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A Conceptual Framework to Improve Resilience Among Undergraduate First-Year Nursing Students: A Mixed-Methods Study

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ABSTRACT

It is generally presumed that most undergraduate first-year nursing students are not prepared for the transition from basic to higher education. Resilience is recommended as a viable coping strategy that acts as a buffer to the adversities that undergraduate first-year nursing students experience. Therefore, the aim of this study was to develop and validate a conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university. A multiphase concurrent mixed-methods research design was followed through concept analysis, and the empirical, development and validation phases. Development and validation of a conceptual framework were guided by Dickoff et al.'s practice-oriented theory model and e-Delphi, respectively. Data used for development of the conceptual framework were gathered from undergraduate first-year nursing students from two campuses of a South African university, while national and international experts in nursing education were used to validate a conceptual framework. The conceptual framework developed shows that the undergraduate first-year nursing students are at the centre of four contexts, namely South African university, work-integrated clinical facilities, the South African Nursing Council and South African higher education. The conceptual framework includes collaboration of stakeholders, mentoring and debriefing. The guiding principles of the conceptual framework encompass strengthening internal resources and establishment of a support group to achieve the terminus, which is characterised by undergraduate nursing students' improved transition from basic to higher education. In conclusion, the newly developed conceptual framework has the potential to improve resilience among undergraduate first-year nursing students.

1 | Background

A conceptual framework is a structure formed from a set of concepts that are connected within a specific context to bring about a unique way of looking at a specific phenomenon (Brink, Van der Walt, and Van Rensburg 2022). These authors add that a conceptual framework forms a basis for operationalisation of concepts, which could be in the form of a guideline, policy, strategies and so forth. This implies that a conceptual framework precedes the development of guidelines, policies, strategies and the like. In the context of this study, development of a conceptual framework is based on the fact that there is no such framework aimed at improving resilience among undergraduate first-year nursing students at a South African university. This is despite evidence showing that the first year of the undergraduate nursing programme is challenging and

requires students to be resilient to navigate the adversities they face (Porteous and Machin 2018).

This paper reports on components of a larger project, in which the first phase of concept analysis revealed that within the context of undergraduate nursing students, resilience is best described as the ability to navigate academic and non-academic stressors using constructive coping strategies. According to Hasson, Slater, and Guo (2021), resilience acts as a buffer to the adversities that undergraduate first-year nursing students experience. Therefore, resilience should be viewed as a dynamic process of capacitating nursing students' knowledge and skills so that they are able to access coping resources (Mason 2018). Currently, institutions of higher learning globally are faced with the challenge of maintaining academic performance and retention of students (Mthimunye and Daniels 2019). This is exacerbated by the nature of the nursing curriculum, which exposes nursing students to several challenges both at clinical placement and in class settings. Such challenges often translate into problems with transition, that require extraordinary coping strategies (Mthimunye and Daniels 2019).

Although the literature shows that resilience is a widely explored concept, many studies do not employ a holistic approach to improve resilience among nursing students (Edwards, Williams, and Akerman 2022; Warshawski 2022). Instead, they focus on certain aspects that influence resilience, although their context would be within nursing students themselves at times. For example, a study by Edwards, Williams, and Akerman (2022) focused solely on promoting peer support as a strategy to improve resilience, whereas Warshawski (2022) focused on social support. However, these non-holistic approaches to resilience do not fully empower students, as they do not touch on key aspects related to lack of coping with the transition from basic to higher education. According to Langtree, Razak, and Haffejee (2018) the problems relating to the transition from basic education to university are not limited to academic factors, but include non-academic factors.

Within the South African context there is a dearth of literature addressing retention-to-graduation models such as resilience (Nkutu, Seekoe, and Goon 2018), especially among undergraduate first-year nursing students. In their quest to explore retention-to-graduation models within the sphere of undergraduate nursing students, Nkutu and Seekoe (2022) conducted a study related to this one, where they developed a conceptual framework for the retention of undergraduate nursing students within three universities in the rural Eastern Cape. However, their focus was on undergraduate nursing students from all year levels, despite literature indicating that the core of undergraduate nursing students' challenges mainly relate to the transition from basic to higher education, often during the first year of their studies (Christiansen et al. 2019; Ndlela and Brysiewicz 2018). According to Zhao et al. (2016) higher-level nursing students are presumed to be somewhat 'off the hook' compared to lower levels, implying that more effort needs to be directed to the first year of the undergraduate nursing programme.

