023b: n.d.).

- **Can stay focused on addressing problems when dealing with colleagues, e.g., those who seem as if they are not pulling their weight in the clinical area (Item 29)**

A quarter (n=25, 24.5%) of the juniors (n=102, 100.0%) and a third (n=35, 34.3%) of the seniors indicated (n=102, 100.0%) being *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) in being able to stay focused when addressing problems that had to be solved

when they were dealing with a colleague (Table 4.10). More than half (n=60, 58.8%) of the juniors and less of the seniors (n=44, 43.1%) responded at the level of being *mindful* (agreed) in their ability to stay focused when, e.g., it seemed as if a colleague was not pulling her/his weight in the clinical area, and they needed to address it (Figure 4.20). The standard deviations obtained by the juniors ($\tilde{x}$ 4.68, SD 0.95) and seniors ($\tilde{x}$ 4.58, SD 1.08) indicated normal distributions around the mean values. Figure 4.20 indicates a negative skewness of the responses of the juniors with a diversion at *somewhat agree* (n=25) and *agree* (n=60) on the rating scale.

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and mindfulness about staying focused during problem-solving (p = 0.116, NS).

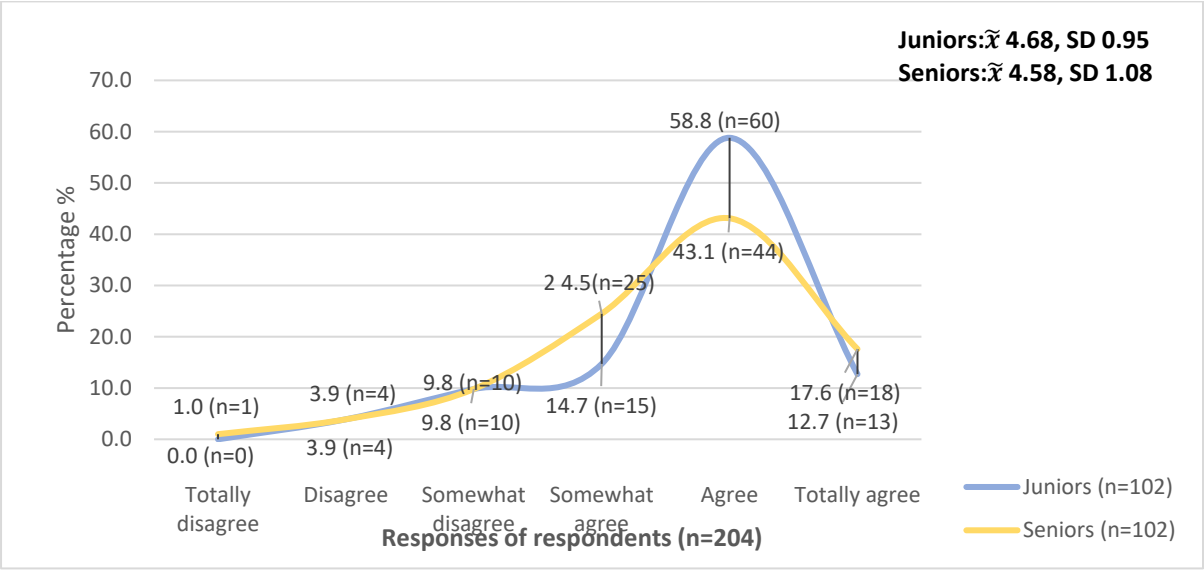


Figure 4.20: Focus when addressing problems (Item 29)

A study found that 1st-year healthcare students were less assertive during communication than their older counterparts (Cherifa, Saguem, Chelbi et al., 2022:1). In addition, another study found that senior student nurses showed more assertive behaviour than junior students in assertive communication (Barinua, Ajumoke, Mube et al., 2022:43).

- **Try to solve a problem at campus with a lecturer first before asking for help, e.g., when I am unsatisfied with my marks (Item 30)**

It is important in a work environment to realise and follow the correct communication channels when encountering a problem (Birt, 2023: n.d.). Less than a quarter (n=22, 21.7%) of the 101 (100.0%) juniors, as opposed to 16 (15.8%) of the 101 (100.0%) seniors, were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) when trying to solve a problem at campus with a lecturer (Table 4.10). On the other hand, less than half (n=45, 44.5%) of the juniors were *mindful* (agreed) as opposed to more (n=53, 52.4%) of their counterparts, in that they tried to solve problems where they were unsatisfied with their marks.

Table 4.10: Responses on the psychological dimension (Deliberate Awareness) (continue)

Key element	Items	I, as a student nurse	Psychological dimension																
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total		$\tilde{x}$	SD
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Deliberately Awareness	26	give my 'brain a break' to increase my ability to learn to be creative	JR	1	1.0	1	1.0	6	5.9	16	15.8	55	54.5	22	21.8	101	100.0	4.87	0.93
			SR	2	2.0	8	7.8	5	4.9	20	19.6	42	41.2	25	24.5	102	100.0	4.64	1.24
	27	stay focused in a busy ward even though my priorities constantly change, such as being busy with the handover of patients during shift changes and suddenly having to attend to a medical emergency	JR	0	0.0	4	3.9	4	3.9	15	14.7	58	56.9	21	20.6	102	100.0	4.86	0.93
			SR	2	2.0	0	0.0	1	1.0	24	23.5	58	56.9	17	16.6	102	100.0	4.83	0.86
	29	am able to stay focused on addressing problems to be solved when dealing with colleagues, e.g., colleagues who seem as if they are not pulling their weight in the clinical area	JR	0	0.0	4	3.9	10	9.8	15	14.7	60	58.8	13	12.7	102	*100.0	4.68	0.95
			SR	1	1.0	4	3.9	10	9.8	25	24.5	44	43.1	18	17.6	102	*100.0	4.58	1.08
	30	try to solve a problem at campus with a lecturer first before I ask for help, such as when I am unsatisfied with my marks	JR	0	0.0	4	3.9	6	5.9	16	15.8	45	44.6	30	29.7	101	*100.0	4.92	1.01
			SR	3	3.0	7	6.9	6	5.9	10	9.9	53	52.5	22	21.8	101	100.0	4.67	1.25
	31	join doctor's rounds because I am curious about my patient's diagnoses and treatment	JR	2	2.0	0	0.0	1	1.0	13	13.0	33	33.0	51	51.0	100	100.0	5.29	0.96
			SR	0	0.0	1	1.0	4	3.9	17	16.7	38	37.2	42	41.2	102	100.0	5.14	0.90
	32	ask the registered nurse in trauma to teach me how to suture a basic laceration because I want to learn everything I can while I am still a student	JR	0	0.0	1	1.2	1	1.2	12	14.3	24	28.6	46	54.7	84	100.0	5.36	0.85
			SR	3	3.0	1	1.0	2	2.0	8	7.9	33	32.6	54	53.5	101	100.0	5.27	1.09
	33	enjoy routine tasks in the clinical area with my colleagues, such as 'fix' or observation rounds	JR	1	1.0	3	3.0	6	6.0	14	14.0	43	43.0	33	33.0	100	100.0	4.94	1.08
			SR	9	8.8	5	4.9	12	11.8	17	16.7	45	44.1	14	13.7	102	100.0	4.24	1.44

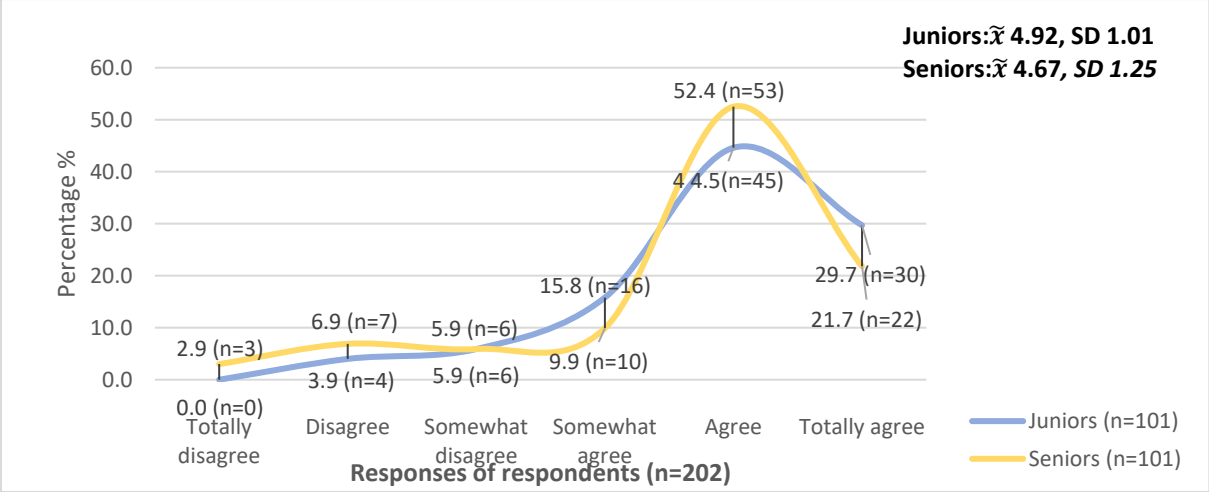


Figure 4.21: Try to solve a problem before asking for help (Item 30)

Both the mean values obtained by the juniors ($\tilde{x}$ 4.92, SD 1.01) and seniors ($\tilde{x}$ 4.67, SD 1.25) were ≥ 4.50, and the standard deviation of the seniors indicated a wider distribution of responses around the mean value than the juniors. The responses between peers in the senior group were more diverse regarding their mindfulness levels (Figure 4.21) than the juniors. The null hypothesis (H_0) was accepted as no significant relationship between the responses of the groups and being mindful when solving problems was found (p = 0.156, NS).

Good communication skills, which are necessary for effective problem-solving, develop over time (Kerr, Martin, Furber et al., 2022:1970), and senior student nurses are assumed to have better communication skills than their juniors (Najafi & Nasiri, 2023: n.d.).

- **Join doctor's rounds because of curiosity about my patient's diagnoses and treatment (Item 31)**

Being curious should be promoted and encouraged during nursing education because besides gaining invaluable knowledge and experience, experiences may be more life fulfilment in general (Schutte & Malouff, 2022: n.d.). Only 13 (13.0%) of the juniors (n=102, 100.0%), as opposed to 17 (16.7%) of the seniors (n=100, 100.0%), were *somewhat mindful* (somewhat agreed) to join a doctor's round due to their curiosity (Table 4.10).

Half of the junior (n=51, 51.0%; n=100, 100.0%) and lesser senior (n=42, 41.2%; n=102, 100.0%) respondents were *completely mindful* (totally agreed) of their curiosity to know about the patient's treatment and to join a doctor's round (Figure 4.22). Both the mean values obtained by the juniors ($\tilde{x}$ 5.29, SD 0.96) and seniors ($\tilde{x}$ 5.14, SD 0.90) were high (≥ 4.50). The standard deviations of both groups indicated normal mindfulness levels.

A similar flow in the distribution of the negatively skewed responses, with a slight downward endpoint of the curve for seniors indicated in Figure 4.22. The null hypothesis (H_0) was accepted as a significant relationship were not found between the responses of the two groups and mindfulness to be curious to learn (p = 0.467, NS).

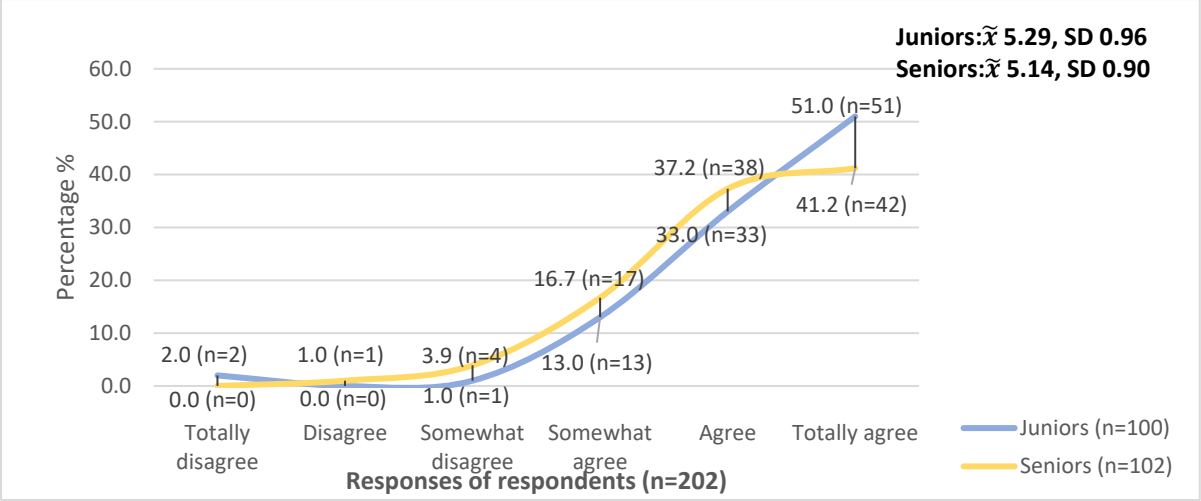


Figure 4.22: Curious to learn (Item 31)

Curiosity forms a fundamental part of nursing education. It is important to stimulate students to show a true interest in a topic during teaching to create well-rounded, competent nurses who will stay curious about gaining knowledge throughout their professional lives (Nadelson et al., 2022:5).

- **Ask the registered nurse in trauma to teach me how to suture a basic laceration because I want to learn everything I can while I am still a student (Item 32)**

In clinical facilities, student nurses have different mentors who guide them and help them to make use of learning opportunities (Liljedahl, Björck & Bolander, 2022:811). When a student is interested in learning, they will use all opportunities as teachable moments to learn (Koblyakov, 2023: n.d.). Half of the 46 (54.7%) juniors (n=84, 100.0%) and 54 (53.5%) seniors (n=101, 100.0%) were *completely mindful* (totally agreed) about using all teachable moments while being students (Table 4.10). Both the mean values obtained by the juniors ($\tilde{x}$ 5.36, SD 0.85) and seniors ($\tilde{x}$ 5.27, SD 1.09) were high (≥ 4.50) (Figure 4.23). The normal standard deviation of seniors (SD 1.09) was normal, however, slightly higher than that of the juniors (SD 0.85), in wanting to learn when e.g., asking a registered nurse in the trauma unit to teach them how to suture a basic laceration.

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups and mindfulness in being eager to learn (p=0.423, NS). Professional nurses can create opportunities for student nurses to learn and improve their abilities to become confident and competent nurses (Nadelson et al., 2022:4).

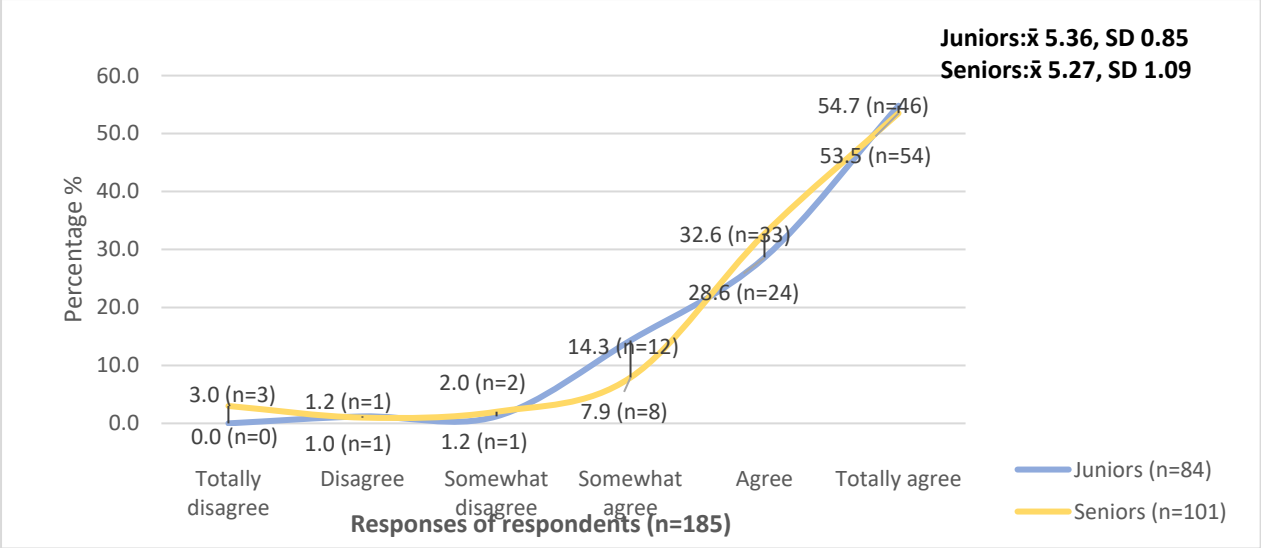


Figure 4.23: Teachable moments utilised (Item 32)

The advantage of having a mentor is that a student nurse can trust such a person and ask questions and feedback when he/she practice a procedure, for example, a procedure that he/she struggled with previously (NurseJournal Staff, 2023: n.d.).

- **Enjoy routine tasks in the clinical area with my colleagues, such as 'fix' or observation rounds (Item 33)**

Routine tasks can become very tedious, especially if there are other more attractive learning opportunities that a student would rather be doing. A quarter (n=24, 24.0%) of the 100 (100.0%) juniors were *definitely not mindful* to *somewhat mindful* (totally disagreed to somewhat agreed), as opposed to less than half (n=43, 42.2%) of the 102 (100.0%) seniors, who indicated that they did not enjoy routine tasks such as observation rounds (Table 4.10; Figure 4.24). The junior group had a higher mean value ($\tilde{x}$ 4.94, SD 1.08) of ≥ 4.5, than the seniors ($\tilde{x}$ 4.24, SD 1.44). The senior group had a wide distribution of responses around their mean value, indicating that seniors in their group were diverse (varied) in their mindfulness levels (responses), to enjoy routine tasks in the clinical areas. Pearson Chi-square Test indicated a significant difference in responses between the two year groups, x^2 (3, N = 202) = 15.1443, p = 0.001, $p < 0.05$). The Cochrane-Armitage test indicated a significant decreasing trend in the responses of the younger group (19 to 25 years of age) (n=147, 72.1%) and those of 26 years and more (n=57, 28.0%), Z (3, (N = 202) = 3.6313, p = 0.003, $p < 0.05$)), and routine tasks. More than a third (33.0%) of the younger group of students (19 to 25 years of age) *agreed strongly* (more mindful), as opposed to only 14.0% of the older group (> 26 years), on enjoying their routine tasks.

The null hypothesis (H_0) on no relationship between ethnicity and enjoying routine tasks, was rejected. The Pearson's Chi-Square Test (x^2) indicated a highly significant difference between the responses of the black, white and coloured groups (x^2(6, (N =202), = 32.925, p = 0.000, $p <$

Table 4.11: Responses on the psychological dimension (Non-judgmental)

Key element	Items	I, as a student nurse	Psychological dimension														$\tilde{x}$	SD
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Non-Judgmental	3	is mentally flexible when listening to the ideas of senior colleagues on ways to enhance wound healing	JR	0	0.0	1	1.0	1	1.0	6	5.9	51	50.0	43	42.1	102	100.0	5.32	0.72
			SR	1	1.0	0	0.0	1	1.0	6	5.9	57	55.8	37	36.3	102	100.0	5.25	0.75
	7	put myself in the position of another student when he/she struggles to perform a procedure such as the discontinuing of an underwater drain for the first time	JR	0	0.0	0	0.0	4	4.0	9	9.0	40	40.0	47	47.0	100	100.0	5.29	0.80
			SR	0	0.0	0	0.0	1	1.0	9	8.9	49	48.5	42	41.6	101	100.0	5.31	0.67
	9	Am non-judgmental towards others, e.g., I do not judge a patient because he/she asks more than once for explanations regarding diabetes mellitus treatment	JR	1	1.0	0	0.0	0	0.0	2	2.0	31	30.7	67	66.3	101	100.0	5.60	0.70
			SR	0	0.0	1	1.0	0	0.0	4	3.9	37	36.3	60	58.8	102	100.0	5.52	0.67
	10	am tolerant of others' human flaws, because I will assist them in repeating a procedure until they understand how to do it themselves	JR	1	1.0	1	1.0	1	1.0	5	4.9	35	34.3	59	57.8	102	100.0	5.44	0.85
			SR	0	0.0	1	1.0	1	1.0	6	5.9	48	47.0	46	45.1	102	100.0	5.34	0.72
	23	am able to identify and resolve a problem before it escalates, for instance, helping a junior student attempting to do intravenous cannulation without proper training	JR	1	1.1	3	3.2	7	7.4	14	14.7	57	60.0	13	13.6	95	100.0	4.70	0.98
			SR	1	1.0	7	6.9	2	2.0	17	16.8	52	51.5	22	21.8	101	100.0	4.76	1.10
	28	am open-minded in discussions with colleagues regarding different beliefs, such as the belief that honey can heal bad bedsores even if the patient is a diabetic	JR	3	3.0	9	9.0	4	4.0	26	26.0	42	42.0	16	16.0	100	100.0	4.43	1.25
			SR	2	2.0	9	9.0	6	6.0	26	26.0	41	41.0	16	16.0	100	100.0	4.43	1.22

0.05)). A substantial percentage of 41.0% of the 34 (100.0%) white respondents were *rarely mindful* (somewhat disagreed) as opposed to much less, 17.0% of the 77 (100.0%) coloured and 9.0% of the 87 (100.0%) black respondents enjoying routine tasks. In addition, 57.0% of the black respondents were more in agreement than 32.0% of the coloured students on enjoying routine tasks in the clinical area.

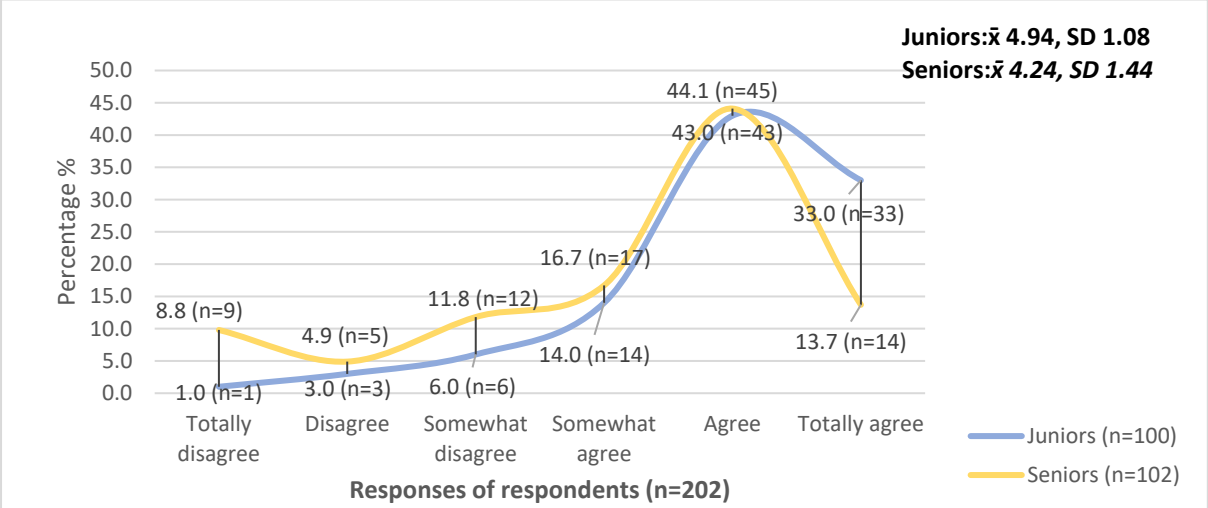


Figure 4.24: Enjoy routine tasks (Item 33)

Clinical experience is vitally important for achieving clinical competence. However, student nurses have experienced negative attitudes of permanent staff, the lack of mentoring, and the lack of learning opportunities as barriers to accomplishing their clinical competencies (Amoo, Aderoju, Sarfo-Walters et al., 2022:1).

4.5.2.2 The element of being non-judgmental in psychological mindfulness during interpersonal communication

- **Is mentally flexible when listening to ideas of senior colleagues on ways to enhance wound healing (Item 3)**

Interpersonal communication skills are fundamental for healthcare professionals, which include student nurses (Zota, Diamantis, Katsas et al., 2023: n.d.). Nurses are encouraged to be curious and able to actively listen, and therefore make sound critical decisions (Geok, Yee & Lian, 2019 37). An identically high majority of 94 (92.1%) of the juniors (n=102, 100.0%) and seniors (n=102, 100.0%) respondents were *mindful* to *completely mindful* (agreed to totally agreed) in being interested to learn new things (Table 4.11; Figure 4.25).

Both the junior and senior groups had normal mean values (≥ 4.50), and standard deviations (n=102, 100.0%, $\tilde{x}$ 5.32, SD 0.72; n=102, 100.0%, $\tilde{x}$ 5.25, SD 0.75). The responses of students,

respectively the juniors and seniors, indicated that they were at the level of being mindful (agreed), about listening to ideas, such as enhancing wound healing.

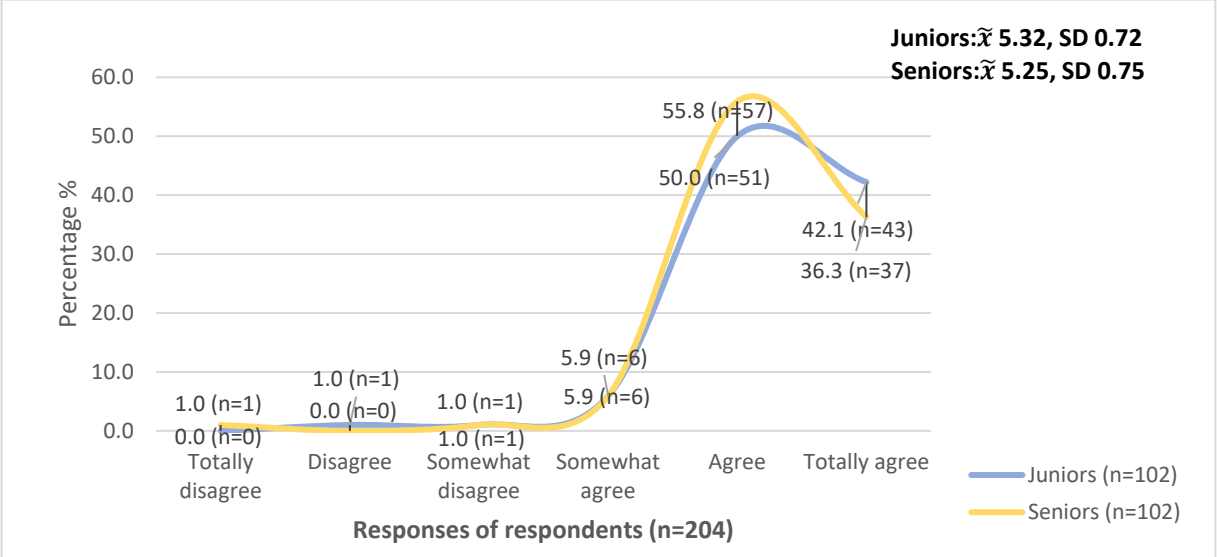


Figure 4.25: Mentally flexible when listening to ideas (Item 3)

However, a significant increasing trend was found as a majority of (n=133, 80.0%) of 147 (100.0%) of the younger (19 to 25 years) group of students, and 97.0% (n=55) of the 57 (100.0%) respondents in the older group (> 26 years), *agreed* to *strongly agreed* (mindful to completely mindful), on being mentally flexible when listening to ideas. The Cochran-Armitage test supported the alternative hypothesis, Z (3, (N = 204) = 4.2695 2, p = 0.006, $p < 0.05$), and the H_0 was rejected.

Mental flexibility is a sign of the non-judgmental aspect of mindfulness (Ruiz, 2021: n.d.), and considerate, patient-centred communication improves patient outcomes (Del Vecchio et al., 2022:289). It is therefore essential that nursing practitioners involve students in clinical case presentations or demonstrations such as wound dressings, to listen to their ideas and discussions (Geok et al., 2019:37).

- **Be in the position of another student when he/she struggles to perform a procedure such as discontinuing an underwater drain for the first time (Item 7)**

Being compassionate is an essential value a nurse should have (Babaei, Taleghani & Farzi, 2022:239). Less than half (n=47, 47.0%) of the juniors (n=100, 100.0%) were *mindful* (agreed) about putting themselves in the position of a peer. On the other hand, almost all (n=91, 90.1%) of the seniors were found to be *mindful* to *completely mindful* (agreed to totally agreed) about putting themselves in another's shoes when, e.g., struggling to perform a procedure (Table 4.11). Both the mean values obtained by the juniors ($\tilde{x}$ 5.29, SD 0.80) and seniors ($\tilde{x}$ 5.31, SD 0.67) were normal (≥ 4.50). The standard deviation of the seniors indicated a narrow distribution of responses around the mean value, indicating being more alike in being mindful of seeing themselves struggling to perform a procedure. Figure 4.26 tends to reflect a J-shaped negative

skewness in the responses of senior students, and the distribution of these responses diverts at the point of *somewhat agree* ($\tilde{x}$ 5.31) from negative to more positive scores. No significant relationship was found between the responses of the groups and mindfulness to find oneself in a similar situation as another who struggles with a clinical procedure (p=0.411, NS).

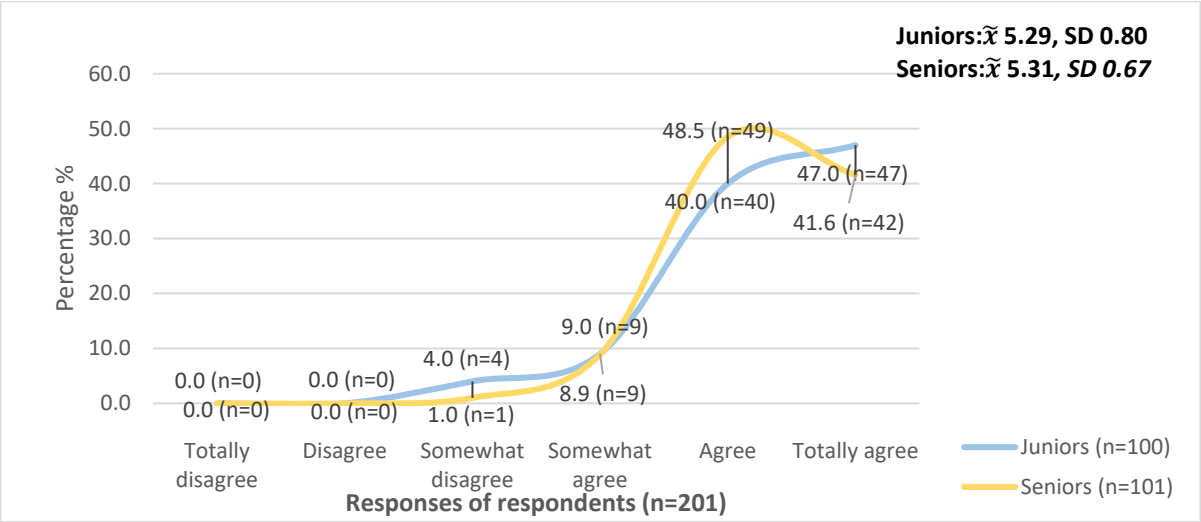


Figure 4.26: Empathy towards others (Item 7)

It was found that nurses are more empathetic at the end of their studies. It is also indicated that students who are empathetic master the skill of having a positive regard for others (Ozcan, Öksüz & Oflaz, 2018:502-503).

- **Am non-judgmental towards others, e.g., I do not judge a patient because he/she asks more than once for explanations regarding diabetes mellitus treatment (Item 9)**

Almost all 98 (97.0%) of the 101 (100.0%) juniors and 97 (95.1%) of the 102 (100.0%) seniors were *mindful* to *completely mindful* (agreed to totally agreed) of their ability in being non-judgmental, e.g., towards a patient who is asking more than once for explanations regarding an illness (Table 4.11). The juniors ($\tilde{x}$ 5.60, SD 0.70*)* and seniors ($\tilde{x}$ 5.52, SD 0.67) had high mean values (Figure 4.27). The SDs of both groups were ≤ 0.70, which indicated that the groups' mindfulness levels of being non-judgmental towards others were similar. The null hypothesis (H_0) was accepted as no significant relationship were found between the responses of the groups and their ability to be non-judgmental towards others *(*p = 0.483, NS). Some competencies, such as explaining to a patient their diabetes mellites treatment, being non-judgmental, showing acceptance of others, will develop over time while students obtain more practical experience (Shi & Cleophas, 2023:1).

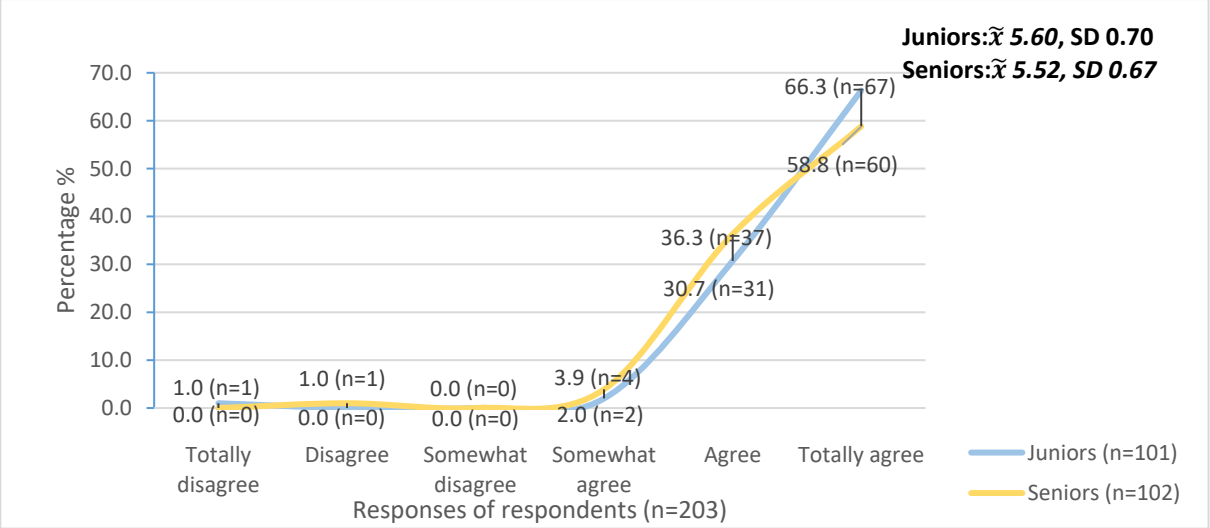


Figure 4.27: Non-judgmental towards patients (Item 9)

Being non-judgmental is a positive attribute for a nurse and a sign of being deliberately aware of surroundings. Being critically aware and paying attention to an occurrence can provide distinctive solutions to problems that may arise (Deering & Bal, 2023: n.d.).

- **Am tolerant of others' human flaws because I will assist them to repeat a procedure until they understand how to do it themselves (Item 10)**

To be tolerant means that a person should display a willingness to accept that others differ from you, e.g., their opinions and how they behave (Segal, 2022: n.d.). Almost all (n=94, 92.1%) of the 102 (100.0%) juniors and seniors (n=94, 92.1%; n=102,100.0%) were *mindful* to *completely mindful* (agreed to totally agreed) to be tolerant of other's human flaws, to e.g., assist a fellow student to repeat a procedure until he/she were confident and understood how to do it (Table 4.11; Figure 4.28).

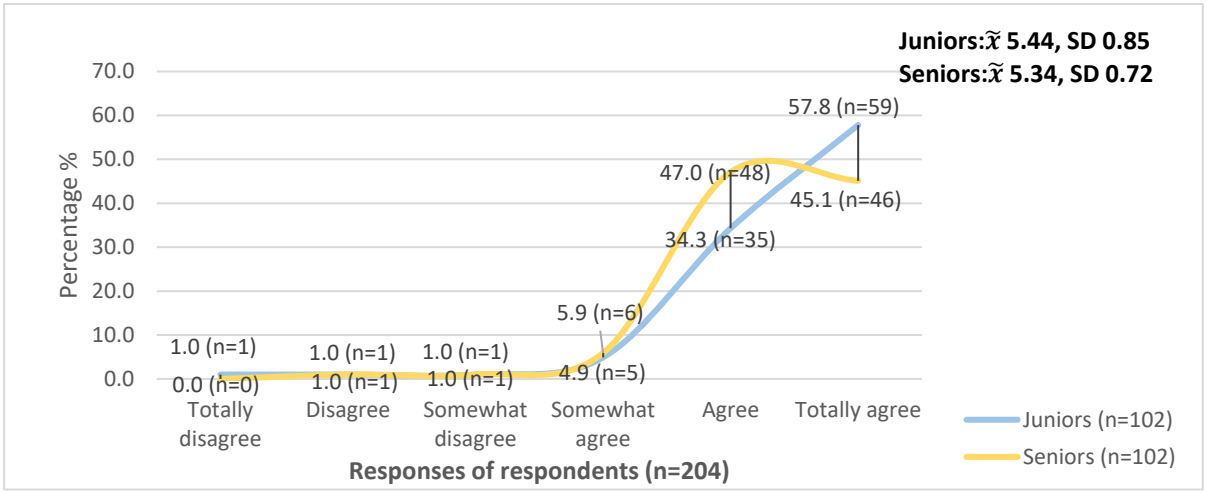


Figure 4.28: Tolerant of human flaws (Item 10)

Both the SDs of the juniors ($\tilde{x}$ 5.44, SD 0.85) and seniors ($\tilde{x}$ 5.34, SD 0.72) indicated that students in their respective groups were at the level of being "mindful" in showing tolerance to others.

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and mindfulness by being tolerant towards the flaws of others (p = 0.478, NS). Being tolerant shows that a nurse is *non-judgmental* and unbiased, which will have a positive effect on clinical decision-making, which in turn will ensure positive outcomes and foster a trusting and supportive healthcare environment (Grace, Lachman, Johnson et al., 2023: n.d.).

- **Am able to identify and resolve a problem before it escalates, for instance, helping a junior student attempting to do intravenous cannulation without proper training (Item 23)**

A student nurse needs to be able to identify problems before they escalate. More than half (n=57, 60.0%) of the juniors (n=95, 100.0%) and seniors (n=52, 51.5%, n=101, 100.0%) were found to be *mindful* (agreed), as they could identify and resolve a problem before it could escalate, e.g., helping a junior student who wanted to attempt an intravenous cannulation without proper training (Table 4.11). A few (n=14, 14.7%) of the junior and (n=17, 16.8%) senior students (n=101, 100.0%) appeared to be *somewhat mindful* (somewhat agreed) about identifying and resolving a problem. Both the mean values of the juniors ($\tilde{x}$ 4.70, SD 0.98) and seniors ($\tilde{x}$ 4.76, SD 1.10) were normal (≥ 4.50). The senior students had a slightly higher distribution of responses around the mean value than the junior group (Figure 4.29).

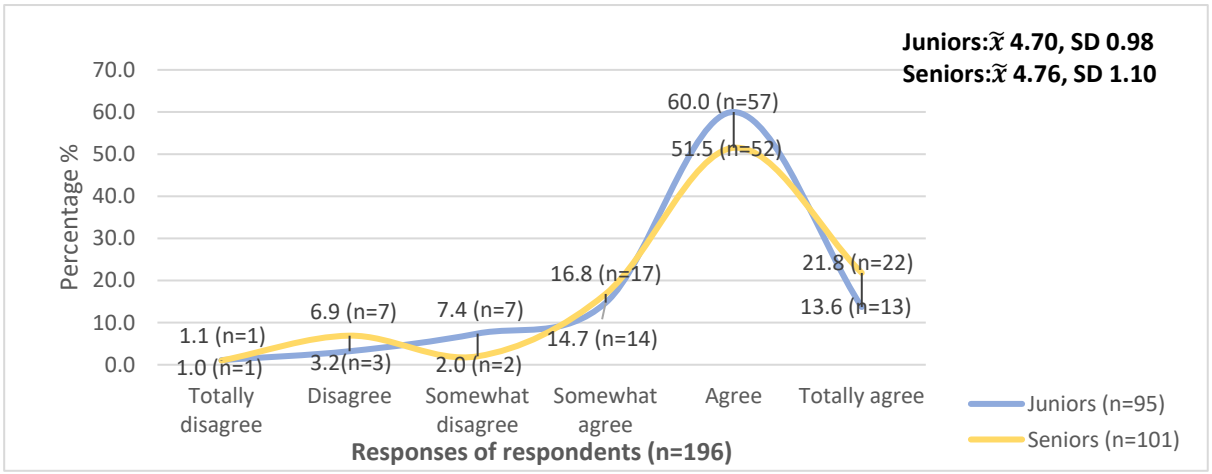


Figure 4.29: Identify and solve problems

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of juniors and seniors on their mindfulness in being proactive in their problem-solving (p = 0.465, NS). More persevering students tend to perform better in their studies and achieve more success because they are 'present' in their educational setting (Lee, 2022: n.d.). Student nurses who are encouraged, to be part of groups which apply problem-based learning experience, more support and guidance, which enable them to reach an understanding and goals together because the student who understands better could explain what the others could not understand (Allert, Dellkvist, Hjelm et al., 2021:569).

Table 4.12: Responses on the psychological dimension (Non-reactive)

Key element	Items	I, as a student nurse	Psychological dimension														$\tilde{x}$	SD
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%		
Non-Reactive	6	keep my emotions intact when I am insulted by, e.g., a medical practitioner for being incompetent in performing nursing care	JR	2	2.0	4	3.9	9	8.8	28	27.5	44	43.1	15	14.7	102	100.0	4.50	1.10
			SR	7	6.9	18	17.6	14	13.7	26	25.5	25	24.5	12	11.8	102	100.0	3.78	1.47
	14	keep my emotions at bay when dealing with a family struggling to accept an illness of a child	JR	0	0.0	1	1.0	5	4.9	19	18.8	55	54.5	21	20.8	101	100.0	4.89	0.83
			SR	0	0.0	3	3.0	4	3.9	13	12.9	55	54.5	26	25.7	101	100.0	4.96	0.90
	15	stand back and let a colleague give feedback on a group assignment even when he/she is struggling	JR	6	5.9	27	26.7	15	14.9	16	15.8	28	27.7	9	8.9	101	*100.0	3.60	1.50
			SR	17	16.8	30	29.7	11	10.9	13	12.9	20	19.8	10	9.9	101	100.0	3.19	1.07
	25	tend to make decisions in the spur of the moment and without thinking of the consequences, e.g., quickly covering for a colleague in the ward and she does not return to finish her shift and I need to answer on her whereabouts	JR	23	22.8	31	30.7	19	18.8	15	14.8	11	10.9	2	2.0	101	100.0	2.66	1.38
			SR	25	25.3	23	23.2	21	21.2	9	9.1	17	17.2	4	4.0	99	100.0	2.82	1.54

- Open-minded in discussions with colleagues regarding different beliefs such as the belief that honey can heal bad bedsores even if the patient is a diabetic (Item 28)

Almost a third (n=30, 30.0%) of the juniors (n=100, 100.0%) and 32 (32.0%) of the seniors (n=100, 100 %) were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) about being open-minded in discussions with colleagues (Table 4.11). Both the standard deviations of the juniors ($\tilde{x}$ 4.43, SD 1.25) and seniors ($\tilde{x}$ 4.43, SD 1.22) were widely distributed values (≥ 1.2). around the mean values. Responses of both groups indicated that they, each in their respective groups, were more diverse in beliefs that honey could heal serious bedsores even if the patient had diabetes mellitus. Figure 4.30 shows a negative skewness with a very similar pattern in the distribution of responses of the two groups.

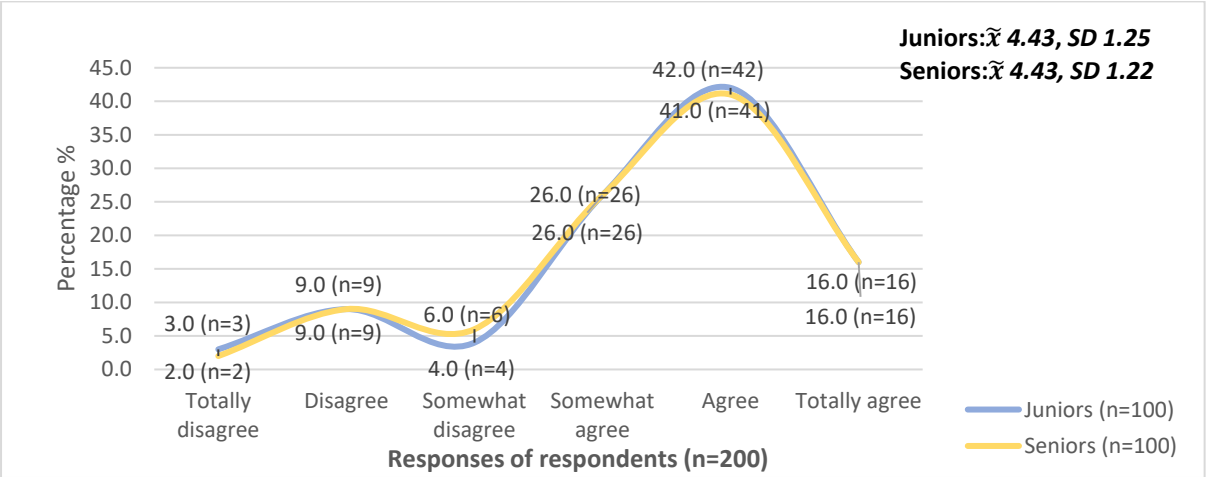


Figure 4.30: Open-minded in discussions regarding different belief systems (Item 28)

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups on being open-minded in discussions on different belief systems (p = 0. 996, NS). Student nurses obtain communication skills during their theoretical and clinical training (Connor, Flenady & Dwyer, 2022:3329). Consequently, engaging in discussions on subjects outside their formal training may make them feel uncomfortable and unsure about expressing their opinions. In order not to have 'tunnel vision' and only accept challenges if they are part of your viewpoint, it is important to start to ask questions, be curious, and challenge what you believe in and, through this experience, become more open-minded (Cherry, 2022a: n.d.).

4.5.2.3 Non-reactive during interpersonal communication

- **Keep my emotions intact when I am insulted by, e.g., a medical practitioner for being incompetent in performing nursing care (Item 6)**

Professionalism is culture oriented and the basis of selfless patient care (Cao, Song, Wu et al., 2023:1). A third (n=37, 36.3%) of the juniors (n=102, 100.0%) were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) in keeping their emotions intact. However, a third (n=39, 38.2%) of the seniors (n=102, 100.0%) were *definitely not mindful* to *rarely mindful*

in believing that student nurses could keep their emotions intact when being insulted by, e.g., a medical practitioner for being incompetent in executing nursing procedures (Table 4.12). A little more than a quarter of the juniors (n=28, 27.5%) and seniors (n=26, 25.5%) were found to be *somewhat mindful* (somewhat agreed) when being on the receiving end of unprofessional conduct (Figure 4.31).

The standard deviation of the juniors ($\tilde{x}$ 4.50, SD 1.10) was normal, and seniors ($\tilde{x}$ 3.78, SD 1.47) indicated a wider distribution around the mean value. Pearson Chi-Square test (x^2) indicated a highly significant difference between the responses of the junior and senior groups, x^2(5, N = 204), = 18.3534, p = 0.002 $p < 0.05$). The Cochran-Armitage Trend test also indicated a highly significant decreasing trend between the junior and senior groups, as the juniors were more positive than the seniors about being at the receiving end of unprofessional conduct by a senior health professional, *Z* (5, (N = 204) = -3.7769, p = 0.002, $p < 0.05$).

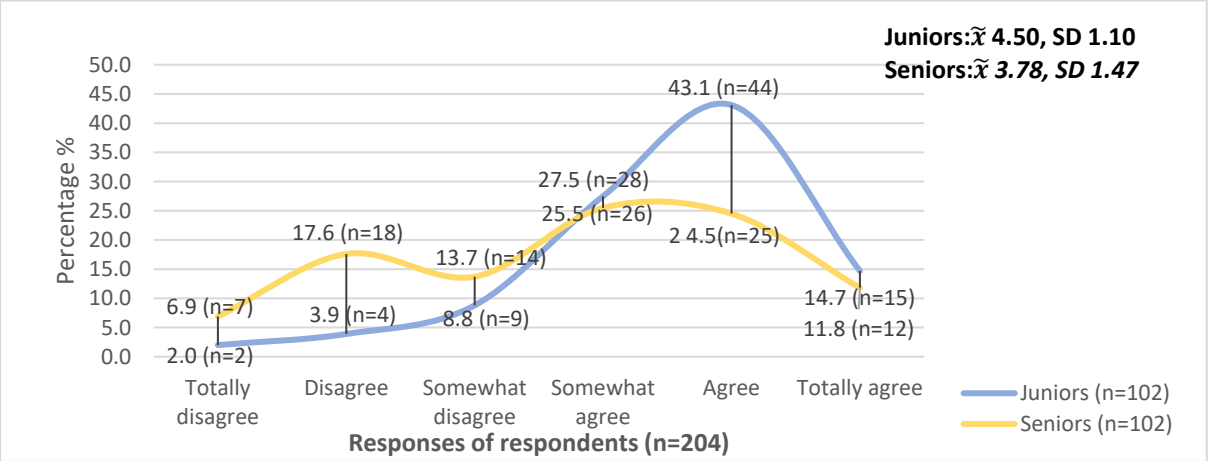


Figure 4.31: Keep emotions intact during unprofessional conduct directed at students (Item 6)

Keeping emotions intact during unprofessional conduct directed at students can be interpreted as being *non-reactive* in demanding situations (Weurlander, Lönn, Seeberger et al., 2018:74). Student nurses, like other medical profession students, experience situations in which it can become emotionally challenging and in which they might not yet be equipped to manage appropriately. These situations may vary from e.g., dealing with death and illness to witnessing or being at the receiving end of unprofessional behaviour by senior personnel and supervisors (Weurlander et al., 2018:81).

- **Keep my emotions at bay when dealing with a family struggling to accept an illness of a child (Item 14)**

By regulating emotions as they present themselves, one can become more comfortable with them, which then allows a person to experience them without reacting in extreme ways, such as bursting into tears or throwing objects around (Cuncic, 2022: n.d.). Only 19 (18.8%) of the 101

(100.0%) juniors and 13 (12.9%) of the 101 (100.0%) seniors were *somewhat mindful* (somewhat agreed) about keeping their emotions at bay when dealing with a family who is struggling to accept the illness of their child (Table 4.12). Half the juniors (n=55, 54.5%) and seniors (n=55, 54.5%) were *mindful* (agreed) when dealing with family members who were under pressure to accept the illness of a child. Both the mean values and standard deviations obtained by the juniors ($\tilde{x}$ 4.89, SD 0.83) and seniors ($\tilde{x}$ 4.96, SD 0.90) indicated normal values. Figure 4.32 indicates a left tail bell curve with a negatively skewed distribution of responses of 8 (7.8%) juniors and 5 (4.8%) seniors. The null hypothesis was accepted as no significant relationship was found between the responses of the two groups and mindfulness about keeping emotions at bay (p = 0.596, NS).