In the context of this study, that is, the North West Province of South Africa, only one study was found to have explored resilience in undergraduate nursing students (Froneman, Du Plessis, and Koen 2016). However, Froneman, Du Plessis, and Koen (2016) narrowed their focus to the educator-student relationship in strengthening nursing students' resilience. We argue that important factors such as how students relate to the clinical and university environment in relation to their resilience were omitted. Furthermore, evidence from a study conducted by Gause, Sehularo, and Matsipane (2024b) proved that the student-educator relationship, in the form of lecturer support, is one of many factors that influence resilience among undergraduate first-year nursing students. Hence the study conducted by Froneman, Du Plessis, and Koen (2016) is non-holistic in nature when exploring resilience within the spectrum of undergraduate nursing students.

It is against this background that this study sought to develop and validate a conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university. According to knowledge gleaned from the literature review, there is currently no existing conceptual framework that aims to improve resilience among undergraduate first-year nursing students at a South African university. Consequently, undergraduate first-year nursing students continue to endure a complex transition process from basic to higher education, due to the lack of content- and context-specific resilience strategies aimed at smoothing their transition from basic to higher education.

2 | Methods

2.1 | Aim

Based on the above background, it is apparent that the transition from basic schooling to tertiary education is indeed demanding and stressful for many undergraduate first-year nursing students, many of whom are unable to cope with these demands. Furthermore, the existing strategies at institutions of higher learning aimed at smoothening transition of undergraduate first-year nursing students from basic to higher education are not contextual to their needs. Therefore, the aim of this study was to develop and validate a conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university.

2.2 | Design

A multiphase concurrent mixed-methods research design was used, conducted in the following three phases: concept analysis, empirical phase and development and validation phase (this phase). The detailed methodologies are described in individual studies that precede this article, which are presented as manuscripts which have been submitted to journals for publication (Gause, Sehularo, and Matsipane 2024a, 2024b), and which aided in the development and validation of a conceptual framework.

2.3 | Setting of the Study

The study was conducted in one of South Africa's rural universities, that has three campuses. However, because one campus

was not accredited to offer the Bachelor of Nursing degree at the time of conducting the study, data was collected from two campuses which are about 200 km apart. Experts for the validation of a conceptual framework were sourced from various universities within South Africa and abroad, depending on their willingness to participate. A synopsis of the findings of different phases as they aided in development of the conceptual framework is now provided.

2.4 | Phase 1: Concept Analysis

The aim of the concept analysis was to clarify the meaning of resilience in the context of undergraduate nursing students. Walker and Avant's (2019) framework for concept analysis was used as a guide. The steps of concept analysis were: (i) concept selection, (ii) determining the aim and purpose of analysis, (iii) determining the uses of the concept, (iv) determining the attributes of the concept, (v) describing the model case, (vi) describing a contrary case and (vii) determining the antecedents and consequences of the concept. Data were sourced from databases such as Google Scholar, CINAHL, African Journals, ScienceDirect and Health; *Source:* Nursing/Academic edition. A Preferred Reporting Items for Systematic and Meta Analysis (PRISMA) flow diagram was used to eliminate studies which were not suitable for inclusion. The findings of this phase showed that within the spectrum of undergraduate nursing students, resilience is a concept used to describe their proficiency to cope with academic and non-academic adversities during their stint as undergraduate students. The aim is for them to achieve their desired goal of completing their academic studies and eventually graduating as professionals. Some of the antecedents of resilience that emerged from the findings included learning support services, academic peer mentoring, positive student mentoring and positive framing. The detailed findings of the concept analysis are described in a manuscript that has been submitted to the *Global Mental Health Journal*.