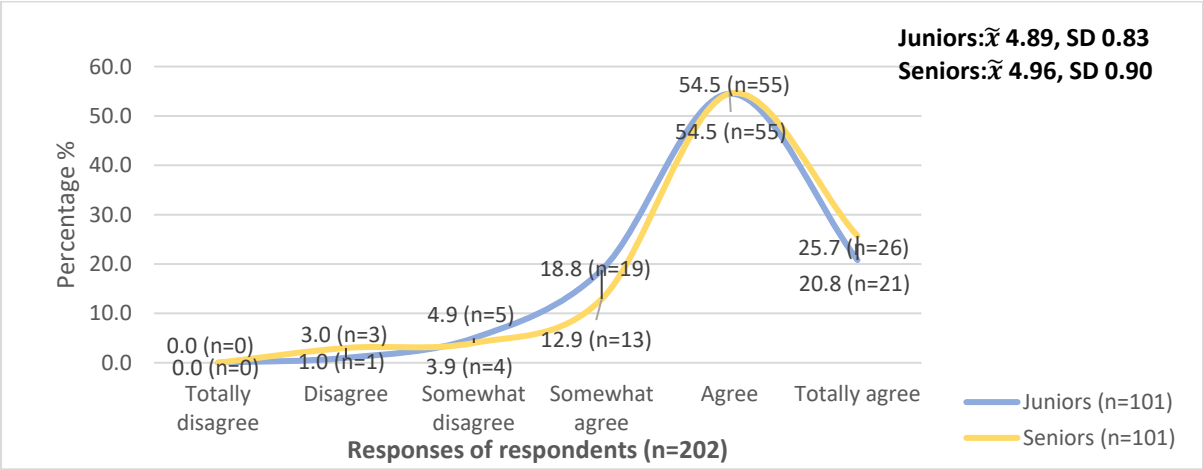


Figure 4.32:Keep emotions at bay in difficult situations (Item 14)

If someone can regulate their emotions, their mental well-being will improve, which will lead to higher levels of happiness and life satisfaction (Raypole, 2020b: n.d.).

- **Stand back and let a colleague give feedback on a group assignment even when he/she is struggling (Item 15)**

Almost half (n=48, 47.5%) of the juniors (n=101, 100.0%) and more than a half (n=58, 57.4%) of the seniors (n=101, 100.0%) were *definitely not mindful* to *rarely mindful* (totally disagreed to somewhat disagreed) on standing back and allowing a colleague to give feedback on a group assignment (Table 4.12). A few (n=16, 15.8%) juniors were *somewhat mindful* (somewhat agreed) that they would stand back when a colleague gave feedback, even when they were struggling, as opposed to their counterparts (n=13, 12.9%). The standard deviation of ≥ 1.2 for the juniors ($\tilde{x}$ 3.60, SD 1.50) indicated that juniors' mindfulness levels about letting a colleague give feedback on an assignment even when they are struggling, varied from the seniors ($\tilde{x}$ 3.19, SD 1.07). Figure 4.33 indicates two similar peaks in the responses of the juniors, which can be interpreted as a bimodal skewness of responses with similar responses at the scores of "disagree" and "agree" (Frost, 2022a: n.d.). The null hypothesis (H_0) was accepted as there was no significant relationship found between the juniors and seniors on standing back when a colleague is giving feedback (p = 0.187, NS).

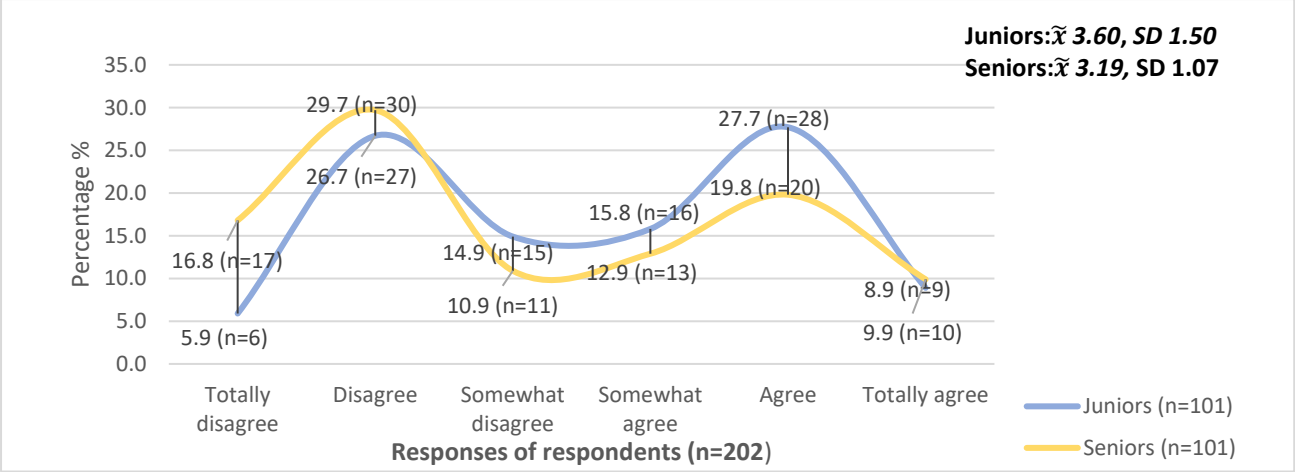


Figure 4.33: Stand back when peers give feedback (Item 15)

Depending on the relevance or accuracy of the information that is communicated, one can get that person's attention by raising your hand or hinting that you want a chance to speak (Turney, 2023b: n.d.). Another person must acknowledge that you want to pose a question, on which you can ask if you can add to the conversation by saying for example: "Can I add a relevant fact?" or "May I interrupt for a moment?" (Monarth, 2021: n.d.).

- **Tend to make decisions in the spur of the moment and without thinking of the consequences, e.g., quickly covering for a colleague in the ward and she does not return to finish her shift, and I need to answer on her whereabouts (Item 25)**

Making *impulsive* decisions spontaneously can have serious consequences for yourself as well as your patients (Sharoha, 2023: n.d.).

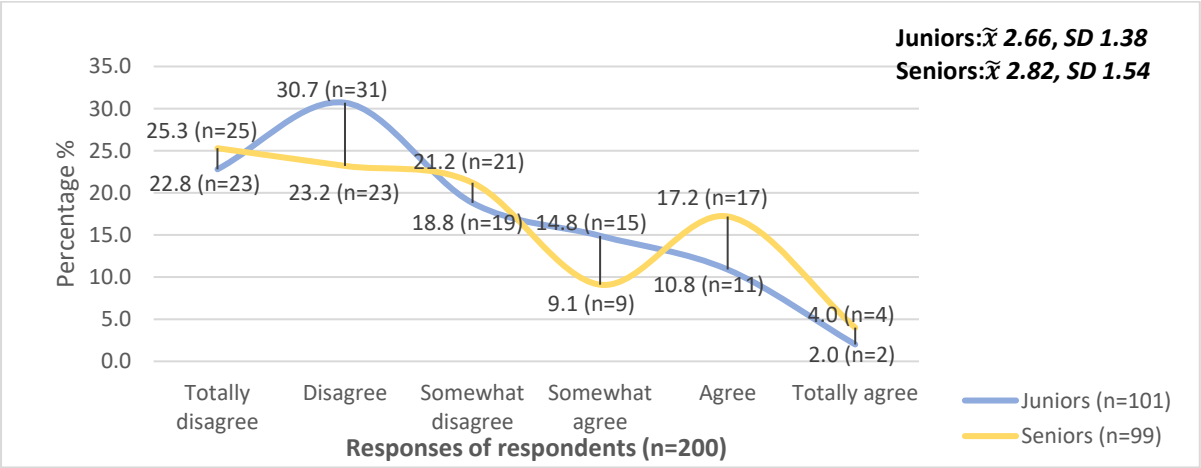


Figure 4.34: Spur of moment decision-making (Item 25)

Two-thirds (n=73, 72.3%) of the 101 (100.0%) juniors and 69 (69.7%) of the 99 (100.0%) seniors were *definitely not mindful* to *rarely mindful* (totally disagreed to somewhat disagreed) in making decisions in the spur of the moment and without thinking of the consequences (Table 4.12). Both the mean values obtained by the juniors ($\tilde{x}$ 2.66, SD 1.38) and seniors ($\tilde{x}$ 2.82, SD 1.54) were low (Figure 4.34). The standard deviation for both the juniors (SD 1.38) and seniors (SD 1.54)

was ≥ 1.2. Thus, the responses of the students in their respective groups indicated that they differed in their mindfulness level when making decisions at the impulsively without considering the consequences. The null hypothesis (H_0) was accepted as there was no significant relationship between the responses of the two groups and mindfulness about being non-reactive in making decisions in the spontaneously (p=0.422, NS). Figure 4.34 shows a positive skewness of responses with a linear pattern in the distribution of responses of the two groups. Student nurses prioritise professionalism in the workplace, guided by their moral and ethical values, as highlighted by Charles (2022: n.d.).

4.6 FINDINGS ON THE PHYSIOLOGICAL DIMENSION OF MINDFULNESS

This dimension consists of six items. Items include but were not limited to concepts such as awareness, consciousness (aware), attentiveness, feeling 'in-tune' with the body and listening without being judgmental. Several of the items in all three dimensions were connected, just like the pieces of a puzzle. If all these 'puzzle pieces' are not there, a person cannot be seen as mindful. Nevertheless, there is more to physical well-being than only being healthy. The choices we make daily, such as eating healthy, getting enough sleep, taking part in physical activity, and actively employing tactics on relaxation, are equally important to physical well-being (Stevenson, 2021: n.d.). Practicing mindfulness techniques may help improve physical well-being by, for instance, improving sleep, relieving tension, lowering blood pressure, diminishing chronic pain, as well as relieving gastrointestinal discomfort and therefore improving a person's overall functioning (HelpGuide, 2022: n.d.). The reliability of the physiological dimension of the measuring tool obtained a Cronbach Alpha α = 0.73.

Table 4.13: Factor on the physiological dimension with elements of mindfulness

Factor	Elements of mindfulness		Description
4	Being consciously aware of self and surroundings	36	Aware of environment even when busy with something else
		35	Conscious of sounds
		38	Feel 'in tune' with your own body
5	Listen with attentiveness and without being judgmental	39	Listen without being judgmental
		37	Attentive to surroundings, which minimise patient errors
6	Being aware of and attentive to all finer details	34	Aware of own feelings when in contact with others
*A factor should have at least three (3) items (Mitja, 2017: n.d.). If after a factor rotation, the results indicate two or one items in a factor, the results are left as is, and not interpreted. Factor 6 does exist but is only supported by one item (Item 34).			

4.6.1 Description of the findings on the physiological dimension

Factor 4 indicates that student nurses are *deliberately aware* of what is happening around them in the clinical area (Amoo et al., 2022:1), even when they are busy with something else (Items 36 and 35). In addition to being consciously aware, students need to be focused and 'in tune' with their bodies and minds (Item 38) to cultivate *deliberate awareness* as part of mindfulness. In the physiological dimension, no *non-judgmental* and *non-reactive behaviour* items were found.

4.6.1.1 The element of deliberate awareness in mindfulness during interpersonal communication

The mean values ($\tilde{x}$) of Items 34 to 39 are all ≥ 4.50, which indicates positive responses on the element of deliberate awareness of students.

- **Am fully aware of what I feel when I am in contact with others, e.g., when I am in conversation with a patient, I am aware of the wind blowing through a half-open window (Item 34)**

Being aware of the things happening around you while you communicate with a person is termed situational awareness, which is an essential skill a nurse should have to ensure good patient care and patient safety (Mills, 2022: n.d.). Only 13 (12.7%) of the juniors (n=102, 100.0%) and a quarter (n=21, 20.6%) of the seniors (n=102, 100.0%) were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) on being fully aware of their surroundings. However, more than half of the juniors (n=61, 59.8%) and seniors (n=54, 52.9%) were *mindful* (agreed) about being deliberately aware of what they felt while in a conversation with a patient, e.g., aware of the wind blowing through a half-open window (Table 4.14). Both groups had high (≥ 4.50) mean values ($\tilde{x}$ 5.03, $\tilde{x}$ 4.72).

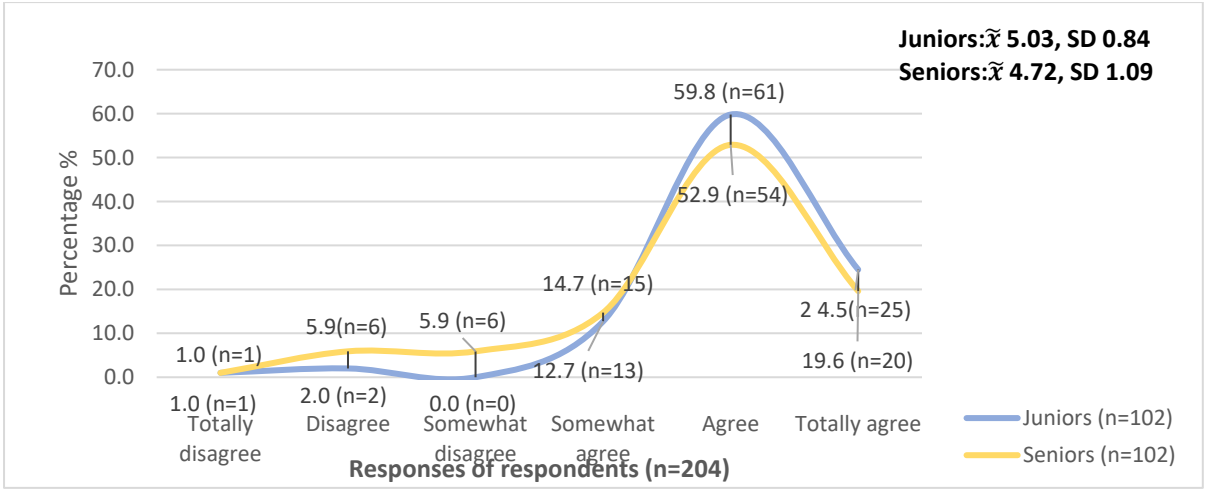


Figure 4.35:Fully aware of feelings (Item 34)

Table 4.14: Responses on the physiological dimension (Deliberate Awareness)

Key element	Items	I, as a student nurse	Physiological dimension															
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewh at agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%	$\tilde{x}$	SD
Deliberate Awareness	34	am fully aware of what I feel when I am in contact with others, e.g., when I am in conversation with a patient, I am aware of the wind blowing through a half-open window	JR	1	1.0	2	2.0	0	0.0	13	12.7	61	59.8	25	24.5	102	100.0	5.03	0.84
			SR	1	1.0	6	5.9	6	5.9	15	14.7	54	52.9	20	19.6	102	100.0	4.72	1.09
	35	am conscious of what I hear while in contact with others, e.g., while I am on the telephone taking orders from a doctor, I am also aware of the soft moans of a patient in pain coming from a room	JR	1	1.0	4	3.9	4	3.9	20	19.6	46	45.1	27	26.5	102	100.0	4.84	1.06
			SR	0	0.0	3	2.9	5	4.9	17	16.7	51	50.0	26	25.5	102	100.0	4.90	0.94
	36	am aware of what is happening around me even when I am busy with something else, e.g., listening to what the charge nurse says while also aware of a confused patient with a high fall risk trying to climb over his/her cot sides and help them in time	JR	1	1.0	1	1.0	6	5.9	8	7.9	53	52.5	32	31.7	101	100.0	5.05	0.95
			SR	2	2.0	5	4.9	4	3.9	14	13.7	49	48.0	28	27.5	102	100.0	4.83	1.14
	37	attentive to everything around me and therefore errors regarding patient treatment are reduced, e.g., I once saw a colleague identifying a patient incorrectly and almost gave intravenous Penicillin for which the specific patient is allergic to	JR	2	2.2	1	1.1	2	2.2	10	10.7	51	54.8	27	29.0	93	100.0	5.03	0.97
			SR	0	0.0	2	2.0	2	2.0	15	15.2	57	57.6	23	23.2	99	100.0	4.98	0.81
	38	feel overall 'in tune' with my body because I am more focused on things happening around me	JR	3	3.0	5	4.9	4	3.9	23	22.8	53	52.5	13	12.9	101	100.0	4.56	1.12
			SR	0	0.0	2	2.0	8	7.9	22	21.8	57	56.4	12	11.9	101	100.0	4.68	0.86
Non-judgm	39	listen without being judgmental if a new way of performing a procedure is explained, such as in a training session emergency treatment of a patient with apnoea	JR	0	0.0	1	1.0	1	1.0	7	6.9	58	56.8	35	34.3	102	100.0	5.23	0.71
			SR	0	0.0	0	0.0	1	1.0	10	9.8	59	57.8	32	31.4	102	100.0	5.20	0.65

The seniors (SD 1.09) had a slightly higher, but normal, standard deviation than the juniors (SD 0.84), indicating a wide distribution of responses around the mean value. This means that the seniors' mindfulness levels were more diverse regarding being fully aware of their surroundings. The Cochran-Armitage Trend Test indicated a significant trend between the responses of the two groups. Figure 4.35 indicates a negative skewness and similar response distribution around the mean values showing a bell curve between the scores 4 (somewhat agreed) to 6 (totally agreed), with the median at 5 (agreed). A wide negative skewed distribution of responses occurred between "totally disagree" and "somewhat agree". The null hypothesis (H_0) was rejected as a significant relationship (association) existed between the responses of the two groups The Cochran-Armitage Trend test supported the alternative hypothesis (Z = (3, (N = 204) = -2.3176, p = 0.010, $p < 0.05$)).

Factors that might influence the extent to which a person is aware of what is going on around them include, but are not limited to, poor communication within a team, fatigue, cognitive overload, and experience (a trained nurse is perceived to be more focused on a situational analysis) (Avalos et al., 2021).

- **Am conscious of what I hear while in contact with others, e.g., while I am on the telephone taking orders from a doctor, I am also aware of the soft moans of a patient in pain coming from a room (Item 35)**

Student nurses should be placed in situations where they need to explore and cultivate their situational awareness skills to make informed decisions (Tower, Watson, Bourke et al., 2019:3923). A similar number of 24 (23.5%) of the juniors (n=102, 100.0%) and 22 (21.6%) of the seniors (n=102, 100.0%) was *rarely* to *somewhat mindful* (somewhat disagreed to somewhat agreed) that they were consciously aware of what was going on around them (Table 4.14).

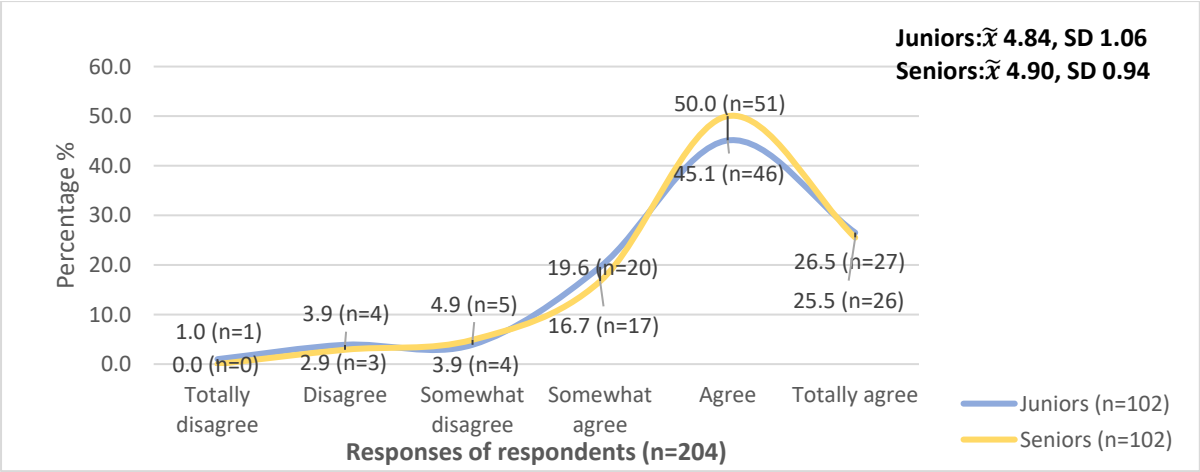


Figure 4.36: Conscious listening to surroundings when busy (Item 35)

In addition, less than half (n=46, 45.1%) of the 102 (100.0%) juniors were *mindful* (agreed) as opposed to their counterparts (n=51, 50.0%) that they are aware of what they hear while in contact

with others, e.g., while on the telephone taking orders from a doctor, the respondent is also aware of the soft moans of a patient in pain coming from a room (Figure 4.36). The SDs for both groups ($\tilde{x}$ 4.84, SD 1.06; $\tilde{x}$ 4.90, SD 0.94) indicated that students in each of their respective groups obtained the level of being "mindful" in being aware of their surroundings while they are busy with something else. Figure 4.36 indicated a negative skewness in responses with a similar pattern. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups in Item 35 (p = 0.931, NS).

Item 35 coincides with Item 34 on addressing situational awareness. Situational awareness and good decision-making skills can be linked to each other (Laurila-Pant, Pihlajamäki, Lanki & Lehikoinen, 2023: n.d.).

- **Am aware of what is happening around me even when I am busy with something else, e.g., listening to what the charge nurse says, while also aware of a confused patient with a high fall risk trying to climb over his/her cot sides and help then in time (Item 36)**

The majority of juniors (n=93, 92.1%; n=101, 100.0%) and 91 (89.2%) of the seniors (n=102, 100.0%) were *somewhat mindful* to *completely mindful* (somewhat agreed to totally agreed) of what was happening around them, even when they were busy with something else (Table 4.14). More than half (n=53, 52.5%) of the juniors and slightly less seniors (n=49, 48.0%) were *mindful* (agreed) by listening to what the charge nurse said while also being aware of a confused patient trying to climb over their cot sides, being able to stop them in time. Both the standard deviations of the groups were normally distributed around the mean values ($\tilde{x}$ 5.05, SD 0.95; 4.83, SD 1.14).

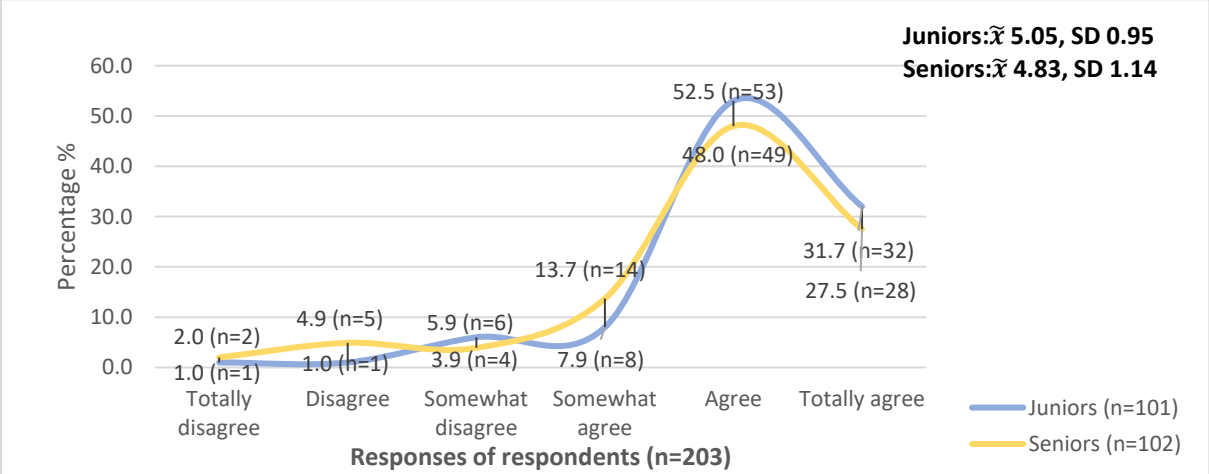


Figure 4.37: Aware of surroundings while busy with other tasks (Item 36)

Figure 4.37 indicates a negative skewness in a similar pattern of responses on the score of "*totally disagree*" to "*totally somewhat agree*". The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups and mindfulness while doing more than one task (p = 0.485, NS). In each of their respective groups, the responses of students with their peers were distributed around the level of being *mindful* to stay focused in the clinical learning area.

It was found that student nurses who were exposed to hands-on training, where they experienced the effects of emotions or feelings on human connections, had more mental, physical and situational awareness of self-care, personal and professional growth and mindful connections with others (Garrigues, Soulé & Vermeesch, 2022:7-8; Wang, Cao & Du, 2022: n.d.).

- **Attentive to everything around me and therefore errors regarding patient treatment are reduced, e.g., I once saw a colleague identifying a patient incorrectly and almost gave intravenous Penicillin for which the specific patient has an allergy (Item 37)**

To protect your patient, being attentive to and concerned about underlying and potentially serious unforeseen injuries and illnesses are daily functions of a nurse practitioner (Rodziewicz, Houseman & Hipskind, 2023: n.d.). Only 10 (10.7%) of the juniors (n=93, 100.0%) and 15 (15.2%) of the seniors (n=99, 100.0%) were *somewhat mindful* (somewhat agreed) that they were attentive to their surroundings and that fewer medical errors therefore occurred. More than half of the juniors (n=51, 54.8%) and seniors (n=57, 57.6%), were found to be *mindful* (agreed) about being attentive to all that was happening around them, e.g., stopping a colleague from administering Penicillin to a patient who was allergic to it, due to no patient identification (Table 4.14; Figure 4.38). The junior ($\tilde{x}$ 5.03, SD 0.97) and senior ($\tilde{x}$ 4.98, SD 0.81) groups had normal SDs, indicating that the students in their respective groups, were at the level of being *mindful* regarding being attentive to their surroundings.

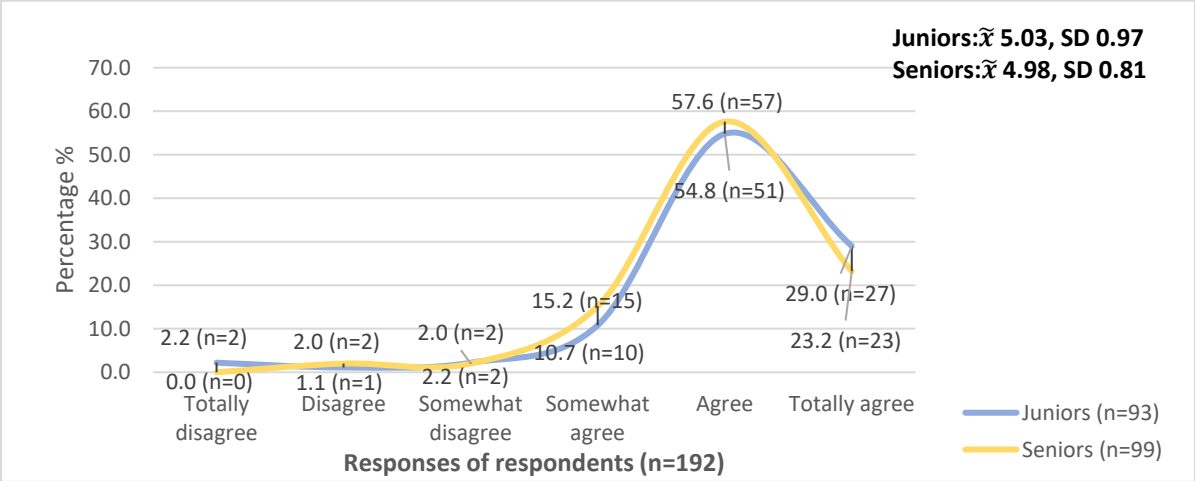


Figure 4.38: Attentive to surroundings to avoid errors (Item 37)

A significant difference was found between the two age groups, and the majority of 87 (62.0%) of the 140 younger group (19-25 years) versus 22 (42.0%) of the 52 older respondents (>26 years) were *mindful* (agreed) of everything that is happening around them. The null hypothesis (H_0) was rejected as the Pearson Chi-Square test (x^2) indicated a highly significant difference between the responses of the age groups (x^2(3, N =192), =8.0277, p = 0.045, $p < 0.05$)). It is not always easy to speak up and address potential problems. The fear of punishment, legal action and not taken

seriously, are some of the reasons for not voicing concerns (Rodziewicz et al., 2023: n.d.). Nurses often advocate for their patients and need to speak up until they have been heard.

- **Feel overall 'in tune' with my body because I am more focused on things happening around me (Item 38)**

Just more than a quarter (n=27, 26.7%) of the 101 (100.0%) juniors and almost a third (n=30, 29.7%) of the seniors – with 101 (100.0%) respondents in each group, were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) about feeling 'in tune' with their bodies and were therefore able to focus on their surroundings (Table 4.14; Figure 4.39). Figure 4.39 indicates a negative skewness in responses with a similar response distribution around the mean values. The two groups had high mean values ($\tilde{x}$ 4.56, $\tilde{x}$ 4.68). The standard deviation of the groups was normal although the value of the juniors (SD 1.12) was higher than that of the seniors (SD 0.86), indicating a wider distribution of responses around the mean values.

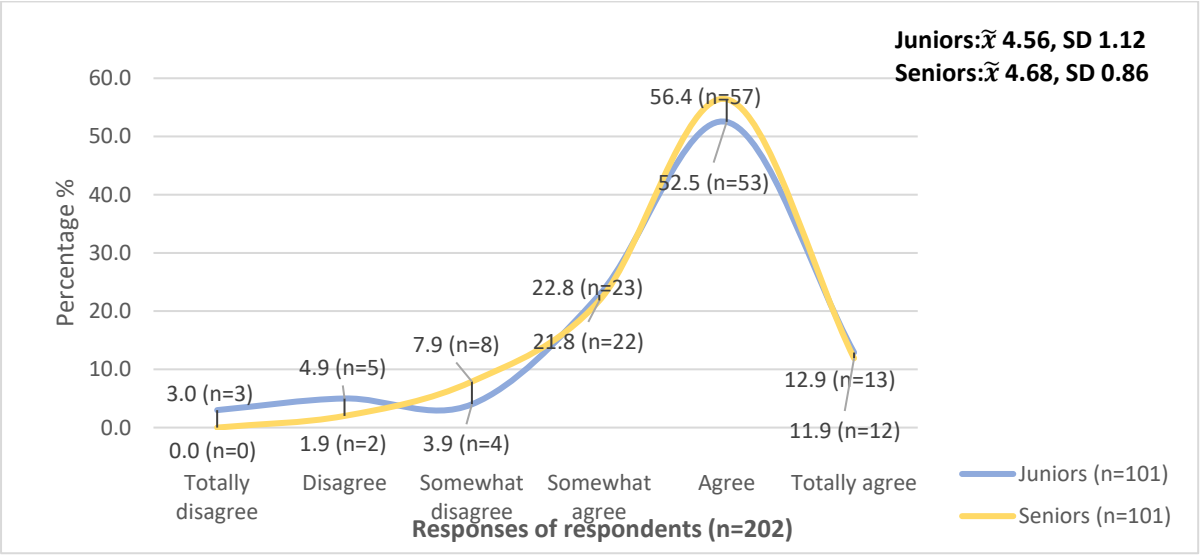


Figure 4.39: In tune with the body because of focus (Item 38)

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the junior and senior students on feeling 'in-tune' with their bodies and therefore being more focused on their surroundings (p=0.947, NS). The experiences student nurses sometimes have in the clinical area can affect their self-confidence as well as self-awareness (Najafi & Nasiri, 2023: n.d.). Some of these experiences includes, but are not limited to, a lack of respect from registered nurses, ineffective communication, inadequate time to spend on the students due to staff shortages, lack of support, inadequate knowledge as well as lack of motivation (Moghaddam, Aghamohammadi, Jafari et al., 2020:315-316). This indicated the importance of nurses who need to become more mindful through their development of self-motivation and self-direction (Prinsloo & Jooste, 2022: n.d.).

4.6.1.2 Non-judgmental during interpersonal communication

- **Listen without being judgmental if a new way of performing a procedure is explained, e.g., in a training session emergency treatment of a patient with apnoea (Item 39)**

Almost all (n=93, 91.1%) of the 102 (100.0%) juniors and a large number (n=91, 89.2%) of the 102 (100.0%) seniors were *mindful* to *completely mindful* (agreed to totally agreed) of their ability to listen without being judgmental e.g., when a new way of performing an emergency procedure was explained such as the treatment of a patient with apnoea (Table 4.14). The standard deviation of the juniors ($\tilde{x}$ 5.23, SD 0.71) was normally distributed around the mean value, oppose to a narrower distribution of responses obtained by the seniors ($\tilde{x}$ 5.20, SD 0.65). This indicated that juniors in their peer group, were more diverse in being mindful of acting non-judgmental towards others, than their seniors who were more alike in their mindfulness levels. However, the null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and their mindfulness of their ability to be non-judgmental towards others (p=0.794, NS). The findings indicated a similar pattern in the negative skewness of responses of the two groups (Figure 4.40).

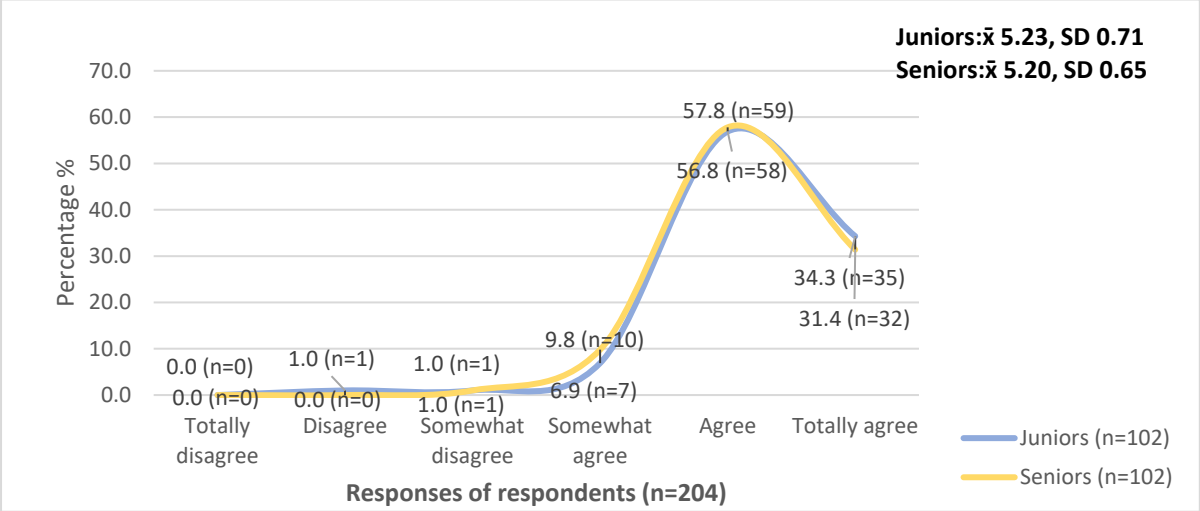


Figure 4.40: Listening without being judgmental (Item 39)

During communication, the biggest cause of misunderstandings comes from people listening with the intent to reply and not understand what the other person is saying (Pica, 2022: n.d.). Mindful listening indicates that a person is present (aware) during a conversation, ultimately creating a safe space where the narrator feels that he or she is really heard (Fletcher, 2022: n.d.). For any healthcare professional, it is essential to practice mindful listening to achieve better patient outcomes and create a harmonious work environment.

4.7 FINDINGS ON THE SPIRITUAL DIMENSION OF MINDFULNESS

This dimension consists of 10 items and includes concepts such as focus, strengthening weaknesses, tolerance, the value of principles, not postponing responsibilities, changing interaction, acceptance, neutrality, critical reflection, and compassion. To understand the spiritual dimension, it is wise to start with what spirituality entails.

Spirituality is a broad concept that suggests that a person believes in something beyond the self (Scott, 2022: n.d.). Spirituality is a personal belief and might not include religion. Mindfulness relates to spirituality when you become aware of what is happening around you in the present moment (Totade, 2022: n.d.). Studies have shown that student nurses' spiritual beliefs influence their attitudes towards providing spiritual care to their patients (Chiang, Lee & Chu et al., 2020:2). The reliability of the spiritual dimension in the measuring tool obtained a Cronbach Alpha α = 0.63. The spiritual dimension obtained the lowest reliability value, as it had the least number of items in the instrument.

Table 4.15: Factors on the spiritual dimension

Factors	Elements of mindfulness	Item no	Description
7	Valuing principles as well as tolerating the opinions of others	44	Doing tasks even if not feeling like it, e.g., attending to a rude patient
		43	Value principles (right vs wrong)
		42	Tolerate opinions, even when different from own
8	Show compassion and be able to change the way of interaction. Can critically reflect and focus on strengths	49	Show compassion and understanding towards peers
		45	Able to change the way of interaction during interpersonal communication if needed
		48	Reflect critically on own behaviour
9	In acceptance of failures and working to strengthen weaknesses	46	At ease to accept failures
		41	Able to work on strengthening own weaknesses

4.7.1 Description of the findings on the spiritual dimension

In Factor 7, the student nurses indicated the importance of showing *deliberate awareness* by valuing the principles (Villirilli, 2021: n.d.) between right and wrong (Item 43). A good nurse practitioner shows integrity in their private and professional lives. Students also show mindfulness by being *non-reactive* in being tolerant of different opinions (Item 42) and doing tasks they would rather not do like attending to a rude patient (Item 44). In Factor 1, *non-judgmental* behaviour items were not identified.

Table 4.16: Responses on the spiritual dimension (Deliberate Awareness)

Key element	Items	I, as a student nurse	Spiritual dimension																
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat agree*		*Agree*		*Totally agree*		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%	$\bar{x}$	SD
Deliberate Awareness	40	focus on my strength even though others make me doubt myself, for instance when the staff nurse in the ward says I am terrible at dealing with trauma, it is ok with me because I know I am great at drawing blood from patients with difficult veins	JR	3	3.2	6	6.4	5	5.3	12	12.8	41	43.6	27	28.7	94	100.0	4.74	1.29
			SR	1	1.0	1	1.0	5	5.0	16	16.0	44	44.0	33	33.0	100	100.0	5.00	0.97
	41	work on strengthening my weaknesses, e.g., when struggling to communicate a patient's condition in a scientific manner to the doctor, I go back to theory and learn all the different aspects of said condition	JR	0	0.0	0	0.0	1	1.0	12	11.7	51	50.0	38	37.3	102	100.0	5.25	0.68
			SR	0	0.0	2	2.0	1	1.0	18	17.6	49	48.0	32	31.4	102	100.0	5.06	0.84
	43	value the principles between right and wrong, such as when you are to work on a certain day but fall sick during the night, you have to let the charge nurse know that you will be absent from work because the ward is depending on you	JR	1	1.0	0	0.0	1	1.0	3	2.9	38	37.3	59	57.8	102	100.0	5.50	0.76
			SR	0	0.0	3	2.9	2	2.0	1	1.0	55	53.9	41	40.2	102	100.0	5.26	0.83
	45	am able to change the way I interact with colleagues during interpersonal communication by evaluating my own communication techniques, e.g., when a peer does not understand what I am trying to explain regarding a procedure, I will change the way I communicate to be understood	JR	1	1.0	1	1.0	1	1.0	3	2.9	50	49.0	46	45.1	102	100.0	5.34	0.82
			SR	0	0.0	1	1.0	0	0.0	4	4.0	58	57.4	38	37.6	101	100.0	5.31	0.64
	48	reflect critically on my own behaviour if taking too long to perform a task	JR	0	0.0	3	3.0	3	3.0	10	9.9	59	58.4	26	25.7	101	100.0	5.02	0.86
			SR	1	1.0	3	2.9	1	1.0	17	16.7	64	62.7	16	15.7	102	100.0	4.84	0.88

Factor 8 indicated that student nurses also show *deliberate awareness* of the ability to change how they interact (Item 45) during interpersonal communication if they see they are getting nowhere with their current methods. Students should be able to reflect critically (Bailey & Rehman, 2022: n.d.) on their own behaviour (Item 48) on their clinical skills, for example. It is also important for students to be non-judgmental towards their peers who struggle with certain procedures (Item 49).

4.7.1.1 ` The element of deliberate awareness in mindfulness during interpersonal communication

- **Focus on my strengths even though others make me doubt myself, for instance when the staff nurse in the ward says I am terrible at dealing with trauma, it is ok with me because I know I am great at drawing blood from patients with difficult veins (Item 40)**

A high number of respondents (n=80, 85.1%) of the juniors (n=94, 100.0%) and 93 (93.0%) of the seniors (n=100, 100.0%) were *somewhat mindful* to *completely mindful* (somewhat agreed to totally agreed) of their ability to focus on their strengths even when they sometimes doubt themselves (Table 4.16). Only 17 (18.1%) of the juniors, and less than a quarter (n=21, 21.0%) of the seniors, were *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) on focusing on their strengths when doubting themselves, e.g., when a staff nurse in the ward said that a certain student was terrible at dealing with trauma, that student knew that his/her strengths lie somewhere else (Figure 4.41). The standard deviations indicated that the juniors ($\tilde{x}$ 4.74; SD 1.29) had a wider distribution (≥ 1.2) around its mean value as opposed to the normal SD of the seniors ($\tilde{x}$ 5.00; SD 0.97).

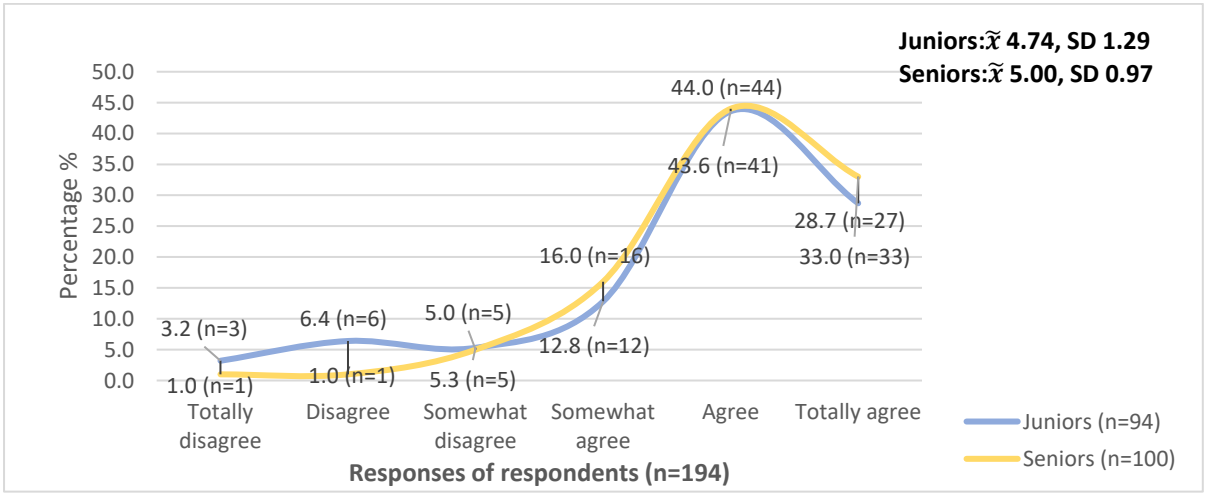


Figure 4.41:Focus on own strength when in doubt (Item 40)

The students' responses in the junior group indicated that peers' mindfulness about focusing on their strengths even when they doubted themselves. The Cochran-Armitage Trend test supported the alternative hypothesis, Z (5, (N = 204) = -3.7769, p = 0.00, $p < 0.05$), and the H_0 was rejected. A significant relationship was found between the responses of the two groups

and mindfulness of using their own strengths, e.g., drawing blood from a patient with difficult veins. With a supportive environment conducive to learning and the guidance of registered nurses, student nurses can learn from positive as well as negative experiences (Zhang, Shields, Ma et al., 2022:548). This will help them to develop self-confidence and allow them to focus on their strengths (Zulu, Du Plessis & Koen, 2021: n.d.).

- **Work on strengthening my weaknesses, e.g., when struggling to communicate a patient's condition in a scientific manner to the doctor, I go back to theory and learn all the different aspects of said condition (Item 41)**

Only 12 (11.7%) of the juniors (n=102, 100.0%) and 18 (17.6%) of the seniors (n=102, 100.0%) were *somewhat mindful* (somewhat agreed) of being able to strengthen their weaknesses by reading and integrating theory in practice (Table 4.16). Less than half of the juniors (n=49, 48.0%) and half of the seniors (n=51, 50.0%) were *mindful* (agreed) that they would go back to theory and learn the various aspects of a condition to present it in the scientifically correct manner (Table 4.16). The standard deviation of the juniors ($\tilde{x}$ 5.25, SD 0.68*)* was ≤ 0.7, indicating a narrow distribution of responses around the mean value as opposed to the normal SD of seniors ($\tilde{x}$ 5.06, SD 0.84). The participants in the junior group were more alike in their mindfulness level regarding being aware of their own weaknesses and how to strengthen them (Figure 4.42). A significant difference was found regarding responses related to ethnicity with 40.0% of the black respondents who were found to be *completely mindful* (totally agree) that they work on strengthening their weaknesses in order to understand the different aspects of certain conditions opposed to 29.0% of the white respondents. The null hypothesis (H_0) was rejected as the Pearson's Chi-Square test (x^2) indicated a highly significant difference between the responses of the black and white groups, x^2(6, (N =204), = 12.8015*,* p = 0.04, *p* < 0.05).

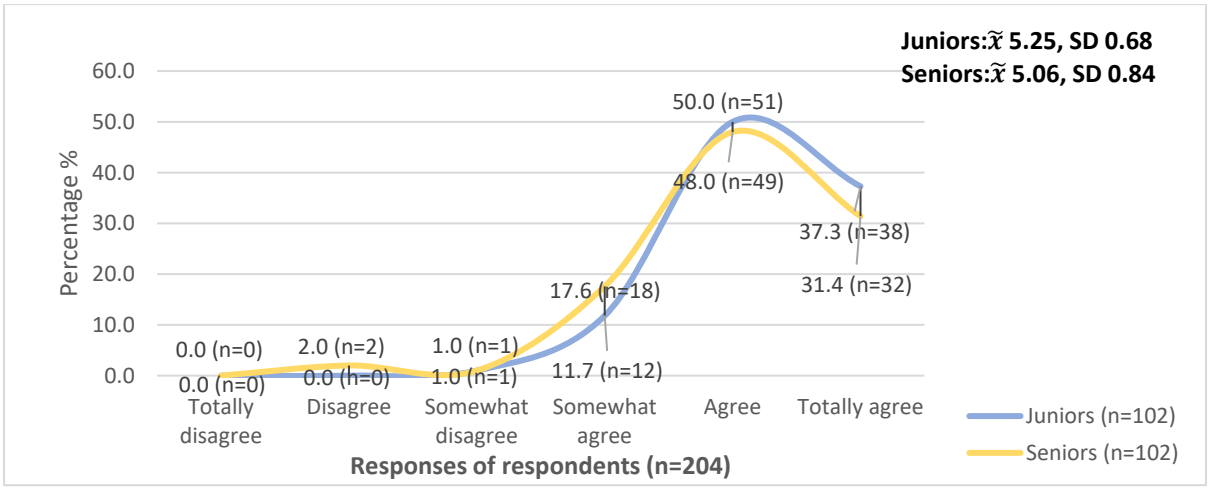


Figure 4.42: Work on strengthening weaknesses (Item 41)

Feelings of insignificance, lack of professional independence and self-confidence, perceiving discrimination in the clinical area, and a lack of motivation might be some of the reasons why it is

challenging for a student to acknowledge her/his weaknesses and employ strategies to strengthen their shortcomings (Hadian Jazi, Gheybi, Zare et al., 2022: n.d.).

- **Value the principles between right and wrong, e.g., when you are to work on a certain day but fall sick during the night, you must let the charge nurse know that you will be absent from work because the ward is depending on you (Item 43)**

Almost all (n=97, 95.1%), of the 102 (100.0%) juniors and 96 (94.1%) of the seniors (n=102, 100.0%) were *mindful* to *completely mindful* (agreed to totally agreed) of valuing the principles of being right or wrong (Table 4.16). Both the mean values of the juniors ($\tilde{x}$ 5.50, SD 0.76*)* and seniors ($\tilde{x}$ 5.26, SD 0.83) were high (≥ 4.50), with normal standard deviations. Responses of students in each of their respective groups, were distributed around the level of being *mindful* in following the principles of right and wrong. Figure 4.43 indicates a negatively skewness in the responses of the two groups from *totally disagree* to *somewhat agree*. The null hypothesis (H_0) was rejected as the Pearson's Chi-Square test (x^2) accepted the alternative hypothesis, that a significant relationship existed between the responses of the two groups and being mindful of telling the truth, not by informing the charge nurse that you will not be at work due to an illness, x^2 (3, (N = 202) = 9.0427, p = 0.015, $p < 0.05$).

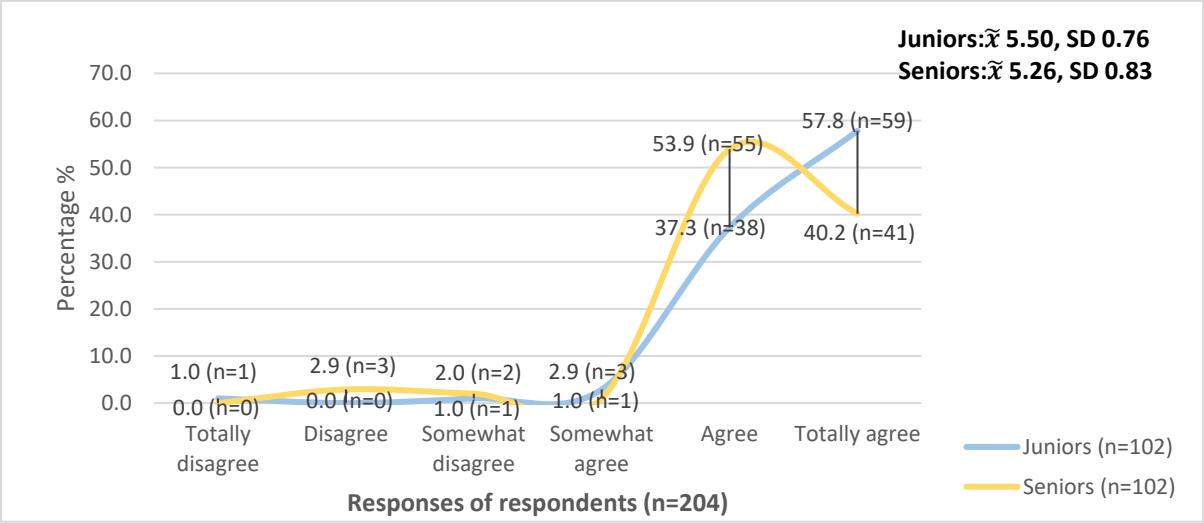


Figure 4.43: Value principles between right and wrong (Item 43)

Patient care is affected by nurses' level of accountability for their actions (Molina-Mula & Gallo-Estrada, 2020:835). Being accountable means that nurses, including student nurses, take responsibility for their actions, decisions, mistakes, and shortcomings (Habeeb, 2022: n.d.) on their knowledge and skills to deliver quality patient care.