2.5 | Phase 2: Empirical Phase

In this phase qualitative and quantitative data were collected and analysed independently to understand what could be included in the conceptual framework. Both steps are briefly described below.

2.5.1 | Step 1: Qualitative Data

This step sought to explore and describe the coping strategies used by undergraduate first-year nursing students during the transition from basic to higher education. Data were collected using online focus group discussions facilitated through Microsoft Teams. Data were analysed by the researcher and co-coder following a conventional qualitative data analysis method to arrive at categories and sub-categories which were ultimately reported as findings. Lincon and Guba's (1985) criteria for ensuring trustworthiness were adhered to. The findings revealed that the experience of the undergraduate first-year nursing students regarding the transition from basic to higher education can best be described as a transition to independence. The nursing students who participated in this phase expressed that although it implies growth, the transition to independence comes with a transition to demanding schedules. They further alluded to the fact that there is also a need to adapt to theoretical and clinical demands, as well as to social systems, and being able to balance between them. Undergraduate first-year nursing students elucidated that they employed various coping strategies to navigate the first year of their Bachelor of Nursing degree. These coping strategies included adaptive coping, appraisal-focused coping, emotion-focused coping, problem-focused coping, social coping and help-seeking. The results further showed that even though students have existing coping strategies, a lot more needs to be done to improve their resilience. Further suggestions included academic support, information support, psychological support, support from mentors, external support in programme planning and structure, improved communication and strengthened opportunities to release stress. Detailed findings are presented in an article published in *BMC Nursing* (Gause, Sehularo, and Matsipane 2024a).

2.5.2 | Step 2: Quantitative Data

The quantitative step sought to determine the factors that influence resilience among undergraduate first-year nursing students (Gause, Sehularo, and Matsipane 2024b). The quantitative data in this step were collected from respondents at one point using a self-administered online questionnaire. The data collection tool had a Cronbach's alpha reliability score of 0.82 and its face and content validity were ensured. Data were analysed using SPSS version 28 with the assistance of a qualified statistician. The Kaiser–Meyer–Olkin Measure (KMO) of sampling adequacy and Bartlett's Test of Sphericity were used to ensure suitability for exploratory factor analysis, which used principal component analysis and varimax rotation. This resulted in six sets of question items, which were grouped to arrive at six factors that influence resilience among undergraduate first-year nursing students. These factors were lecture support, parental support, academic commitment, support from peers and mentors, optimism about the future and a feeling of self-determination, which were shown to have a proportional influence on resilience. For example, lecturer support was seen to improve undergraduate nursing students' resilience, whereas a lack thereof would imply poor resilience. Detailed results are elaborated on in a manuscript which has been published in *Nursing Reports* (Gause, Sehularo, and Matsipane 2024b).

2.6 | Phase 3: Development and Validation Phase

The results of the first two phases were used to develop and validate the proposed conceptual framework, guided by Dickoff, James, and Wiedenbach's (1968) practice-oriented theory model and e-Delphi, respectively. The research method that underpinned development and validation is detailed below.

2.6.1 | Step 1: Development of a Conceptual Framework

According to Brink, Van der Walt, and Van Rensburg (2022), a conceptual framework is developed through identification,

definition and proposition of relationships between the concepts. Therefore, the researcher and promoters independently converged and derived conclusion statements from the results of the first two phases of the study. The entire process of deriving these statements was guided by openness to new ideas, to make a unique contribution to the body of knowledge by means of a conceptual framework. After reaching consensus on the conclusion statements, concepts were identified and clarified to arrive at relational statements, which were then used to answer the descriptive components of Dickoff, James, and Wiedenbach's (1968) practice-oriented theory model (Table 1).

2.6.2 | Step 2: Validation of a Conceptual Framework

The conceptual framework was validated using the quantitative e-Delphi method, as outlined by Romero-Collado (2021). The steps are expressed in Table 2.