- **Am able to change the way I interact with colleagues during interpersonal communication by evaluating my own communication techniques e.g., when a peer does not understand what I am trying to explain regarding a procedure, I will change the way I communicate in order to be understood (Item 45)**

More than half (n=50, 49.0%) of the juniors (n=102, 100.0%) and 58 (57.4%) of the seniors (n=101, 100.0%) were *mindful* (agreed) that they were able to change the way that they interacted, e.g., their way of communication, in order to be understood (Table 4.16; Figure 4.44). The standard deviation of the juniors ($\tilde{x}$ 5.34, SD 0.82) was normal; however, a narrow distribution of responses around the mean value, of ≤ 0.7 was indicated in the senior group ($\tilde{x}$ 5.31, SD 0.64). The seniors were thus more alike in their mindfulness of being aware of their ability to evaluate their own communication techniques on their interpersonal communication, than their counterparts. A significant difference was found between the responses of the different age groups, as 58.0% of the 19–25-year-olds opposed to 40.0% of the > 26-year-olds were mindful (agreed) that they can change the way that they communicate to be understood better. The Cochran-Armitage Trend test supported the alternative hypothesis, and the H_0 was rejected (Z (3, (N = 203), = -0.4793, p = 0.00, $p < 0.05$)).

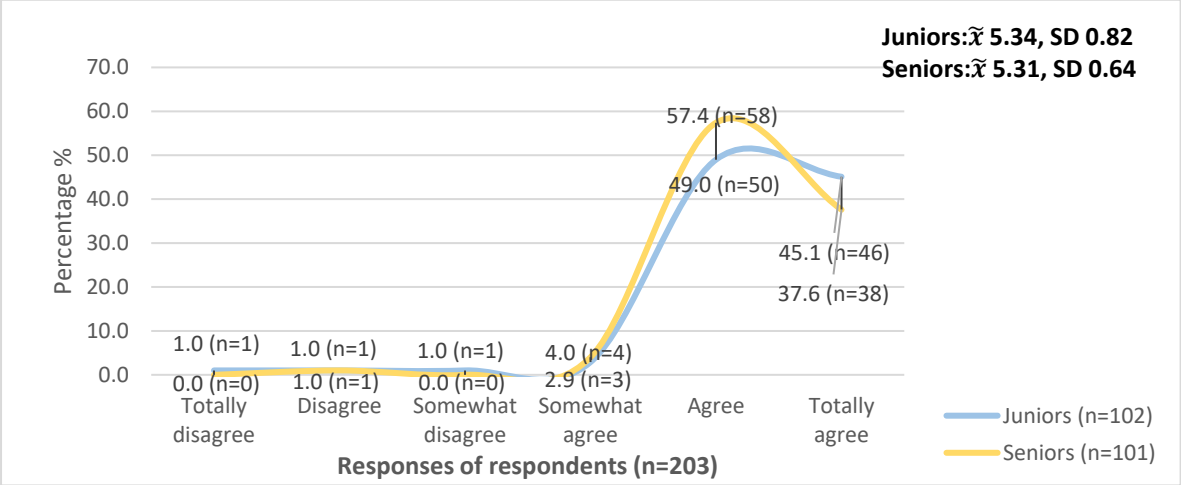


Figure 4.44: Able to change way of interaction (Item 45)

Findings indicate that newly graduated nurses can change their way of interaction, especially regarding communication, when they are exposed to scenarios and role-play during their studies (Leonard, Whiteman, Stephens et al., 2022: n.d.).

- **Reflect critically on my own behaviour if taking too long to perform a task (Item 48)**

More than half (n=59, 58.4%) of the juniors (n=101, 100.0%) and almost a third (n=64, 62.7%) of the seniors (n=102, 100.0%) were *mindful* (agreed) that they should reflect critically on their own behaviour when they e.g., took too long to perform a certain task (Table 4.16). The junior ($\tilde{x}$ 5.02, SD 0.86) and senior ($\tilde{x}$ 4.84, SD 0.88) groups each had a high mean value (≥ 4.50) with similar standard deviations, indicating that responses of the respective groups were distributed around the level of being *mindful* for reflecting critically on their own behaviour (Figure 4.45). The null

Table 4.17: Responses on the spiritual dimension (Non-judgmental)

Key element	Items	I, as a student nurse	Spiritual dimension																
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat* agree		*Agree*		*Totally* agree		Total			
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%	x̃	SD
Non-Judgmental	46	am at ease to accept the failures of other students, for instance, being impatient with the elderly	JR	8	7.9	19	18.8	25	24.8	14	13.9	29	28.7	6	5.9	101	100.0	3.56	1.43
			SR	6	5.9	25	24.8	24	23.8	10	9.9	29	28.7	7	6.9	101	100.0	3.51	1.45
	49	show compassion for peers by, for instance, advising them when they struggle to hear a blood pressure	JR	0	0.0	0	0.0	0	0.0	4	3.9	58	56.9	40	39.2	102	100.0	5.36	0.56
			SR	1	1.0	0	0.0	0	0.0	2	2.0	59	57.8	40	39.2	102	100.0	5.33	0.68

Table 4.18: Responses on the spiritual dimension (Non-Reactive)

Key element	Items	I, as a student nurse	Spiritual dimension																
				Totally disagree		*Disagree*		*Somewhat disagree*		*Somewhat* agree		*Agree*		*Totally* agree		Total		-	
				1		2		3		4		5		6					
				n	%	n	%	n	%	n	%	n	%	n	%	n	%	x̃	SD
Non-Reactive	42	tolerate others' opinions even if it is different from mine, e.g., I accept that my colleague does not value the time we get off to study as much as I do	JR	0	0.0	2	2.0	0	0.0	9	8.8	64	62.7	27	26.5	102	100.0	5.12	0.73
			SR	0	0.0	1	1.0	8	7.8	16	15.7	54	52.9	23	22.5	102	*100.0	4.88	0.88
	44	do a task even if I would rather not do it, such as attending to a very rude patient's wound even when he/she makes you feel worthless	JR	0	0.0	2	2.0	2	2.0	6	5.9	57	55.8	35	34.3	102	100.0	5.19	0.80
			SR	2	2.0	2	2.0	4	3.9	14	13.7	53	51.9	27	26.5	102	100.0	4.91	1.03
	47	show neutrality in a conflict situation between two colleagues arguing without all facts at hand	JR	0	0.0	3	2.9	4	3.9	17	16.7	53	52.0	25	24.5	102	100.0	4.91	0.92
			SR	0	0.0	8	7.9	3	3.0	14	13.9	61	60.4	15	14.8	101	100.0	4.71	1.02

hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups and being mindful of reflecting critically on their own behaviour (p = 0.163, NS).

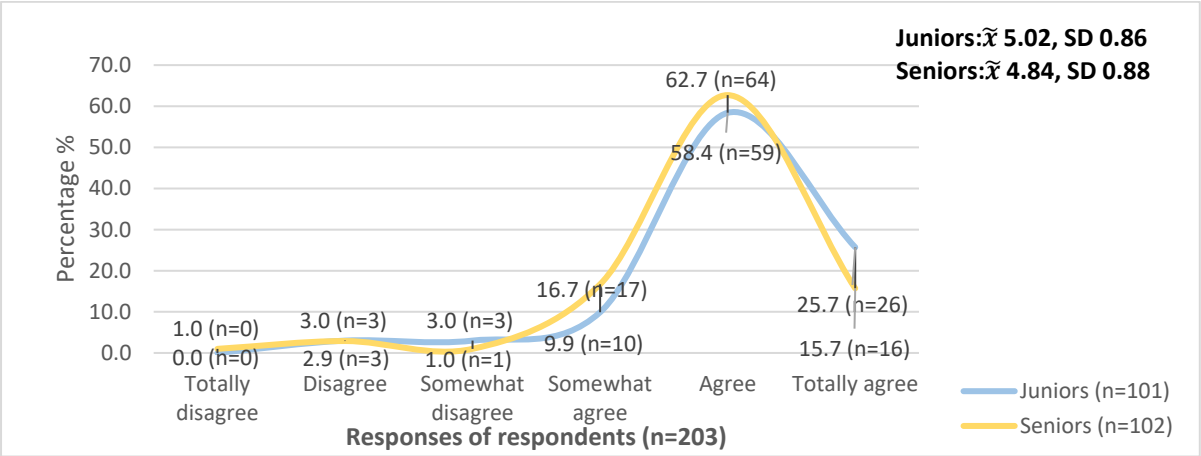


Figure 4.45: Reflect critically on own behaviour (Item 48)

Self-reflection is important to enable student nurses to develop critical thinking skills as well as the competencies to look at problems from a new perspective (Shin et al., 2022:9). In addition, student nurses perceive the role of nursing educators, in collaboration with the nursing staff at the hospital or the clinics, as extremely important. Nursing educators and staff can create an environment in which the students will feel safe to reflect on their clinical experience (Alsalamah et al., 2022:545).

4.7.1.2 Non-judgmental during interpersonal communication

- **Am at ease to accept the failures of other students, for instance, being impatient with the elderly (Item 46)**

What one person sees as an overwhelming failure can be the spark for another to try harder to be successful (Bearer & Molloy, 2022:1490). Similarly, half of the juniors (n=52, 51.5%; n=101, 100.0%) and seniors (n=55, 54.5%; n=101, 100.0%), were *definitely not mindful* to *rarely mindful*

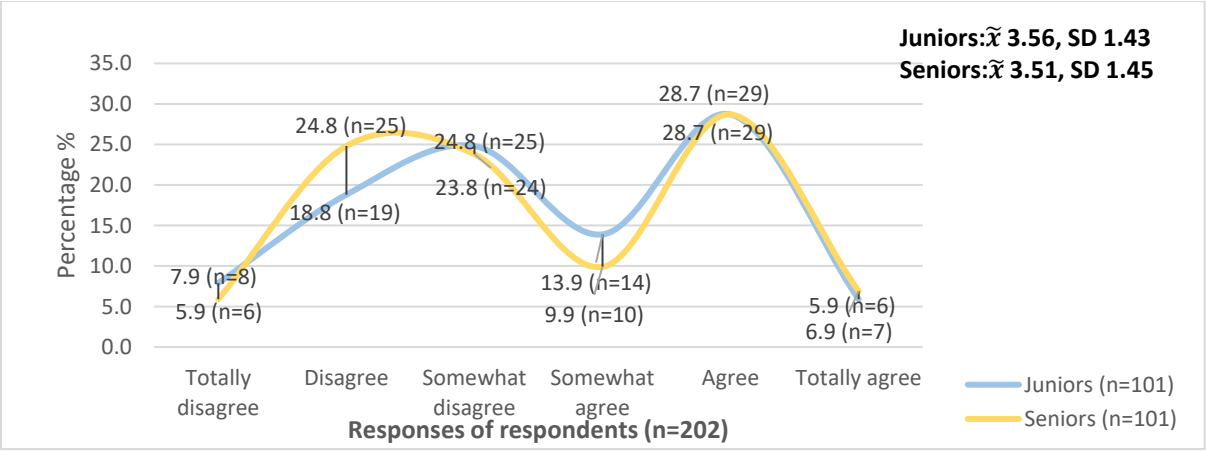


Figure 4.46: Accept failures of others (Item 46)

(totally disagreed to somewhat disagreed) of being at ease to accept the failures of others, e.g., a fellow student being impatient with the elderly (Table 4.17). The seniors had an almost similar rating score of around a quarter at the curve positions of “disagree” (n=25, 24.8%) and “agree” (n=29, 28.7%). Both groups, the juniors ($\tilde{x}$ 3.56, SD 1.43) and seniors ($\tilde{x}$ 3.51, SD 1.45), had moderate mean values, with SDs of ≥ 1.2 indicating a wide distribution of responses around the mean values. Responses of students in each of their respective peer groups were distributed around the level of being *mindful* for accepting the failures of fellow students. An almost bimodal curve distribution shows two similar peaks in Figure 4.46. The null hypothesis (H_0) was accepted as there was no significant relationship between the responses of the juniors and seniors and their mindfulness of accepting the failures of fellow students (p=0.823, NS). In general, people do not see failure in the same way. Student nurses experience academic failure with grief and loss, and it is essential that educators recognise these signs to offer appropriate support to these students (Mingo, 2023:228).

- **Show compassion for peers by, for instance, advising them when they struggle to hear a blood pressure (Item 49)**

Synonyms for the word compassion are kind/kindness, warm-hearted, caring, considerate and empathetic (Thesaurus, 2022: n.d.).

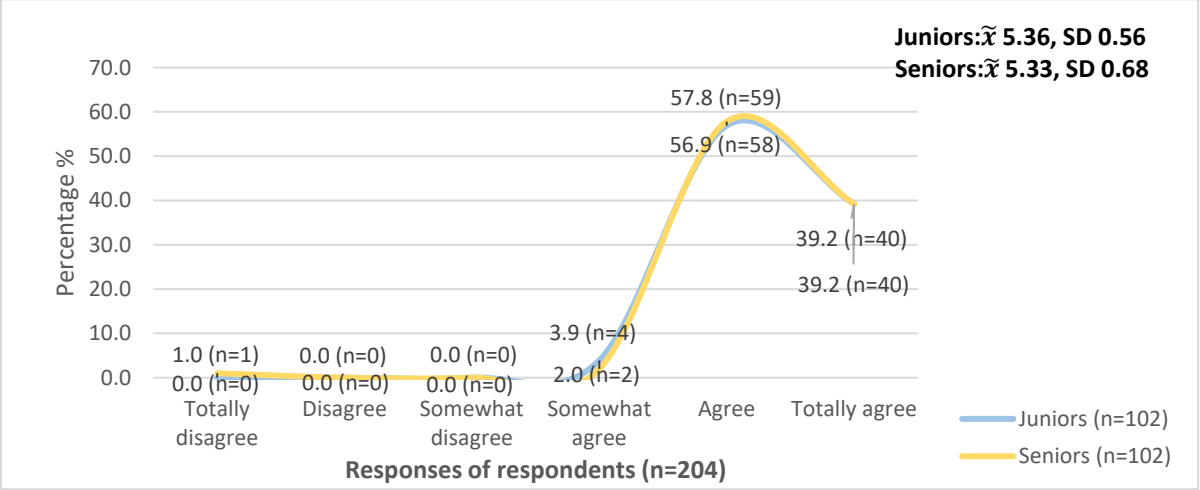


Figure 4.47: Show compassion to peers (Item 49)

More than half (n=58, 56.9%) of the junior group (n=102, 100.0%), and 59 (57.8%) of the senior group (n=102, 100.0%) were *mindful* (agreed) in showing compassion towards their peers when, e.g., they provided advice when a certain peer was struggling to take a blood pressure (Table 4.17). Both the juniors ($\tilde{x}$ 5.36, SD 0.56*)* and seniors ($\tilde{x}$ 5.33, SD 0.68) had a standard deviation of ≤ 0.7, indicating a narrow distribution of responses around the mean values. The students' responses in each of their respective groups indicated that peers had similar mindfulness levels on being non-judgmental towards others. Figure 4.47 shows a negative skewness of responses with an almost identical pattern in the distribution of the responses. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the groups and their

mindfulness of demonstrating their ability to be non-judgmental towards others (Figure 4.47) (p = 0.637, NS). Caring and compassionate behaviour form the foundation of professional nursing practice (Tong, Zhu, Wang et al., 2022:4071). A conducive work environment promotes caring behaviour (Arsat, Chua, Wider et al., 2022: n.d.).

4.7.1.2 Non-reactive during interpersonal communication

- **Tolerate other's opinions even if it is different from mine, e.g., I accept that my colleagues do not value the time we get off to study as much as I do (Item 42)**

The word 'tolerate' suggests that a person overcomes or successfully controls an impulse to resist, avoid or resent something distasteful (Merriam-Webster Dictionary, 2023c: n.d.). Only 9 (8.8%) of the juniors (n=102, 100.0%) and a quarter of the seniors (n=24, 23.5%; n=102, 100.0%) was *rarely mindful* to *somewhat mindful* (somewhat disagreed to somewhat agreed) of being able to tolerate the opinion of others, even if it differed from their own (Table 4.18). Nearly two-thirds (n=64, 62.7%) of the juniors were *mindful* (agreed) of feeling optimistic that they could tolerate the opinions of others, e.g., accepting that colleagues did not value getting time off from class to study as much as one should, as opposed half of the seniors (n=54, 52.9%). Both the mean values of the junior ($\tilde{x}$ 5.12) and senior ($\tilde{x}$ 4.88) groups were high (≥ 4.50), with similar, normal standard deviations (SD 0.73, SD 0.88), indicating that responses from both groups were distributed around the level of being *mindful* for being non-reactive to the opinions of others. Figure 4.48 shows a negative skewness of responses for both groups. The Cochran-Armitage test supported the alternative hypothesis (Z (3, (N = 203) = 12.00739, p = 0.02, $p < 0.05$)). The H_0 was rejected.

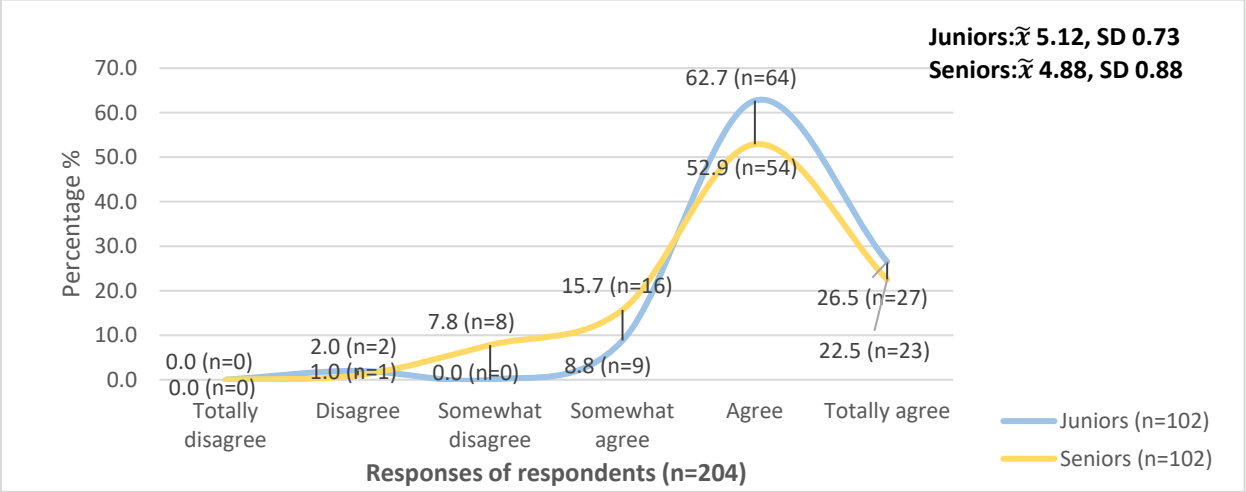


Figure 4.48: Tolerate others' opinions (Item 42)

- **Do a task even if I would rather not do it, e.g., attending to a very rude patient's wound even if they make you feel worthless (Item 44)**

More than half (n=57, 55.8%) of the 102 (100.0%) junior and senior (n=53, 51.9%; n=102,100.0%) respondents were *mindful* (agreed) in completing a task even if they would rather not, e.g.,

attending to a rude patient who in essence makes one feel worthless (Table 4.18). The junior ($\tilde{x}$ 5.19, SD 0.80) and senior ($\tilde{x}$ 4.91, SD 1.03) groups had high mean values (≥ 4.50) and normal standard deviations. Both groups of students met the level of being mindful, in attending to a rude patient who makes one feel worthless (Figure 4.49). A significant trend was found in that 68.0% of the white respondents as opposed to 51.0% of the Black respondents agreed to be mindful on doing tasks that they did not want to do. The null hypothesis (H_0) was rejected as the Pearson's Chi-Square test (x^2) accepted the alternative hypothesis, that a significant relationship existed between the responses of the two ethnic groups and being mindful in attending to a rude patient (x^2 (6, (N = 204) = 15.684, p = 0.015, $p < 0.05$)). The connection between mindfulness and ethnicity among student nurses is complex in nature. Parwanda, Bansal and Tyagi (2023:1) highlight the impact of cultural variables, such as ethnicity, on the interpretation of being mindful and its role in nursing care.

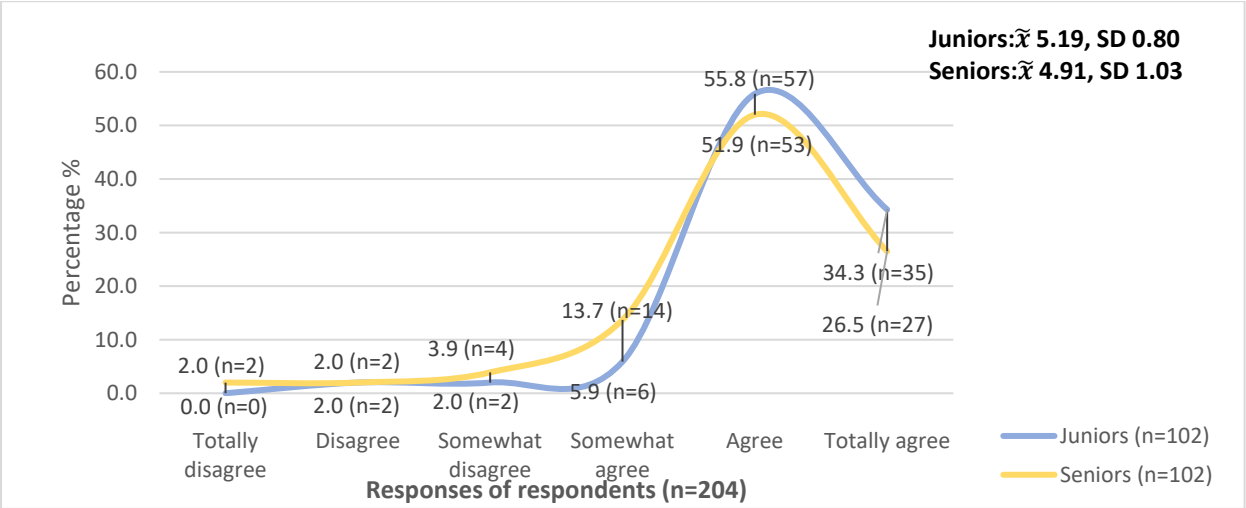


Figure 4.49: Do tasks irrespective of circumstances (Item 44)

The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two age groups and being mindful by remaining professional in their practice (p=0.130, NS). In the nursing profession, there are many values that should be upheld, to ensure optimal patient care and positive patient outcomes. These values include curiosity, ingenuity, integrity, compassion, empathy, accountability, precision, and excellence (Habeeb, 2022: n.d.). Therefore, as nurses, we have a responsibility to give our patients the best care possible regardless of the circumstances and uphold our professional values under any circumstances (Haddad & Geiger, 2022: n.d.).

- **Show neutrality in a conflict situation where two colleagues are arguing when they do not have all the facts (Item 47)**

More than half (n=53, 52.0%) of the juniors (n=102, 100.0%) and 61 (60.4%) of the seniors (n=101, 100.0%) were *mindful* (agreed) of being neutral (non-reactive) in a conflict situation between two colleagues, especially if they do not know all the facts (Table 4.18). The mean

values of the juniors ($\tilde{x}$ 4.91, SD 0.92) and seniors ($\tilde{x}$ 4.71, SD 1.02) were normal (≥ 4.50) on students' mindfulness when focusing on the needs of a patient. Figure 4.50 indicates a negative skewness in responses with a similar pattern, with a normal distribution around the mean value. The null hypothesis (H_0) was accepted as no significant relationship was found between the responses of the two groups and being mindful when focusing on the needs of patients (p = 0.221, NS).

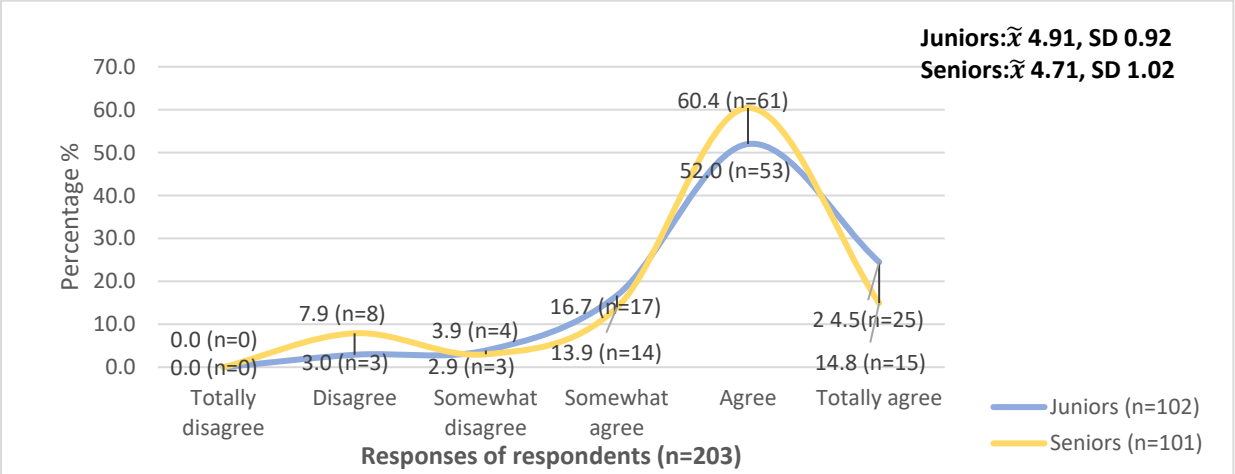


Figure 4.50: Neutrality in conflict situations (Item 47)

Part of being mindful is being neutral (*non-judgmental*) in any situation, but especially in any conflict situation (Karl & Fischer, 2022:2729). People who can be non-judgmental are also less sensitive to rejection and the effects that it might have on a person (Assi, Eshah & Rayan, 2022:1; Peters, Eisenlohr-Moul & Smart, 2016:126).

4.8 SUMMARY

The findings were presented in tables and figures that highlighted the mindfulness levels of the two student groups. The responses of juniors and seniors indicated their similar and diverse mindfulness levels in the three dimensions. The findings indicated that junior students in some aspects were more mindful during interpersonal communication in clinical facilities than their counterparts. The findings of the inferential statistical tests were correctly interpreted, and the findings highlighted significant differences between the levels of the two groups in mindfulness, as well as the role of age and ethnicity in the phenomenon investigated. Some items in the psychological, physiological and spiritual dimensions met three or more of the criteria set for this study (Section 4.4.1), and students' mindfulness levels on these items were pointed out.

CHAPTER 5
CONCLUSIONS, GUIDELINES, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

The process of interpreting research findings aids in assessing study relevance, connecting it to existing knowledge and determining potential implications, impacts and recommendations (Abbadia, 2023: n.d.; Alex, 2023: n.d.).

The second objective of the study was to develop guidelines for student nurses on their mindfulness during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

5.2 CONCLUSIONS

The response rate of the instrument was reasonable (34.0%) according to Cleave (2020: n.d.). The demographic and biographical data included the year of study, age and ethnicity of the respondents. The respondents represented students in different years of study in a four-year nursing programme at a HEI institution in the Western Cape. The accessible population was 600 (100.0%) students, who also served as the total sample. A total of 204 (100.0%) responses were received, half (n=102, 50.0%) was junior student nurses (1st and 2nd years) and the other half (n=102, 50.0%) the senior student nurses (3rd and 4th years).

Significant differences were found between the demographic aspects and mindfulness. Most of the juniors (76.5%) and seniors (67.6%) were in the age group of 19-25 years of age. Nearly a third (28.0%) of all the respondents (n=204), were 26 years of age and above. A decreasing association was found between the more positive responses of (19.6%) of the younger students in their mindfulness levels, who indicated they were totally mindful (totally agreed), as opposed to 14.0% of the older students who were ‘definitely not mindful to rarely mindful’, on using control in deliberate thinking when they had to inform peers on duty roster changes (Item 2). Two significant decreasing trends were found between the junior (1st and 2nd years) and senior (3rd and 4th years) groups, as the juniors were more positive than the seniors, on being at the receiving end of unprofessional conduct by a senior health professional (Item 6), and enjoyed routine tasks such as ‘fixing’, and observation rounds more that the older group of students (Item 33). A significant difference was found between the responses of 58.0% of the 19–25-year-olds that were mindful (agreed) that they could change the way that they communicate in order to be understood better, as opposed to the 40.0% of those > 26-year-olds (Item 45). The responses of the three ethnical groups were found to be diverse. The diversity in ethnicity of the sample, correlates with StatsSA (2022: n.d.) which indicates the ethnic representation of the Western Cape.

Nine (9) factors rotated on the items in the instrument.

Firstly, the factors include three dimensions (psychological, and/or physiological, and/or spiritual). The internal consistency of the psychological dimension of mindfulness, with the most items (in Factors 1-3) indicated being more reliable (α=0.81) than the physiological dimension (α=0.73) that represented Factors 4 to 6, and the spiritual dimension (α=0.63) in Factors 7 to 9 of mindfulness. Secondly, three elements (deliberate awareness, and/or being non-judgmental, and/or being non-reactive), were incorporated in the three dimensions. The element of deliberate awareness come to the fore in all Factors (1-9), however, the element of being non-judgemental emerged in only four factors (Factors 1,2,5 and 9). The element of non-deliberate awareness was only present in Factors 7 and 8.

The *psychological dimension was* included in Factors 1 to 3, with the *element of deliberate awareness.*

Factor 1: Addressing non-judgmental and non-deliberate awareness demonstrating satisfactory achievements in the workplace

Factor 1 consisted of six items. Most respondents in both groups, indicated *being mindful* in their responses on Items 24, 17, 24, 6). Respondents in each of their respective groups met the level of being mindful to solve problems on their own in their year of study (Item 24), in showing tolerance to others (Item 10), observing the emotions of a patient with empathy (Item 17), and focusing on matters of importance in their studies (Item 5). Besides being able to solve problems, showing tolerance, being able to observe the emotions of patients, as well as focusing on their studies, mindfulness also lower anxiety, depression and stress in student nurses (Tran, Vo-Thanh, Soliman et al., 2022:13909).

The results indicated that respondents could be composed in certain circumstances. The large majority of juniors and seniors indicated that they were *mindful* to *completely mindful* on being tolerant of other's human flaws (Item 10) and putting their thoughts aside when dealing with a patient on a matter of importance, both groups obtained mean values higher than ≥ 4.50 (Item 5). When students came into closer contact with the emotions of a patient, less positive responses were obtained from both groups. An equal number of juniors (n=56, 54.9%) and seniors (n=56, 54.9%) were *mindful* on being able to observe the emotions of patients who received a poor diagnosis (Item 17). It has been found that practicing mindfulness continuously nurses (including student nurses) will be more compassionate toward others, and their mental health (psychological dimension) will improve. This will be helpful, especially in the task-orientated and stressful work environment (Feng, Zhu, Cai et al., 2024: n.d.).

Duty rosters are sometimes an obstacle for students (Ngozika Ugwu, Ogbonnaya, Chijioke & Esievo; 2023: n.d.) that was confirmed by the majority of both the junior (98.0%) and senior (93.0%) students who were *mindful to completely mindful* on paying attention when off duties were being delegated. However, the responses of the seniors (≥ 4.50) indicated that the peers' mindfulness levels about paying attention to the charge sister, when she delegates certain duties, were more diverse

(different) than those of the juniors, who's responses were more similar (Item 4). A wondering mind is a common occurrence while one is busy with a task or activity. Errors occur when a person is not paying full attention and it is therefore important to promote being mindful (Price, Zanesco, Denkova et al., 2023: n.d.). Lower mindfulness levels were found in Item 33, with the senior group's responses indicating significantly more diverse mindful levels (x^2 = (3, (N=204), 9.6801, p = 0.021, p < 0.05)). A significant decreasing trend (p = < .05) was found, as the younger group of students (19 to 25 years of age) enjoyed routine tasks such as 'fixing', and observation rounds more that the older group of students (above 26 years) (Item 33). Student nurses feel that they are disrespected and abused by permanent staff in the clinical facilities because they feel that it is expected of them to do the work that the permanent staff do not like to do (Moghaddam et al., 2020:316). This suggests being the reason why student nurses are not mindful when it comes to routine tasks.

Apart from more juniors (52.9%) enjoying their daily routine tasks, juniors were more mindful in feeling optimistic in a situation in which a group task had to be completed successfully, versus the senior group (38.2%). A large majority of black (n=42, 51.0%), and less colored (n=17, 22.0%), and only 2 (6.0%) whites, indicated *being totally* optimistic in a situation in which a group task had to be completed successfully (x^2= (6, (N=204), 36.8811, p = 0.000, p < 0.05)) (Item 8). The literature the researcher accessed stated that minority ethnic groups still experience many challenges such as discrimination, lack of opportunities, disempowering working environments, unpremeditated bias to name a few (Singh Grewal, Bilal Khan, Kiran Kaur Panesar et al., 2024:8; Walker, Gunasinghe, Harwood et al., 2023:1497; Luhanga, Maposa, Puplampu et al., 2023:457).

The *psychological dimension and the element of being deliberate non-judgmental in mindfulness* addressed one item. Most of the juniors (96.9%) and seniors (95.0%) were *mindful* to *completely mindful* with high mean values ($\tilde{x}$ 5.60, SD 0.70*;* $\tilde{x}$ 5.52, SD 0.67) in their ability to be non-judgmental towards a patient who is asking more than once for explanations regarding an illness (Item 9). The provision of nursing care is ideally centered around the patient, prioritising their involvement in decision-making processes, and acknowledging their distinctive expectations, values, and preferences (Coelho, Moreno Poyato, Roldán Merino et al., 2024: n.d.). It is therefore reassuring to know that student nurses treat patients without judging them in difficult situations. This approach not only promotes a meaningful connection between the patient and the nurse but also contributes on d quality of care and supports the patient's journey towards recovery (Coelho et al., 2024: n.d.).

Factor 2: Addressing assertiveness, through focused and open-minded communication

The *psychological dimension and the element of deliberate awareness* in mindfulness had five items. Two of the strategies that students can use in a stressful situation is either control in deliberate thinking or disengaging from the situation (Algorani & Gupta, 2023: n.d.). A few respondents were *rarely to somewhat mindful on aspects* in items 20, 13, 19 and 29. Respondents in both groups mostly had similar mindfulness levels about keeping calm during a disagreement with a colleague

(Item 20). A quarter, 23 (22.5%) of the juniors and a third (n=30, 29.4%) of the seniors were *rarely* to *somewhat mindful* that they were able to stay calm when disagreeing with a colleague (Item 20). The students' responses in each group indicated that they were more alike in their mindfulness level about disengaging from stressful situations (Item 13). A study found that student nurses struggle to keep their emotions at bay due to challenges they experience in the clinical areas. These challenges include ineffective communication techniques as well as unequal work distribution (Mao, Cheong, Van et al., 2023: n.d.). Responses indicated that students in their respective groups, namely 39 (38.2%) of the juniors, and 41 (40.5%) of the seniors being *rarely* to *somewhat mindful* in communicating assertively during demanding situations ($\tilde{x}$ 4.53, SD 1.20; $\tilde{x}$ 4.38, SD 1.18 (Item 19). A quarter of the juniors (24.5%) and a third of the seniors (34.3%) were *rarely mindful* to *somewhat mindful* in staying focused when they addressed problems that had to be solved, however the standard deviations obtained by the juniors ($\tilde{x}$ 4.68, SD 0.95) and seniors ($\tilde{x}$ 4.58, SD 1.08) were viewed as normal (Item 29). Assertive communication is a critical skill that a nurse should have. However, self-confidence, a sense of failure and a sense of not belonging can cause student nurses to struggle to communicate with assertiveness (Keates, 2022:790). A decreasing trend was found between the more positive responses of (19.6%) of the younger students (19 to 25 years of age) who indicated they were *totally mindful* (totally agree), as opposed to 14.0% of older students (above 26 years of age) who were *definitely not mindful* to *rarely mindful* ($p < 0.05$), to pay full attention when informing peers about duty placement changes (Item 2). It was found that junior student nurses find academic learning more challenging, whereas senior student nurses experience more challenges in the clinical area. Despite the year of study, student nurses share the same coping mechanisms, such as discussion and sharing their emotions (Lavoie-Tremblay, Sanzone, Aubé et al., 2022:262-263, 267).

In the *psychological dimension* with the *element of being non-judgmental,* responses indicated that students in both groups were *rarely to somewhat mindful* regarding their belief system (Item 28). Responses in the *psychological dimension* with the *element of being non-reactive* indicated lower mindfulness levels of being *rarely to somewhat mindful* regarding professional conduct of seniors. A highly significant decreasing trend was found between the junior and senior groups, as the juniors were more positive than the seniors about being at the receiving end of unprofessional conduct by a senior health professional ($p < 0.05$) (Item 6) Studies suggest that both junior and senior student nurses face challenges to manage unprofessional conduct directed at them, with a need on communication, leadership skills as well as teamwork (Fetters, Wilson, Johns et al., 2023:365; Worman & Nimkar, 2023:265).

Low mindfulness levels were indicated, being *definitely not mindful to rarely mindful* in Item 15. The standard deviation for the juniors ($\tilde{x}$ 3.60, SD 1.50) indicated a wide distribution of the responses around the moderate mean value, oppose to a normal SD of seniors ($\tilde{x}$ 3.19, SD 1.07). The juniors were more diverse in their mindfulness level, than seniors, on letting a colleague give feedback on

an assignment even when they are struggling (Item 15) Studies showed that student nurses prefer doing e.g., assignments on their own and not within a group setting. Some of the reasons is the workload that is not spread equally withing the group, lack of effective communication and the lack of interpersonal relationships (Mao et al., 2023: n.d.).

Factor 3: Addressing awareness of self and others in solving problems and effective and decision-making

The *psychological dimension and the element of deliberate awareness* in mindfulness had two items. Overall, the responses of both groups indicated prominent levels of mindfulness in the *psychological dimension* with the *element of deliberate awareness.* The mean values of the juniors (≥ 4.50) indicated that peers in the group were more diverse in their mindfulness level, on being aware of their own thoughts (Item 16). More than half of the junior (n=56, 54.9%) and senior (n=56, 54.9%) respondents were *mindful* of being able to observe the emotions (*deliberate awareness*) of patients who received a poor diagnosis. Students had similar mindfulness levels in observing the emotions of a patient with empathy (Item 17). Studies showed that student nurses, irrespective of their year of study, are mindful and self-aware of their caring and empathy abilities (Matshaka, 2023: n.d.).

Factor 4: Addressing being consciously aware of self and surroundings

In the *physiological dimension* with the *element of deliberate awareness* most of the respondents, juniors (n=93, 91.9%) and seniors 91 (89.1%) indicated they were *mindful to completely mindful* in remaining focused, while listening to what the charge nurse said while also being aware of e.g., a confused patient trying to climb over his/her cot sides and being able to stop them in time (Item 36). A group of 24 (23.5%) juniors, and 22 (21.5%) seniors who were *rarely* to *somewhat mindful* that they were consciously aware of what was going on around them (Item 35). It was found that student nurses are not in the present moment and have absent awareness regarding their surroundings when they care for patients (Matshaka, Downing & Ntshingila, 2024: n.d.). More than half (n=53, 52.4%) of the juniors and slightly fewer seniors (n=49, 48.0%), were *mindful* to stay focused in the clinical learning area (Item 36). The juniors had a wider distribution of responses (SD 1.12) versus a narrower distribution of the seniors (SD 0.86), that indicated that the seniors were more alike in their mindfulness levels on feeling ‘in tune’ with their bodies because of being more focused on things around them (Item 38).

Factor 5: Addressing listening with attentiveness and without being non-judgmental

The *physiological dimension and the element of deliberate awareness* in mindfulness had one item. Students indicated being mindful, on item 37, in the *physiological dimension* with the *element of deliberate awareness*. Students’ responses in their respective groups mostly indicated being attentive to their surroundings in practice (Item 37). In the *physiological dimension* with the *element of being non-judgmental*, responses indicated that students were on higher levels, of being *mindful* to *completely mindful*. Respondents in their respective groups were on the whole mindful of acting

non-judgmental towards others (Item 39). Half of the juniors (n=51, 54.8%) and seniors (n=57, 57.6%), were found to be *mindful* in being attentive to all that was happening around them, such as stopping a colleague administering Penicillin to a patient who are allergic to it (Item 37). Learning how to manage stress during nursing education can improve being aware of your surrounding and ultimately reduce the possibility of medical errors occurring (Łoś, Łuczyński & Waszkiewicz, 2022:124-125). The junior ($\tilde{x}$ 5.03, SD 0.97) and senior ($\tilde{x}$ 4.98, SD 0.81) groups had normal SDs indicating that the students in each of their respective groups had a similar level of mindfulness (Item 37).

In the *physiological dimension and the element of being non-judgmental* in mindfulness had one item. Almost all, 93 (91.1%) of the juniors, and a large number, 91 (89.1%) of the seniors, were *mindful* to *completely mindful* in their ability to listen without being judgmental e.g., when a new way of performing an emergency procedure was explained such as the treatment of a patient with apnea. Seniors were more alike in their peer group than the juniors, in being mindful on acting non-judgmental towards others (Item 39). It was found that integrating mindfulness into day-to-day nursing practice results in nurses (including student nurses) to be less stressed and therefore happier and more non-judgmental (Feng et al., 2024: n.d.).

Factor 6: Addressing being aware and attentive to all finer details

It was found that enough sleep and age have a positive effect on dispositional mindfulness (Costa, Kogien, Hartwig et al., 2022: n.d.). Both groups had high (≥ 4.50) mean values ($\tilde{x}$ 5.03, $\tilde{x}$ 4.72). The seniors (SD 1.09) had a slightly higher, but normal, standard deviation than the juniors (SD 0.84) indicating a wide distribution of responses around the mean value, thus that the seniors were more diverse in their mindfulness levels, regarding being fully aware of their surroundings (Item 34).

Factor 7: Addressing valuing principles as well as tolerating the opinions of others

The spiritual dimension and the element of deliberate awareness in mindfulness. Both the mean values of the juniors ($\tilde{x}$ 5.50, SD 0.76*)* and seniors ($\tilde{x}$ 5.26, SD 0.83) were high (≥ 4.50) with normal standard deviations, indicating students met the level of being mindful (were mindful), in following the principles of right and wrong (Item 43). The ethical knowledge that student nurses obtain as part of nursing education leads to ethical moral attentiveness, which then leads to better nursing care as well as improved management of ethical challenges (Shadi, Zohreh, Eese et al., 2024:99).

The *spiritual dimension and the element of being non-reactive* in mindfulness had two items. Nearly two-thirds (62.7%) of the juniors were *mindful* in feeling optimistic that they could tolerate the opinions of others e.g., accepting that colleagues did not value getting time off from class to study as much as one should, as opposed to a half of the seniors (52.9%) (Item 42). Being able to feel optimistic in their ability to tolerate the opinions of others, student nurses remain mindful

that they would accept a task even if they would rather not, demonstrating resilience and adaptability in various situations (Huang, Fang & Liao, 2023: n.d.). More than half (n=57, 55.8%), of the junior and senior (n=53, 51.9%;) respondents, met the level of being mindful, in attending to a rude patient who in essence makes one feel worthless (Item 44).

Factor 8: Show compassion and be able to change the way of interaction, critically reflect and focus on strengths

The *spiritual dimension and the element of deliberate awareness* in mindfulness had two items. More than half, 50 (49.0%) of the juniors, and 58 (57.4%) of the seniors were *mindful* that they were able to change the way that they interacted to be understood. The seniors were more alike in their mindfulness level, in being aware of their ability to evaluate their own communication techniques on their interpersonal communication (Item 45). The junior ($\tilde{x}$ 5.02, SD 0.86) and senior ($\tilde{x}$ 4.84, SD 0.88) groups, each had a high mean value (≥ 4.5) with similar standard deviations, indicating that most respondents in their respective groups met (was at) the level of being mindful, on reflecting critically on their own behaviour (Item 48). A positive relationship between the ability of student nurses to critically reflect on their communication abilities and behaviour and their self-efficacy were found. In addition, no correlation between a student nurses age, gender or level of education were found and being able to critically reflect in the clinical areas were found (Lee & Park, 2024: n.d.).

In the spiritual dimension and the element of being non-judgmental in mindfulness, more than half, 58 (56.8%) of the junior group, and 59 (57.8%) of the senior group, were *mindful* in showing compassion towards their peers when they provided advice when a certain peer was struggling to take a blood pressure (Item 49). Two studies found that student nurses display moderate compassion levels, that can further be improved with mindfulness training (Ramos-Vidal & Ruiz, 2024:113; Salafi, Widianti & Praptiwi, 2023: n.d.).

Factor 9: Addressing acceptance of failures and working to strengthen weaknesses

In the spiritual dimension and the element of deliberate awareness in mindfulness, half of the juniors (n=51, 50.0%) and seniors (n=49, 48.0%), were *mindful* that they would go back to theory and learn the different aspects of a condition to present it in a scientifically correct manner. The participants in the junior group were more alike in their mindfulness level, regarding being aware of their own weaknesses and how to strengthen them (Item 41). Content student nurses are more self-aware, enabling them to reflect and strengthen their weaknesses (Hamaideh, Abuhammad, Khait et al., 2024: n.d.). Responses of the students in the junior group indicated that peers were more diverse in their mindfulness level to focus on their strengths even when they doubt themselves (Item 40). In *the spiritual dimension and the element of being non-judgmental* in mindfulness half of the juniors (n=52, 51.4%), and seniors (n=55, 54.3%), was *definitely not mindful* to *rarely mindful*, in being at ease to accept the failures of others, e.g., a fellow student

being impatient with the elderly. (Item 46). It was found that student nurses have a positive attitude towards nursing as a profession and as a result also have positive attitudes towards their fellow student nurses (Neumbe, Ssenyonga, Soita et al., 2023: n.d.).

5.3 GUIDELINES

Based on the findings of Chapter 4, guidelines were developed, that integrate the three (3) elements of mindfulness (being deliberately aware, non-judgmental, and non-reactive), into the three (3) dimensions of mindfulness namely the psychological, physiological, and spiritual dimension (Table 5.1).

In the psychological dimension, three (3) guidelines incorporating the key elements of being deliberately aware, non-judgmental, and non-reactive were developed. Similarly, in the physiological dimension, three (3) guidelines, including the key elements of being deliberately aware, non-judgmental, and non-reactive were developed. The same was done with the spiritual dimension, i.e., three (3) guidelines incorporating the elements of being deliberately aware, non-judgmental and non-reactive were developed.

Table 5.1: Guidelines based on the findings within the theoretical assumptions

Dimensions of mindfulness	**Guidelines formulated**
Dimension 1: Psychological dimension	**Guideline 1:** Student nurses should practice mindfulness during interpersonal communication by being attentive and *deliberately aware*.
	Guideline 2: Student nurses should practice mindfulness during interpersonal communication by being accepting and *non-judgmental* towards others.
	Guideline 3: Student nurses should practice mindfulness during interpersonal communication by being *non-reactive*.
Dimension 2: Physiological dimension	**Guideline 4:** Student nurses should practice mindfulness during interpersonal communication by being *deliberately aware* and focused on their own feelings as well as their surroundings.
	Guideline 5: Student nurses should become consciously aware of what they hear during interpersonal communication and practice becoming *non-reactive*.
	Guideline 6: Student nurses should listen without judgement to become *non-judgme*ntal.
Dimension 3: Spiritual dimension	**Guideline 7:** Student nurses should be *deliberately aware* of the difference between right and wrong and act accordingly.

	Guideline 8: Student nurses should be tolerant of different opinions to become *non-reactive* and therefore mindful.
	Guideline 9: Student nurses should – as part of being *non-judgmental* in mindfulness – accept that persons differ.

5.3.1 Psychological dimension in mindfulness

It is well known that the nursing profession and healthcare environment are associated with high stress levels, burnout, anxiety, and depression (Wang, Wang, Zhang et al., 2023: n.d.). The psychological benefits of being mindful include being less emotionally reactive and having an improved awareness of one's mind.

5.3.1.1 Guideline 1: Student nurses should practice mindfulness during interpersonal communication by being attentive and deliberately aware

Rationale

According to the Institute for Organizational Science and Mindfulness (IOSM), a global network focusing on developing a deeper understanding of mindfulness, their aim is to "introduce the new generation of mindfulness to people and organizations across the globe" (IOSM, 2016: n.d.). The health and well-being of individuals, such as student nurses, lead to the delivery of quality service to the community. Mindfulness is a scientific process that enhances an optimistic and creative environment and promotes patient satisfaction. The Institute for Mindfulness South Africa (IMISA), established in 2005, view mindfulness as a journey of waking up in the world to the fullness of the human experience (IMISA, 2023: n.d.). Being aware and paying attention to what one is thinking has the benefit of reducing stress and depression, which in return ensures improved psychological well-being (Sousa, Lima-Araújo, Araújo et al., 2021:2). In addition, by being aware of what one is thinking, the cycle of negative thinking can be broken, allowing one to experience the world in a more positive way (Sutton, 2019: n.d.).

Actions

Student nurses should implement the following actions in Guideline 1

- *Focus on one of your senses* (see, hear, smell and touch). Centre attention on one of the senses to be brought into the present moment, allowing disengagement of the sensory experience from any accompanying thoughts. Try to refrain from getting distracted easily. This process will reduce anxiety, stress, and negative emotions.
- *Have an 'anchor'*. During mindfulness practice, the anchor assumes the role of the focal point of attention. In other words, in practicing being mindful, you must concentrate on e.g., how the texture of your favourite nursing counter feels under your fingers (touch), or the *smell* of the disinfectant used for wound dressings. While breathing in and out, you can consciously imagine that you breathe the smell in and then out.
- *Returning to the anchor*. It is normal to become distracted after only a few moments. The power of mindfulness lies in the ability to refocus your attention on the chosen anchor,

e.g., listening to a song (hear). This will improve focusing and mental flexibility as well as deliberate control over thinking.

- *Box breathing* might help to relieve stress and anxiety while also increasing concentration and focus. Repeat the exercise at least three (3) times or until you are feeling calm (Stinson, 2023: n.d.).
- *Investigate various mindful-based exercises*, as it does not matter which exercise is chosen to become more mindful and include the three basic components; affective (psychological), functional (physiological) and nonphysical (spiritual) of holistic health.