2.7 | Measures to Ensure Rigour

The four elements for ensuring rigour in mixed-methods research, namely rigorous data collection and data analysis of each data strand, detailed description of convergence of data from the individual strands and the rationale for using for using a specific mixed-methods design, were adopted to ensure rigour in this study (Harrison, Reilly, and Creswell 2020). Since each strand was conducted independently from each other, and presented in the form of individual manuscripts, data collection and data analysis were rigorously described in each manuscript and are briefly presented in this study (see subsections 'Phase 1: Concept analysis', 'Step 1: Qualitative data' and 'Step 2: Quantitative data'). Similarly, a detailed description of convergence of data from individual strands, and the rationale for using a concurrent mixed-methods research design is given in the subsections titled 'Step 1: Development of a conceptual framework' and 'Design and methods', respectively, thus ensuring rigour. In addition, phase 1 of the manuscript titled 'Exploring the meaning of resilience in the context of undergraduate nursing students: A concept analysis' was presented at the Centering Ubuntu Healthcare in Society 5.0: A transdisciplinarity conference in 2023, and has been submitted to the *International Journal of Mental Health Nursing*. The qualitative strand manuscript titled 'Coping strategies used by undergraduate nursing students during transition from basic to higher education' has been published in *BMC Nursing* and was presented at the Southern African Association of Health Educationalists 2024 conference.

TABLE 1 | Descriptive components of Dickoff, James, and Wiedenbach's (1968) practice-oriented theory model.

Component	Description
Agent	Who implements the conceptual framework?
Recipient	Who is the recipient of the conceptual framework?
Context	In what context is the conceptual framework implemented?
Dynamics	What is the energy source of the conceptual framework?
Guiding principles	What is the guiding principle of the conceptual framework?
Terminus/outcome	What is the product of the proposed conceptual framework?

3 | Results

In this section a structural model of a conceptual framework to improve resilience among undergraduate first-year nursing students is presented, followed by a description of its validation.

3.1 | Structural Model of a Conceptual Framework to Improve Resilience Among Undergraduate First-Year Nursing Students

A structural model of a newly developed conceptual framework to improve resilience among undergraduate first-year nursing students is illustrated in Figure 1. The conceptual framework shows that the undergraduate first-year nursing students, as the recipients of the conceptual framework, are at the centre of four contexts, namely a South African university, work-integrated learning (WIL) clinical facilities, the South African Nursing Council and South African higher education. The conceptual framework further outlines dynamics such as collaboration of stakeholders, mentoring and coaching and principles that play a role in its implementation to achieve the terminus.

3.2 | Narration of the Conceptual Framework

As mentioned earlier, the results of the first two phases were used to develop and validate the conceptual framework. Development of the conceptual framework was guided by Dickoff, James, and Wiedenbach's (1968) six-step practice-oriented theory. The findings of phase 1 guided the contextualisation of a conceptual framework within the context of undergraduate nursing students, whereas the findings from steps 1 and 2 of phase 2 converged to develop and validate the conceptual framework to improve resilience among undergraduate first-year nursing students. A detailed narration of the conceptual framework follows.

3.3 | Agent/s of a Conceptual Framework

An agent refers to a person/s or a body that is responsible for implementation of a conceptual framework (Dickoff, James, and Wiedenbach 1968). In this study, nurse educators, registered nurses from the WIL clinical facilities, clinical preceptors, clinical accompanists, peer mentors and institutional counselling services are regarded as the agents of the newly developed conceptual framework. This implies that the agents identified in this study have a duty to contextualise existing resilience-based efforts offered to undergraduate first-year nursing students to

TABLE 2 | E-Delphi components and description.

E-Delphi component	Description
Identification of a research problem	The identified problem was a lack of a content- and context-specific conceptual framework to strengthen undergraduate first-year nursing students' resilience during the transition from basic to higher education at a South African university.
Construction of a draft questionnaire	A five-point Likert scale questionnaire on possible items to be included in a conceptual framework to improve resilience among undergraduate first-year nursing students was developed from the results of phases 1 and 2. The questionnaire had open-ended questions at the end of each construct to allow additions, subtractions or comments.
Selection of panel of experts	The panel of experts comprised 21 nurse educators who held both a doctoral degree in nursing and nursing education qualifications registered with a regulatory body like the South African Nursing Council or similar. They were selected using an expert sampling technique from platforms such as Research Gate, Google Scholar and so forth.
Questionnaire distribution	Questionnaires were distributed to individual panel members using a Google Docs link. Panel members were afforded at least 30 days to return the first round of responses. They were given an opportunity to complete the questionnaire for the second and last time on items they did not reach consensus on in the first round.
Data analysis and feedback to the panel	Data analysis was guided by consensus reached per item. Consensus (agree to strongly agree) in this study was deemed significant at $\geq 70\%$, recorded as a ≥ 0.70 agreement index.
Report on findings	Reporting encompassed a number of items assessed in each round, which were accepted, reassessed, removed and eventually accepted as part of the conceptual framework to improve resilience among undergraduate first-year nursing students.