5.3.1.2 Guideline 2: Student nurses should practice mindfulness during interpersonal communication by being accepting and non-judgmental towards others

Rationale

The place of "communication" in human rights is mentioned in Article 19 of the Universal Declaration of Human Rights (UDHR) of the United Nations (2023: n.d.). Communication is the manner we interact, exchange ideas, and build relationships, which is at the core of who we are as human beings. Being mindful during interpersonal communication can ultimately improve decision-making, being attentive and allowing a person to be more focused and being non-judgmental (Sutton, 2019: n.d.). In addition, being non-judgmental has the added benefit of becoming more compassionate as well as accepting the self as well as others, which will lead to having less stress and therefore improving one's psychological well-being (Madel, 2023: n.d.).

Actions

Student nurses should implement the following actions in Guideline 2:

- *Accept that one cannot turn judgment off completely*: Reduce negative judgment by looking at the reasons for being judgmental and getting these thoughts under control.
- *Practice mindfulness:* By practicing mindfulness on a regular basis, you will be able to recognise when you are judgmental. Mindfulness practices can include meditating or by focusing on what you are doing and the things around you throughout the day.
- *Finding out what you are judgmental about:* By investigating and understanding what triggers judgmental behaviour can help you in recognising these triggers and then you can take appropriate action. Triggers might be hunger, feeling inadequate or feeling anxious around certain colleagues.
- *Practice self-compassion:* Loving oneself unconditionally and showing self-compassion under all positive or negative circumstances will lead to less judgmental behaviour towards others.
- *Become more curious:* Often, when judging others, you assume that you know why someone is acting in a certain way. We could try and get to know others by spending some time with them or sitting on a chair next to a colleague and listen, because one does not know what others are going through.

- *Interact with others:* Getting to know colleagues and patients from a different culture and background from your own will aid in appreciating the uniqueness and needs of others and therefore help yourself to be less judgmental. For example, when discussing diverse cultures in class, a Jehovah Witness student could explain the reasons for not being allowed to receive blood. When you then have to deal with a Jehovah Witness patient in the ward, you will be able to understand the reasoning better and will therefore be less judgmental.
- *Notice positivity:* Write down positive things that happened throughout the day. Also attempt to see the positive qualities in others (Sander, 2022: n.d.). Have a diary for this purpose. If you for example managed to insert an intravenous cannulation for the first time on your own and got it right on the first try, it is a positive thing that happened to you. Especially if you have struggled previously. Write it down. When recording all positive things and experiences, you can later look back at your achievements when you are at a low point in your life. This will help you to appreciate all your positive attributes.
- Think before judging others or yourself. You must realise that it is normal that patients perceive things differently from you. It is essential to practice being non-judgmental to become fully mindful. Focus on and enforce positive things that make others happy.
- Take time each day to be still, to become aware of your surroundings and to appreciate it.

5.3.1.3 Guideline 3: Student nurses should practice mindfulness during interpersonal communication by being non-reactive

Rationale

The American Nursing Association has an important publication on the “Effective Interpersonal Communication: A Practical Guide on Your Life” (Vertino, 2014: n.d.). Being non-reactive indicates that a person knows that there is more than one way to react when one is emotionally triggered (Bierbaum, 2020). Being non-reactive will therefore alleviate a person’s anxiety, which will have a positive effect on their psychological well-being.

Actions

Student nurses should implement the following actions in Guideline 3

- You should *practice being non-reactive* during interpersonal communication to become fully mindful and therefore be able to manage your own psychological well-being.
- *Delay a response* to consider a suitable response or think if a response is necessary.
- You should *become non-reactive* as part of being mindful by practicing the following steps:
  - Stop for just a moment and reflect on the situation you find yourself in.
  - Take a breath, focusing on how your chest rises and falls during breathing.
  - Notice what is happening in your body and mind. Observe the emotions experienced.
  - When ready, respond in a way that is most suitable to the situation.
  - The more one practises being non-reactive, the easier it gets. It is a life skill that must be learned (Bierbaum, 2020: n.d.).

5.3.2 Physiological dimension in mindfulness

Mindfulness interventions can affect physical health. The American Psychosomatic Society has designed and implementation mindfulness interventions for improving physical health (Creswell, Lindsay, Villalba et al., 2019: n.d.).

5.3.2.1 Guideline 4: Students should manage their physiological well-being, by deliberately awareness and focusing on their own feelings as well as their surroundings

Rationale

Becoming deliberately aware of your immediate surroundings, one's feelings or thoughts during specific situations can have a positive or negative impact on your physiological health and well-being. It is well-documented that physical activity enhances physical as well as psychological well-being (Singh, Olds, Curtis et al., 2023: 1203). The WHO confirms that physical activity benefits the mind, body and heart, and that little activity is better than none (WHO, 2020:1).

Actions

Students should implement the following actions for Guideline 4:

It is important to realise that as a nurse, any type of physical exercise can be done, outside the nursing setting, to become more deliberately aware of one's immediate environment. During the exercise the student nurse will get time to focus on "own feelings", and at the same time, improve physiological well-being.

There are varies ways to implement a physical activity before or after a class or shift;

- *Take a walk* at a place that you find relaxing such as the beach or forest. Any place will do if you do not have access to a beach or forest if you are in a safe space.
- While you are taking your walk, make it a priority to *really notice what is around you*. Whether it is a little puddle with a starfish in it or a big tree with a huge shadow and a Loerie bird sitting on a branch near where you are walking.
- Notice how this walk *makes you feel*. When you feel that your mind is going back to stressful situations, force yourself to come back to the present moment.
- *Physical activity* can include riding a bicycle, playing a tennis match or running.

Only 30 minutes of physical activity per day can have a tremendous impact on a person's physiological well-being. Stress and anxiety levels will be lowered, the possibility of heart diseases such as high blood pressure will be decreased, sleep patterns will be improved, and one will be more focussed. In addition, one will become fit and lose weight.

5.3.2.2 Guideline 5: Student nurses should become consciously aware of what they hear during interpersonal communication and practice becoming non-reactive

Rationale

Active or reflective listening is a core component of the characteristics a healthcare practitioner should have. It helps to build strong relationships with others and makes the other person feel

valued and appreciated (Indeed, 2022c: n.d.). Being non-reactive during interpersonal communication means that you are giving your full attention, have eye contact, are active listening and providing cues like nodding and leaning forward. This improves physiological well-being by reducing anxiety and stress not only for the listener but also for the speaker.

Actions

Student nurses should implement the following actions in Guideline 5:

Practice being consciously aware of what you hear during a conversation and listen to understand not just to react to what you hear but by doing the following exercises:

- Focus on what the person is saying. If your mind is wandering off, consciously bring your attention back to the conversation.
- Make eye contact with the person who you are in a conversation with. It shows that you are interested in what they are telling you.
- It is important that your individual opinions about the person or the topic that is discussed do not cloud the way you react.
- If you want to make sure that you understand what the person is saying, you can reflect the message to the speaker. E.g., Do I understand you correctly that you are late for class today because someone broke the gate at your home, and you could not get out?
- If the speaker is jumping to another topic, bring them back to what is discussed.
- As a healthcare practitioner, it is important to master the following communication techniques:
- Do not offer anyone advice, especially if you have never experienced what the person disclosed to you.
- Focus on verbal and non-verbal communication techniques. This includes eye contact, facial expressions, and tone of voice.

The point of these exercises is to equip you with the skills to become a reactive listener and to learn how to become non-reactive during interpersonal communication to better your physiological well-being.

5.3.2.3 Guideline 6: To manage their physiological well-being, student nurses should listen without judgement in order to become non-judgmental

Rationale

In addition to listening without immediate reaction, it is very important to be able to listen without judging the person who is telling you something. Often, it takes a lot of courage for a person to disclose something that is bothering them to other people. A non-judgmental approach can help student nurses reduce their own stress and anxiety, enhance empathy, improve interpersonal relationships, increase job satisfaction, reduce burnout, build resilience, foster personal growth, and maintain ethical and professional integrity (Wakefield, Williams, Le Menestrel et al., 2021:3). These factors collectively contribute to better psychological well-being for student nurses and better patient care.

Actions

Student nurses should implement the following actions in Guideline 6:

- Non-judgmental listening does not necessarily indicate something positive or negative. While someone is talking, you might have positive or negative thoughts (judgments) about what the other person is saying. This will cause you to think about what you want to react to and prevent you from intensively listening to what the person is saying.
- Remember that it is to have a different viewpoint from the speaker. It is therefore imperative that you focus on what the person is saying and not what you are thinking about at that moment.
- Non-judgmental listening does not come naturally; it is a technique that you must be aware of and that you actively need to practice.

5.3.3 Spiritual dimension in mindfulness

Spirituality suggests that there is something greater that connects all beings to one another. In addition, spirituality is also a source of comfort and relief from stress and anxiety. The practice of spiritual meditation can help a person to be less reactive, which in return will enhance spiritual well-being (Scott, 2022: n.d.; Stokes, 2021: n.d.).

5.3.3.1 Guideline 7: Student nurses should be deliberately aware of the difference between right and wrong and act accordingly

Rationale

Every person has their own set of personal values and principles (ethics). It is very important that healthcare professionals have strong ethical values. These values will guide them in deciding between right and wrong (ethical decisions) and make them deliberately aware of all aspects of a situation (Haddad & Geiger, 2022: n.d.).

Actions

Student nurses should implement the following actions in Guideline 7:

Being deliberately aware of the ethical principles such as the fine line between right and wrong takes a lot of practice but can be taught. It cannot be presumed that differentiating between right and wrong comes naturally to all.

The following model of Steinberg (2023: n.d.) can be used to practice being deliberately aware of the difference between right and wrong. It will help you to evaluate your own ethical reasoning when you are confronted with, different situations.

- Find a quiet or peaceful place. It can be in your home, or when you are taking a morning walk or doing something that will allow you to focus on your thoughts.
- *Recognise* an event which needs being reacted to: Think of a situation where you were confronted with having to make a deliberate decision between right and wrong. It can be a personal matter or work related. E.g., seeing a colleague taking medication from the ward stock, a colleague sleeping on duty or even a friend that is not going to work but expect of you to get their timesheet signed.

- *Define* the event as having an ethical component: These are all situations where you needed to be deliberately aware of what is right and wrong and had to decide to act or not.
- *Decide* if the event is/was significant to you: Is the issue important enough to motivate you to act?
- Take ownership of *creating* an ethical solution for the ethical issue: Maybe you decided that the event is a significant ethical issue but that it is not your problem and therefore you are not going to act on it. Or you might decide that the ethical issue is important enough to report to the relevant persons.
- Decide which *ethical rules* apply to the situation: E.g., institutional rules are broken by sleeping on duty, taking medication that does not belong to you or not acting in a patient's best interest (beneficence). That are so many examples that can be used.
- Taking the ethical rules into consideration, decide on the *best solution*: This means what you decide is the right thing to do.
- Get ready to *respond* to things that might hinder you from acting to the situation: Are you willing to for example report an issue and live with the consequences, or are you scared that you will be shunned because you spoke up?
- *Act:* Act on how you decided to manage this specific situation. (Steinberg, 2023: n.d.)

5.3.3.2 Guideline 8: To manage their spiritual well-being, student nurses should be tolerant of different opinions to become non-reactive and therefore mindful

Rationale

A state of non-reactivity entails the capacity to acknowledge and embrace the natural diversity in human perception, wherein individuals may not always share identical thinking processes. Individuals who have reduced sensitivity or non-reactivity to external opinions tend to have heightened adaptability in diverse social contexts and conversations (Lobel, 2021: n.d.). Moreover, an increased tendency for non-reactivity indicates diminished competitiveness, as individuals are less inclined to attempt to change the opinions or perspectives of others (Cherry, 2023c: n.d.). Individuals who can remain composed possess the ability to maintain their inner calm irrespective of the external circumstances. They do not allow their emotions to rule their conduct or responses (Kholghi, 2024: n.d.). This disposition fosters mindfulness and consequently enhances one's spiritual well-being.

Actions

Student nurses should implement the following actions in Guideline 8:

- *Consciously choose* to stand back for a moment before you respond or react. Take a few deep breaths and relax your body. By doing so, you are consciously thinking about the situation you are in before reacting. When you are in a heated discussion, it can only be

beneficial to take a step back to gather all the valuable information you need before reacting and potentially saying something that you did not mean.

- *Identify* what *triggers* you to be reactive. This will enable you to practise non-reactivity. Examples of triggers that might cause you to react negatively include but is not limited to the following: not getting the recognition you deserve, high workload, difficult family members or friends, workplace conflict, being disrespected or belittled or feeling that you are not heard.
- Do *not* see everything as a personal attack. Take a step back and try to see what is being said from the other person's perspective. Everything is not always about you. The other person might feel hurt and therefore come across as attacking you verbally.
- *Identify your emotions*. If you can identify the emotions you have during certain situations or conversations, it will be easier to be non-reactive. E.g., ask yourself: Does the other person's behaviour make me feel angry, frustrated, or irritated? All these emotions will have a different reaction.
- Being *non-reactive* does not mean that you are not allowed to express yourself at all. It means that you must say/express what you need to and then stop talking. In this way, the other person also gets a chance to respond.
- *Practice being silent* and listen actively.
- Lastly, *practice forgiveness*. If you can forgive another person, it indicates that you are letting go of resentment and anger and therefore will stop being a victim of your emotions.

(Kholghi, 2024: n.d.)

5.3.3.3 *Guideline 9: Student nurses should – as part of being non-judgmental in mindfulness – accept that persons differ*

Rationale

To be non-judgmental means that one should be tolerant towards others. Sometimes we as humans are judgmental without even realizing it. Think about how many times you have already made up your mind about something without even listening to all the facts. Being non-judgmental will have a positive impact on your spiritual well-being. It will empower you to accept others as they are and give you the courage to change the way you think and to act on certain issues.

Actions

Student nurses should implement the following actions in Guideline 9

- *Keep a journal.* A journal will give you a non-judgmental space to express and process your emotions and fears. It will also help you to realise what situations cause you to be judgmental towards others and grant you the opportunity to work on yourself.
- *Be aware* of your *emotions* and practise reflective thinking to develop a better understanding of yourself and others.
- *Practise being mindful* to strengthen your non-judgmental skills.

- *Focus on positive thinking*. Pleasant thoughts will help to create a non-judgmental attitude.
- *Practise self-reflection*. Practising self-reflection is important for personal development and aids in being non-judgmental. (Garach, 2023: n.d.)

5.4 RECOMMENDATIONS FOR NURSING EDUCATION AND NURSING RESEARCH

The findings of this study could be used to improve nursing education, which will include teaching student nurses to be mindful during interpersonal communication. In addition, it is suggested that nursing education should include the educating and cultivation of mindfulness specifically relating to compassion and empathy to produce nurses that can provide compassionate care with prominent levels of empathy (Cura & Atay, 2023:92). To teach student nurses how to be assertive during clinical practice, it is recommended that students should be guided in learning soft skills such as being assertive during inter-professional conduct and speaking up when needed. They should be taught what their role as the student within the team is (Bril et al., 2022:388).

5.4.1 Recommendations for Nursing Education

The researcher recommend that mindfulness-based training should be incorporated into the nursing curriculum during the entire programme. This will help the students to develop critical thinking skills and learn about the importance of being mindful healthcare professionals. Furthermore, short learning programmes or Continuing Professional Development (CPD) programmes for all nurses regarding being mindful can be beneficial because it can create a continuous conscious awareness of mindfulness.

In addition, a greater emphasis should be placed on the person-centred approach, regarding the psychological, physiological and spiritual well-being of student nurses in order to better their mental health as well as curb anxiety, burnout, depression and health risks associated with stress.

Clinical simulation can develop soft skills such as effective communication and decision-making skills, which will equip students in the clinical area to be mindful during interpersonal communication with colleagues as well as patients.

The guidelines of mindfulness should be part of the orientation programme of 1st years entering the programme. It should also be part of the clinical procedure record of students.
A culture of lifelong learning should be facilitated, by continuously assessing the mindfulness levels of students during training. It is recommended that students are taught resilience and self-care strategies, and the skills of mindfulness that relate to compassion and empathy in order to produce nurses (Cura & Atay, 2023:92).

5.4.2 Recommendations for Nursing Research

The researcher recommended that future research could be conducted through quantitative studies on;

- the effectiveness of following the guidelines developed in this study on mindfulness.
- comparing the different levels of mindfulness of students between different institutions
- how mindfulness is developed over the years of study amongst student nurses.

Qualitative studies could focus on the lived experiences of professional nurses on being mindful in their community practice after training, and how support in practice could be enhanced. A mixed method could explore the experiences of professional nurses in a specific area of specialty, e.g., pediatric units, and after data analysis, use the themes to develop a questionnaire. A qualitative phase could follow and a broader population of pediatric trained nurses, could indicate their agreement on the items, that could lead to a strategy e.g., pediatric nurses to develop their mindfulness during interaction with patients and nurses.

5.4.3 Recommendations for practice

The mindfulness guidelines can be used at an orientation or in-service session for students and staff, new to a unit, to implement a daily practice in mindfulness.

During the assessment of students in practice, mindfulness should be a critical point to evaluate during conducting procedures.

An evaluation form can be given to patients to evaluate the mindfulness of staff towards them, or an item can be added if a current evaluation on patient satisfaction exists.

The guidelines can be added as a document to the procedure file of students in the units.

A poster can be created with the main concepts embedded in the guidelines for visible awareness of concepts, and to reinforce mindfulness.

5.5 LIMITATIONS OF THE STUDY

The researcher views the fact that the instrument had to change from a paper-based questionnaire to an online questionnaire due to COVID-19 as a limitation, as less contact was possible with students during COVID-19. A greater response rate could have been obtained if the questionnaire could have been completed at each campus as originally planned.

5.6 CONCLUSION

The purpose of the study has been met, as the correct methodology was followed, and valid and reliable findings could be obtained. Reasoning around the interpretations of the extent of agreement and mindfulness was indicated and answered the research questions.

The study used a unique theoretical departure point, that contributed to the instrument that measured different dimensions and elements of mindfulness during interpersonal communication. A holistic view of being mindful during interpersonal communication, can create a new way of thinking amongst team members, that could enhance patient and staff satisfaction, further leading to an increase in quality service delivery.

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APPENDICES

ANNEXURE A: INFORMATION SHEET

PO BOX 1906, Bellville, 7535
Tel:+2721-9596911
www.cput.ac.za
E-mail address:Wieseh@cput.ac.za

RESPONDENTS INFORMATION SHEET

Project Title:

The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape

Dear Respondent

Introduction

My name is Hester Maria Wiese, and I am a registered Master's student in Nursing Science at the Cape Peninsula University of Technology. I would like to ask you to offer me an opportunity to explain the research that I wish to undertake and to ask you to kindly participate in the completing of a questionnaire. Please note that you are allowed to ask any question you may have at any time.

Purpose of the research study

In the past decade, a great deal of attention has been paid to mindfulness during interventions by healthcare professionals. The importance of mindfulness during interpersonal communication cannot be stressed enough. There is ample evidence proving that mindfulness has psychological, physiological, as well as spiritual benefits for healthcare practitioners, including student nurses. It is suggested that mindfulness during interpersonal communication can strengthen the performance of healthcare professionals in nursing practice and can therefore lead to better patient outcomes and lower levels of burnout amongst healthcare professionals.

The purpose of the study was to investigate the extent (level) of mindfulness of junior and senior students during interpersonal communication with colleagues and patients. This will lead to the development of guidelines for student nurses on their mindfulness during interpersonal communication with colleagues and patients in clinical facilities.

Description of study procedures

You as a respondent will be asked to complete a questionnaire. The questionnaire consists of 49 questions and should not take longer than 30 minutes to complete. The questions examine your perceptions, feelings, and viewpoint in mindfulness during interpersonal communication in the clinical area. To protect your confidentiality and anonymity right, no identifying details such as names, surnames or identity numbers will be used on the questionnaires. The questionnaires will only be numbered. You will complete the questionnaire at your respective college (George, Boland, and Athlone campuses). After completion of the questionnaires, it will be enclosed in an envelope by a trained field worker selected by the researcher and sent back to the researcher for data analysis. It is only the researcher, supervisor and statistician that will have access to the questionnaires.

Risks or discomfort

No actions that might be harmful or cause any discomfort to you as a respondent will be undertaken. In the event of any unforeseen circumstances the assistance of a lecturer with advanced psychiatric training will be nearby to be consulted.

Benefits to the respondent or others

The anticipated benefits of the proposed study for student nurses is to be educated on being self-aware and ultimately mindful in their communication and decision-making in their daily work, as well as indirectly in their personal environments. This study could influence curriculum content on teaching student nurses on being mindful with colleagues and patients in the clinical field.

Privacy and confidentiality

No information will be gathered or shared without your knowledge as the respondent. To protect your right to confidentiality and privacy no identifying details such as names, surnames or identity numbers will be used on the questionnaires. The researcher will make use of numbering on the questionnaires. The questionnaires will be returned to the researcher in an enclosed envelope by a field worker selected by the researcher. It will only be the researcher and the data analyst who will have access to the questionnaires of the respondents. After data analysis the data of the questionnaires will be stored in the cloud for five (5) years after which it will be destroyed (deleted from the cloud).

Conditions of participation

The participation of this study is entirely voluntary. No pressure will be placed on you as a respondent to take part in this study. The decision to participate is entirely up to you. If you decide to partake in the study and later decide that you want to withdraw you can do so without the fear of unjust or prejudicial treatment by the researcher. As a respondent you will sign an informed consent form. This will be after the purpose of the study, confidentiality, and anonymity of you as a respondent, and what is expected of you as a respondent, are explained. The contact details of the researcher will be included to enable you to direct any questions or concerns directly to her.

Expenses

You would not have to pay anything to be a respondent in this study. You will also not be paid to be part of this study. The questionnaire will be provided to you, online.

Contact details

This research is being conducted by Hester Maria Wiese, a Lecturer in service of the Western Cape College of Nursing, South Cape Karoo Nursing Campus in George, Western Cape.
Please feel free to contact the researcher personally if you have any questions or concerns about the study. The contact details are as follows:

Researcher: Hester M Wiese
Telephone number: 072 056 1200 / 044-803 1700 (office)
E-mail address: Wieseh@cput.ac.za

Should you have any questions regarding this study and your rights as a research respondent, or if you wish to report any problems you have experienced related to the study, please contact:
Research Supervisor/ Head of the Department of Nursing:

Prof K Jooste
Postal Address:
Cape Peninsula University of Technology
P O Box 1906, Bellville, 7535
Telephone number: (021) 959 2271
E-mail address: kjooste1@gmail.com / joosteka@cput.ac.za

ANNEXURE B: CONSENT FORM

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WRITTEN INFORMED CONSENT

Letter of request to participate in the study

Project Title: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape

The purpose, study procedures, risks, benefits, confidentiality, and conditions of participation for this study has been explained to me in a language that I understand.

I am freely and voluntarily agreeing to participate in the study. I understand that if I want to withdraw at any stage, I am free to do so without the fear of unjust of prejudicial treatment by the researcher.

My questions about the study were answered after reading the information sheet. And I understand that I can contact the researcher or her supervisor if I have any questions or concerns regarding the study.

Respondent's signature _____

I agree to complete the questionnaire for this study

Witness _____

Date _____

ANNEXURE C: QUESTIONNAIRE (PAPER BASED)

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Questionnaire for ECP 1st, 2nd, 3rd, and 4th Year student nurses

Topic: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

Purpose: The purpose of this questionnaire is to establish if you are mindful during interpersonal communication. The objective is to determine the levels of mindfulness of student nurses during interpersonal communication in clinical facilities**.**

In this study mindfulness will refer to how you pay attention in a particular way, focusing on a purpose, being in the present moment, and being nonjudgmentally.

Please answer all questions as honest as possible as there are no right or wrong answers.

You should be able to complete the questionnaire within 30 minutes.

Section A:Demographic and biographical data

Mark the appropriate box with a cross (X).

1. **Year of study:** ECP1st Year Student □
   2nd Year Student □
   3rd Year Student □
   4th Year Student □
2. **Repeater:** **1st Year Student** □
   2nd Year Student □

3rd Year Student □

4th Year Student □

3. **Age of student:** 19-25 □

26-35 □

36+ □

4. **Ethnicity:** Coloured □

Black □

White □

Other □ _____

Section B:Mindfulness

One could be mindful during interpersonal communication using **actions, knowledge** and **values.**

Use the following scale in giving your answers:

1. Totally disagree	Definitely not mindful
2. Disagree	Not mindful
3. Somewhat disagree	Rarely mindful
4. Somewhat agree	Somewhat mindful
5. Agree	Mindful
6. Totally agree	More mindful than expected

Example:

Make a cross (X) in only one block which best describes your own perception of your mindfulness during interpersonal communication.

Item	1	2	3	4	5	6
I laugh with my patients on humoristic incidences			**x**			

Complete each of the following items by indicating to which extent you agree with the statements below.

	I, …						
1	feel calm when I give my honest opinion to colleagues on sensitive matters e.g., conducting abortions	1	2	3	4	5	6
2	use control in deliberate thinking when e.g., informing peers about duty placement changes that have been made	1	2	3	4	5	6
3	is mentally flexible when listening to the ideas of senior colleagues on e.g., ways to enhance wound healing	1	2	3	4	5	6
4	pay full attention to the charge sister when she delegates certain duties to me	1	2	3	4	5	6

5	put my own personal thoughts aside when I interact with a patient on a matter that is important to him/her	1	2	3	4	5	6
6	keep my emotions intact when I am insulted by e.g., a medical practitioner of being incompetent in performing nursing care	1	2	3	4	5	6
7	put myself in the position of another student, when he/she struggles to perform a procedure such as the discontinuing of an underwater drain for the first time (increased empathy)	1	2	3	4	5	6
8	am optimistic in a situation in which a group task must be completed successfully (compassion)	1	2	3	4	5	6
9	am non-judgmental towards others, e.g., I do not judge a patient because he/she ask more than once for explanations regarding diabetes mellitus treatment	1	2	3	4	5	6
10	am tolerant of other's human flaws, because I will assist them to repeat a procedure until they understand how to do it themselves	1	2	3	4	5	6
11	am willing to connect with those who are in distress due to their own personal challenges3	1	2	3	4	5	6
12	feel less threatened when a peer confronts me	1	2	3	4	5	6
13	disengage my thoughts during stressful situations and is therefore less defensive e.g., when a senior colleague accuses me of something I did not do, I am able to stay calm and correct them after they stopped talking	1	2	3	4	5	6
14	keep my emotions at bay when dealing with a family struggling to accept an illness of a child (disengage emotions)	1	2	3	4	5	6
15	stand back and let a colleague give feedback on a group assignment even when he/she is struggling (disengage desire)	1	2	3	4	5	6
16	am aware of the thoughts of a patient so as to be empathetic	1	2	3	4	5	6
17	observe the emotions of a patient who received a poor diagnosis with empathy	1	2	3	4	5	6

18	listen to what a patient says without interruption (not respond through habit but in a supportive way)	1	2	3	4	5	6
19	can communicate assertiveness in a difficult situation such as standing firm, or keeping eye contact or control breathing while a colleague scolds me in front of others	1	2	3	4	5	6
20	can keep calm even when disagreeing with a colleague, e.g., my classmate disagree on my viewpoint on the importance of aseptic handwashing before an intra-venous cannulation procedure (less hostile)	1	2	3	4	5	6
21	am able to make decisions after researching all options in e.g., asking for the opinion from a peer and reading articles before deciding on a topic for an assignment	1	2	3	4	5	6
22	will go above and beyond the call of duty when I identify a problem that needs to be resolved e.g., after discovering that a student friend is struggling with personal issues, I will do everything to assist him/her them in getting the help he/she need	1	2	3	4	5	6
23	am able to identify and resolve a problem before it escalates, for instance helping a junior student attempting to do intravenous cannulation without proper training	1	2	3	4	5	6
24	know when I can solve a problem on my own and when I need to ask for help e.g., I will ask for help to draw blood on a child for the first time if I've never done it before	1	2	3	4	5	6
25	tend to make decisions in the spur of the moment and without thinking of the consequences, e.g., quickly covering for a colleague in the ward and she does not return to finish her shift and I need to answer on her whereabouts	1	2	3	4	5	6
26	give my 'brain a break' to increase my ability to learn to be creative	1	2	3	4	5	6

27	stay focused in a busy ward even though my priorities constantly change, such as being busy with handover of patients during shift change and suddenly have to attend to a medical emergency	1	2	3	4	5	6
28	open-minded in discussions with colleagues regarding different beliefs such as the belief that honey can heal bad bedsores even if the patient is a diabetic	1	2	3	4	5	6
29	am able to stay focused on addressing problems to be solved when dealing with colleagues e.g., colleagues that seem as if they are not pulling their weight in the clinical area	1	2	3	4	5	6
30	try and solve a problem at campus with a lecturer first before I ask for help such as when I am unsatisfied with my marks	1	2	3	4	5	6
31	join doctor's rounds because I am curious about my patient's diagnoses and treatment	1	2	3	4	5	6
32	ask the registered nurse in trauma to teach me how to suture a basic laceration because I want to learn everything I can while I am still a student	1	2	3	4	5	6
33	enjoy routine tasks in the clinical area with my colleagues such as 'fix' or observation rounds	1	2	3	4	5	6

34	am fully aware of what I feel when I am in contact with others such as when I am in conversation with a patient, I am aware of the wind blowing through a half open window	1	2	3	4	5	6
35	am conscious (present) of what I hear while in contact with others, e.g., while I am on the telephone taking orders from a doctor, I am also aware of the soft moans of a patient in pain coming from a nearby room	1	2	3	4	5	6
36	am aware (present) of what is happening around me even when I am busy with something else e.g., listening to what the charge nurse say while also aware of a confused patient with a high fall risk trying to climb over his/her cot sides and help in time	1	2	3	4	5	6

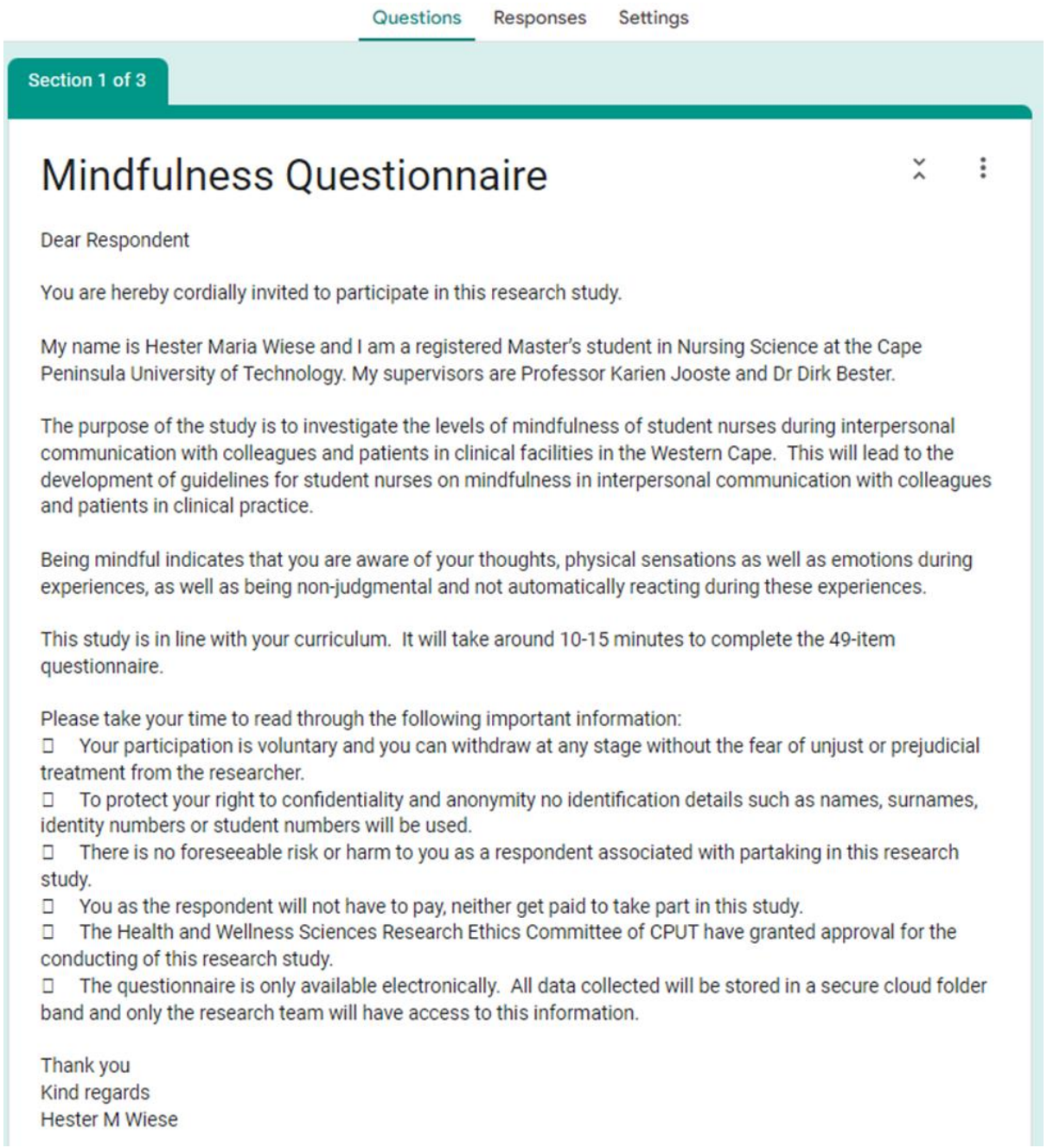
37	am attentive to everything around me and therefore errors regarding patient treatment are reduced, e.g., I once saw a colleague identifying a patient incorrectly and almost gave intra-venous Penicillin for which the specific patient is allergic to	1	2	3	4	5	6
38	feel overall 'in tune' with my body because I am more focused on things happening around me	1	2	3	4	5	6
39	listen without being judgemental if a new way of performing a procedure is explained, such as in a training session emergency treatment of a patient with apnoea	1	2	3	4	5	6

40	focus on my strength even though others make me doubt myself for instance when the staff nurse in the ward say I am terrible in dealing with trauma it is ok with me because I know I am great in drawing blood from patients with difficult veins	1	2	3	4	5	6
41	work on strengthening my weaknesses, e.g., when struggling to communicate a patient's condition in a scientific manner to the doctor, I go back to theory and learn all the different aspects of said conditions	1	2	3	4	5	6
42	tolerate other's opinions even if it is different from mine, e.g., I accept that my colleague does not value the time we get off to study as much as I do	1	2	3	4	5	6
43	value the principles between right and wrong such as when you are to work on a certain day but fall sick during the night you have to let the charge nurse know that you will be absent from work because the ward is depending on you	1	2	3	4	5	6
44	do a task even if I would rather not do it, such as attending to a very rude patient's wound even when he/she makes you feel worthless	1	2	3	4	5	6
45	am able to change the way I interact with colleagues during interpersonal communication by evaluating my own communication techniques e.g., when a peer does not understand what I am trying to explain	1	2	3	4	5	6

	regarding a procedure, I will change the way I communicate to be understood						
46	am at ease to accept the failures of other students for instance being impatient with the elderly	1	2	3	4	5	6
47	show neutrality in a conflict situation between two colleagues arguing without all facts at hand	1	2	3	4	5	6
48	reflect critically on my own behaviour if taking too long to perform a task	1	2	3	4	5	6
49	show compassion (kindness) to peers by for instance advising them when they struggle to hear a blood pressure	1	2	3	4	5	6

Thank you for your participation in this research study.

ANNEXURE D: QUESTIONNAIRE (GOOGLE DRIVE)



Questions Responses Settings

Section 1 of 3

Mindfulness Questionnaire

Dear Respondent

You are hereby cordially invited to participate in this research study.

My name is Hester Maria Wiese and I am a registered Master's student in Nursing Science at the Cape Peninsula University of Technology. My supervisors are Professor Karien Jooste and Dr Dirk Bester.

The purpose of the study is to investigate the levels of mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape. This will lead to the development of guidelines for student nurses on mindfulness in interpersonal communication with colleagues and patients in clinical practice.

Being mindful indicates that you are aware of your thoughts, physical sensations as well as emotions during experiences, as well as being non-judgmental and not automatically reacting during these experiences.

This study is in line with your curriculum. It will take around 10-15 minutes to complete the 49-item questionnaire.

Please take your time to read through the following important information:

- Your participation is voluntary and you can withdraw at any stage without the fear of unjust or prejudicial treatment from the researcher.
- To protect your right to confidentiality and anonymity no identification details such as names, surnames, identity numbers or student numbers will be used.
- There is no foreseeable risk or harm to you as a respondent associated with partaking in this research study.
- You as the respondent will not have to pay, neither get paid to take part in this study.
- The Health and Wellness Sciences Research Ethics Committee of CPUT have granted approval for the conducting of this research study.
- The questionnaire is only available electronically. All data collected will be stored in a secure cloud folder band and only the research team will have access to this information.

Thank you
Kind regards
Hester M Wiese

Please feel free to contact the researcher personally if you have any questions or concerns about the study.
The contact details are as follows:

Researcher: Hester M Wiese
Telephone number: 072 056 1200 / 044-803 1700 (office)
E-mail address: Wieseh@cput.ac.za

Should you have any questions regarding this study and your rights as a research respondent, or if you wish to report any problems you have experienced related to the study, please contact:

Research Supervisor/ Head of the Department of Nursing: Prof K Jooste
Telephone number: (021) 959 2271
E-mail address: kjooste1@gmail.com or joosteka@cput.ac.za

I hereby agree to complete the questionnaire for this study *

☐ Yes

After section 1 Continue to next section

ANNEXURE E: ETHICAL CLEARANCE CERTIFICATE

HEALTH AND WELLNESS SCIENCES RESEARCH ETHICS COMMITTEE (HWS-REC)
Registration Number NHREC:REC- 230408-014

P.O. Box 1906 • Bellville 7535 South Africa

Symphony Road Bellville 7535

Tel: +27 21 959 6917

Email: sethn@cput.ac.za 26 May 2023

REC Approval Reference No:
CPUT/HWS-REC 2020/H8 (renewal)

Faculty of Health and Wellness Sciences

Dear Ms. H Wiese - 218187211

Re: APPLICATION TO THE HWS-REC FOR ETHICS CLEARANCE

Approval was granted by the Health and Wellness Sciences-REC to **Ms. H Wiese** for ethical clearance. This approval is for research activities related to research for **Ms. H Wiese** at Cape Peninsula University of Technology.

TITLE: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape

Supervisor: Prof. K Jooste and Dr. D Bester

Comment: **Approval will not extend beyond 27 May 2024.** An extension should be applied for 6 weeks before this expiry date should data collection and use/analysis of data, information and/or samples for this study continue beyond this date.

The investigator(s) should understand the ethical conditions under which they are authorized to carry out this study and they should be compliant to these conditions. It is required that the investigator(s) complete an **annual progress report** that should be submitted to the CPUT HWS-REC in December of that particular year, for the CPUT HWS-REC to be kept informed of the progress and of any problems you may have encountered.

Kind Regards

Ms. Carolynn Lackay

Chairperson – Research Ethics Committee
Faculty of Health and Wellness Sciences

ANNEXURE F: LETTER FOR PERMISSION TO THE DIRECTORATE OF NURSING HEI WESTERN CAPE

PO Box 1906, Bellville, 7535
Tel:+2721-9596911
www.cput.ac.za
E-mail address:Wieseh@cput.ac.za
16 April 2020

Dr Tendani Mabuda
Director of Nursing Services / WCCN
Department of Health: Western Cape Government
Western Cape College of Nursing
Telephone number:+27 21 684 1202

Dear Dr Mabuda

RE: Request for permission to conduct research study with students registered at the three campuses of the Western Cape College

I am Hester Maria Wiese, and I am a student registered for a Master degree in Nursing at the Cape Peninsula University of Technology in Bellville. My study title is: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

I hereby request to conduct my research study with the students registered with the Western Cape College of Nursing (HEI) and placed at the main and two rural campuses of the for permission to conduct my study. The study will be done under the supervision and guidance of Professor Karien Jooste and Dr Dirk Bester, of the Cape Peninsula University of Technology in Bellville.

Data collection will be obtained by:

- A trained administrator at the main campus, with your permission, will send group emails to each of the year level of students (the extended programme students will form part of the first year), of the four-year nursing programme. The email will give a summary of the purpose and process of the research. An information sheet will be attached to the email. The email will have a link, that will be setup with a programme in Google Drive. After clicking on the link in the email, Section 1 of the questionnaire will provide information to the students on the completion of the instrument. Thereafter, students will first indicate informed consent, after which they will continue to the content of the questionnaire. They will then submit online.
- Students have received pocket routers and data and can link online with the academic environment through their CPUT addresses.
- The students will complete the questionnaires during their own time and place, not to interrupt the online academic programme as offered during COVID-19.
- Students should be able to complete the questionnaire within 30 minutes.
- The researcher will adhere to the respondent's rights to privacy (own space), confidentiality (completed on her/his space), and anonymity. No names, surnames or identity numbers will be indicated on the questionnaire.
- Minimum harm or discomfort to the respondents is foreseen in the study.
- The information letter attached in the email (attached for your convenience) contains the contact details of the researcher as well as the supervisor. The respondents are free to make contact if they have any questions or concerns before deciding if they want to voluntary partake in the research study. The respondents will also be made aware of the fact that they can withdraw at any stage during completing of the instrument without the fear of unjust or prejudicial treatment by the researcher.
- Data from the completed questionnaires will be kept in the cloud, password protected, for 5 years after the results of the study have been published, after which it will be deleted. It will only be the researcher, supervisors and the data analyst who will have access to the completed questionnaires and data. I am attaching the proposal, information sheet as well as the content of the informed consent sheet (Annexure D), for your information.

Kind regards
Hester Maria Wiese

_____

Researchers Signature

_____

Supervisors Signature

June 2020

_____

Date

Researcher: Hester Maria Wiese, Lecturer at the Western Cape College of Nursing, South Cape Karoo Nursing Campus in George, Western Cape

Work Address: Herrie Street number 1
Dormelsdrift
George, 6530

Telephone numbers: 072 056 1200 / 044-803 1700 (office)

Email address: Wieseh@cput.ac.za

Should you have any questions regarding this study and your rights as a research respondent or if you wish to report any problems you have experienced related to the study, please contact:

Research Supervisor: Prof Karien Jooste

Postal Address: Cape Peninsula University of Technology

P O Box 1906, Bellville, 7535

Telephone number: (021) 959 2271

E-mail address: kjooste1@gmail.com / joosteka@cput.ac.za

This research has been approved by the Research and Ethics Committee of the Faculty of Health and Wellness of CPUT.

ANNEXURE G: LETTER OF PERMISSION TO THE THREE HEADS OF CAMPUSESSES HEI

PO Box 1906, Bellville, 7535
Tel: +2721-9596911
www.cput.ac.za
E-mail address: Wieseh@cput.ac.za
15 July 2020

To: Dr Theresa Bock, WCCN, Athlone Nursing Campus, Cape Town
Me Liesl Stauss, WCCN, Boland Nursing Campus in Worcester
Mrs. Rosemary Byrnes, WCCN, South Cape Karoo Nursing College in George

RE: Request for permission to conduct research study at all three Western Cape College of Nursing Campuses

I am Hester Maria Wiese, and I am a student registered for a Master's degree at the Cape Peninsula University of Technology in Bellville.

My study title is: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

Ethics Clearance Certificate Number: CPUT/HW-REC2020/H8

I hereby request to conduct my research study with all the students at each of the campuses of the Western Cape College of Nursing.

The study will be done under the supervision and guidance of Professor Karien Jooste of the Cape Peninsula University of Technology in Bellville.

Data collection will be obtained by:

- Questionnaire to be filled out electronically by all 1st, 2nd, 3rd and 4th year students of each campus.

- The researcher will provide an electronic questionnaire via a link sent to the WhatsApp groups of each year group. It should not take longer than 30 minutes for each respondent to complete the questionnaire.
- The researcher will adhere to the respondent's rights to privacy, confidentiality and anonymity. No names, surnames or identity numbers will be used on the questionnaire. The researcher will only make use of numbers
- No actions will be taken that might harm or cause discomfort to the respondents
- The respondents will receive an information letter in which aspects of the research study will be explained as part of the electronic questionnaire. The information letter contains contact details of the researcher as well as the supervisor. The respondents are free to make contact if they have any questions or concerns before deciding if they want to partake in the research study after which they will sign an informed voluntary consent letter. The respondents will also be made aware of the fact that they can withdraw at any stage without the fear of unjust or prejudicial treatment by the researcher.
- Completed questionnaires will be kept electronically in a secure folder for at least 5 years after which it will be destroyed. It will only be the researcher and the data analyst who will have access to the completed questionnaires. The data will be presented as numbers which will be used in the completion of this study as well as in the reporting of this study.

I hope that you will find this request in order.

Kind regards
Hester Maria Wiese

Researchers Signature

_____

Supervisors Signature

15 July 2020
Date

Researcher: Hester Maria Wiese, Lecturer at the Western Cape College of Nursing, South Cape Karoo Nursing Campus in George, Western Cape

Work Address: Herrie Street number 1
Dormelsdrift
George, 6530

Telephone numbers: 072 056 1200 / 044-803 1700 (office)

Email address: Wieseh@cput.ac.za

Should you have any questions regarding this study and your rights as a research respondent or if you wish to report any problems you have experienced related to the study, please contact:

Research Supervisor: Prof Karien Jooste

Postal Address: Cape Peninsula University of Technology
P O Box 1906, Bellville, 7535

Telephone number: (021) 959 2271

E-mail address: kjooste1@gmail.com
joosteka@cput.ac.za

This research has been approved by the Research and Ethics Committee of the Faculty of Health and Wellness of CPUT.

ANNEXURE H: PERMISSION LETTER FROM DIRECTOR OF NURSING, INCLUDING HEADS OF CAMPUSES

Western Cape Government
Health

WESTERN CAPE COLLEGE OF NURSING
Enquiries Dr T Mabuda
Tel : 021 684 1202
Email:Tendani.Mabuda@westerncape.gov.za

Ms Wiese
PO Box 1906, Bellville, 7535
Tel: +2721-9596911
www.cput.ac.za
E-mail address: Wieseh@cput.ac.za

Dear Ms Wiese

REQUEST FOR PERMISSION TO CONDUCT RESEARCH STUDY : THE MINDFULNESS OF STUDENT NURSES DURING INTERPERSONAL COMMUNICATION WITH COLLEAGUES AND PATIENTS IN CLINICAL FACILITIES IN THE WESTERN CAPE.

1. Permission is granted for you to conduct the above-mentioned study at Western Cape College of Nursing (WCCN) .
2. It will be appreciated if you share the results of your study with WCCN management once completed.
3. Please arrange access with the respective Heads of Campuses.
4. I would like to wish you success in your studies .

Sincerely

.....

Dr Tendani Mabuda

Director: Western Cape College of Nursing

Date:20/08/2020

ANNEXURE I: PERMISSION FROM THE RESEARCH COMMITTEE OF THE DEPARTMENT OF HEALTH IN THE WESTERN CAPE

Western Cape Government
Health

STRATEGY & HEALTH SUPPORT
Health-Research@westernccpe.cov.za tel:+27 21 483 0866:fax:+27 21 483 6058 5th Floor, Norton Rose House„ 8 Riebeek Street, Cape Town, 8001
www.capegateway.gov.za

REFERENCE:WC 202005 024
ENQUIRIES: Dr Sabela Petros

P.O. Box 1906
Bellville
7535
South Africa

For attention: Mrs Hester Maria Wiese

Re: The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape.

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research.

Note that due to the third wave of COVID, physical access to facilities is not recommended over the peak of the wave. Research through use of virtual technology may be accommodated subject to the availability of staff.

Bearing in mind the constraints imposed by COVID-19 and the resultant pressure on the service platform, you can contact the following people to assist you with further enquiries in accessing the following sites:
Western Cape Nursing College, Vatiswa Makie, 021 684 1324.

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final feedback (annexure 9) within six months of completion of research. This can be submitted to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
3. In the event where the research project goes beyond the estimated completion date which was submitted, researchers are expected to complete and submit a progress report (Annexure 8) to the provincial Research Co-ordinator (Health.Research@westerncape.gov.za).
4. The reference number above should be quoted in all future correspondence.

Yours sincerely

DR MOODLEY

Dr Melvin Moodley
Director: Health Impact Assessment

0 3 AUG 2021

DIRECTOR:HEALTH
DATE:

CC

ANNEXURE J: STATISTICIAN CERTIFICATE

30 Kingfisher Street,

Fairtrees Retirement Village,

Durbanville,

7550

2023-02-20

Certificate of service

This is to certify that I, D J van Schalkwyk, performed all the statistical analyses for Mrs H M Wiese's MSc research project.

Regards

Dirk Jacobus van Schalkwyk

Emeritus Professor in Statistics

PhD University of London

ANNEXURE K: EDITOR CERTIFICATE

LINGUAFIX

EDITING AND TRANSLATION/REDIGERING EN VERTALING

☎ 082 681 6232 / vnhelene@gmail.com

www.linguafix.net

To whom it may concern 15/11/2023

Confirmation of language editing

This letter is to record that I completed a language edit of The mindfulness of student nurses during interpersonal communication with colleagues and patients in clinical facilities in the Western Cape by Hester Maria Wiese.

The edit that I carried out **included** the following:

- Correct grammar, punctuation, spelling and usage
- Attend to the consistency of style, tone and voice
- Point out confusing sentence structures, wrong word choices and ambiguous passages
- Point out incomplete sentences or phrases
- Query or eliminate redundancies and verbosity
- Identify any problems in matters of substance or structure

I did **not**:

- Add, remove or reorder content
- Check bibliographical information for accuracy
- Rearrange sentences, paragraphs or sections to ensure that the argument is logically constructed
- Verify the accuracy of citations
- Verify the accuracy of mathematical or statistical calculations, or specific formulae or symbols, or illustrations
- Verify the correctness or truth of information (unless obvious)

Helena Johanna van Niekerk

M.Diac. (University of South-Africa); Post-graduate Diploma in Editing and Translation (Stellenbosch Unive

ANNEXURE L: SIMILARITY REPORT

Thesis for similarity without refs

by Dirk Bester

Student Esmarie Wiese

Submission date: 02-May-2024 09:53PM (UTC+0200)
Submission ID: 2368764848
File name: -_Chapters_1-5_-_22_April_2024_without_references_and_index.docx (5.86M)
Word count: 55363
Character count: 293554

Thesis for similarity without refs

ORIGINALITY REPORT

13%
SIMILARITY INDEX

12%
INTERNET SOURCES

5%
PUBLICATIONS

1%
STUDENT PAPERS