their needs. For example, some key critical roles that agents in this study can play should include using the conceptual framework as a basis of their resilience-building efforts for undergraduate first-year nursing students. This can include incorporation of the conceptual framework within the undergraduate first-year nursing orientation programme, apart from the annual university orientation which is non-contextual to the needs of these students. This is because the findings of this study demonstrated that poor resilience primarily emanates from the conflicting interests of social, clinical and theoretical requirements. This view is supported by a study conducted by Alatawi, Morsy, and Sharif (2022), which indicated that academic, social and personal factors experienced by students during the transition to university account for stressors which can lead to poor resilience among the nursing students. Further, the life of a nursing student primarily revolves around class or clinical placement, with little opportunity for social interactions. Therefore, having role-players such as nurse educators, clinical preceptors, clinical accompanists and institutional counselling services from nursing education institutions and registered nurses from healthcare facilities is of paramount importance in implementation of the conceptual framework. This implies that the conceptual framework will be implemented at the strategic points which are predominantly responsible for students' experience of poor resilience.

3.4 | Recipient/s of a Conceptual Framework

Dickoff, James, and Wiedenbach's (1968) practice-orientation theory model describes a recipient as a person/s or a thing that receives a conceptual framework through the work of an agent. In this study, the recipients of the conceptual framework are the undergraduate first-year nursing students. According to Alahmedi (2022), undergraduate first-year nursing students are those who have passed the university entry examination and are enrolled to pursue a Bachelor of Nursing degree. The findings of this study showed that poor resilience is common among undergraduate first-year nursing students because the undergraduate nursing programme is considered difficult and stressful. As a result, this cohort of students often faces adversities which are more onerous than those experienced by their peers pursuing other undergraduate programmes. This makes their transition from basic to higher education challenging. Therefore, as the recipients, undergraduate first-year nursing students will benefit from the acts of the agents as they implement the conceptual framework.

3.5 | Context of a Conceptual Framework

The context refers to the activities and resources within an environment which will enable the implementation of a conceptual framework (Dickoff, James, and Wiedenbach 1968). In this study, the context of the conceptual framework is the South African university, WIL clinical facilities, South African Nursing Council and South African higher education. The findings of this study showed that nursing students spend most of their higher education life between class and WIL clinical facilities. According to Levett-Jones, Reid-Searl, and Bourgeois (2018), nursing education institutions and WIL clinical facilities are inseparable, because they allow students to integrate theory and practice. The same authors add that the integration teaches the students the value of being a nurse outside what they are taught in class

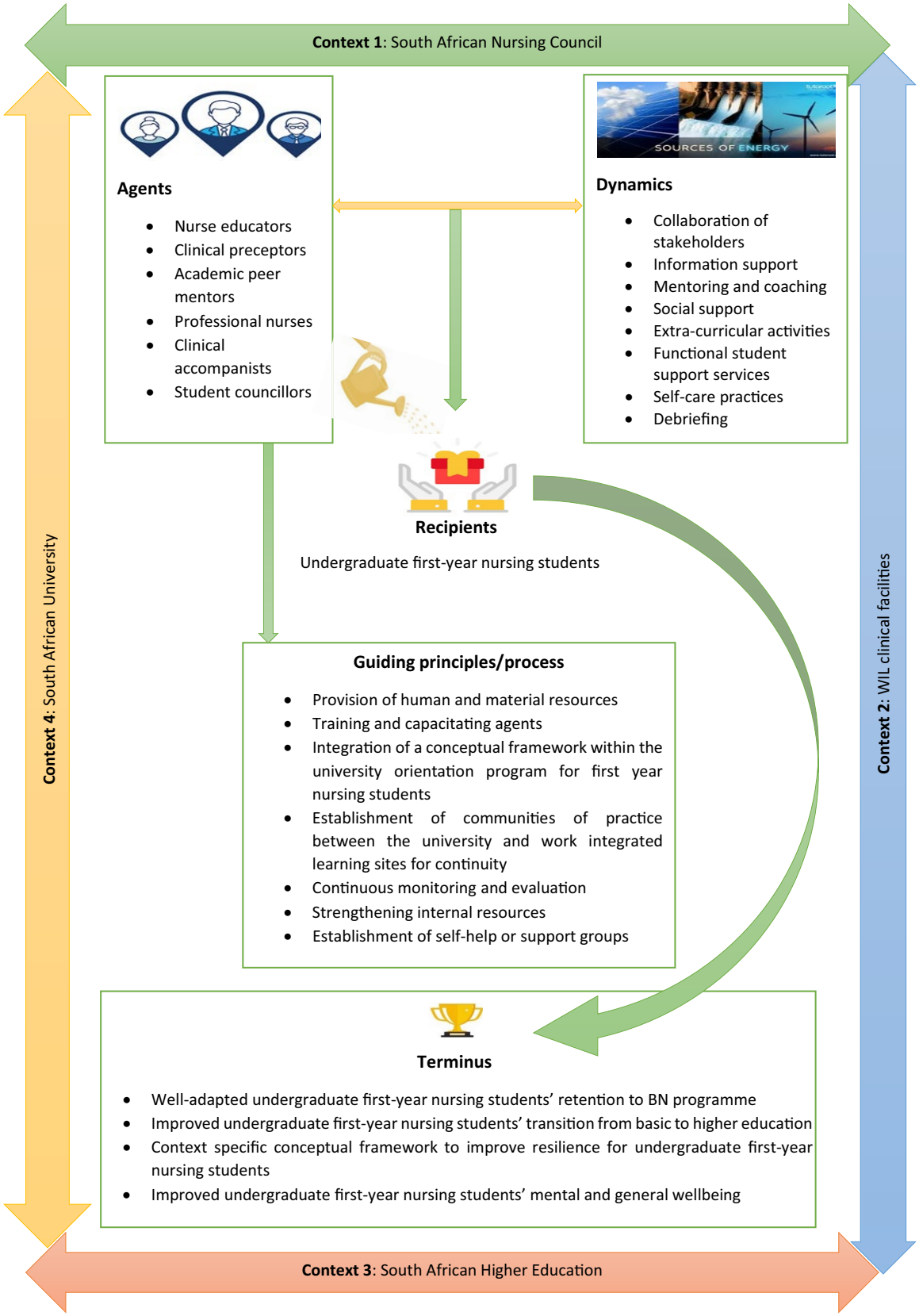

FIGURE 1 | A conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university.

(Levett-Jones, Reid-Searl, and Bourgeois 2018). Therefore, the existence of undergraduate first-year nursing students during their academic lifetime is reliant on the WIL clinical facilities and a South African university, making the two, contexts in this study. Equally important, and in addition to these two realms, the South African Nursing Council and South African higher education also form part of the context of the conceptual framework because of their regulatory function in the Bachelor of Nursing

programme and South African university, respectively. The South African Nursing Council regulates nursing education and training within the South African context, being at the macro level of the curriculum that is rolled out at the universities, which influences the activities both in class and at WIL clinical facilities. Similarly, South African Higher education is also a context in this study, to which the South African universities affiliate.

3.6 | Dynamics of a Conceptual Framework

Dickoff, James, and Wiedenbach's (1968) practice-orientated theory model describes dynamics as the energy sources of a conceptual framework. In this study, the dynamics for the conceptual framework are collaboration of key stakeholders, information support through orientation programmes, mentoring and coaching, social support, extracurricular activities, functional students' support services, debriefing and counselling and self-care practices. Regarding collaboration of key stakeholders, it is important to ensure that a proper working relationship exists between the role-players at the healthcare services and those at nursing education institutions, including forming collaborative partnerships with the regulatory bodies. This is to ensure that the conceptual framework is implemented throughout the first-year nursing students' life cycle—that is, at the South African university, WIL clinical facilities, South African Nursing Council and South African Higher education.

The results of this study further showed that aspects such as peer mentoring and coaching, debriefing and counselling, self-care practices and social support are also key in improving students' resilience. This is because students relate well to their mentors and coaches since they are somewhat age mates. Therefore, this study emphasises that mentoring should be allowed to thrive within the first year of a Bachelor of Nursing programme. Mentoring will afford students at higher levels an opportunity to orientate undergraduate first-year nursing students in the programme and at the university in general. This is supported by Alatawi, Morsy, and Sharif (2022), who reported that student mentors play an important role in improving nursing students' resilience. The authors substantiate this by citing that mentors create learning environments that inspire and empower students through facilitated discussions, coaching and facilitation of common thinking activities such as group work (Alatawi, Morsy, and Sharif 2022).

One other key dynamic that emerged from the findings is the need to have extramural activities. The undergraduate first-year nursing students argue that social and other extramural activities can be influential in improving their resilience and greatly assist them in building relations that they can use as support structures to improve their resilience. Some of the dynamics suggested by experts include debriefing and counselling for students to improve their resilience. Debriefing sessions should be at a reasonable interval, especially after clinical placements where students encounter complex clinical cases. Closely related to debriefing is counselling, which also emerged as a dynamic in this study. Such counselling services should be in sync with the challenges experienced by undergraduate first-year nursing students, hence institutional student councillors were also identified as agents in this study.

3.7 | Guiding Principles of a Conceptual Framework

The guiding principles refer to the rules and techniques that govern the implementation process of the conceptual framework until terminus is achieved (Dickoff, James, and Wiedenbach 1968). In this study the guiding principles include the provision of human and material resources. The evidence from this study showed that building resilience for undergraduate first-year nursing students goes beyond the classroom, and includes the WIL clinical environment, South African higher education context and social activities. Therefore, procurement of human and material resources is a key process in a conceptual framework. Subsequent to provision of human resources are training and capacitating agents. As explained earlier, agents play a pivotal role in implementation of the conceptual framework (Dickoff, James, and Wiedenbach 1968). Training and capacitating agents would safeguard the proper intention of the conceptual framework. Such trainings should include how undergraduate first-year nursing students transition from basic to higher education, their challenges and how they cope, to better understand the resilience-building efforts best suited to them.

Integration of a conceptual framework within the university orientation programme for undergraduate first-year nursing students is the third guiding principle. This is because evidence from the study showed that the orientation programme for undergraduate students, which is aimed at building students' resilience, does not fully cater for undergraduate first-year nursing students. According to the evidence from the study, the challenges faced by undergraduate first-year nursing students vary significantly from those of their peers in other programmes, due to the structure of the Bachelor of Nursing programme. Integrating a conceptual framework into the broader orientation programme for undergraduate first-year nursing students would assist in addressing context-specific nursing issues relating to the transition from basic to higher education.

The fourth guiding principle is establishment of communities of practice, both at the university and WIL sites. This is because the results demonstrated that there are two mutually important contexts within the day-to-day academic life of nursing students. Having communities of practice within the two contexts would ensure continuity in building resilience for undergraduate first-year nursing students both at the university and at the WIL sites. The fifth and last guiding principle is that there should be continuous monitoring and evaluation to ensure that the intention of the conceptual framework is realised. Monitoring and evaluation of the conceptual framework will allow for reflection on its effectiveness. Furthermore, during experts' validation, guiding principles that include strengthening internal resources, and establishment of self-help or support groups were also added, and are seen as key in ensuring resilience among undergraduate first-year nursing students. For example, internal resources would include students' support services and communication channels, while self-help or support groups would include peer groups and support groups.

3.8 | Terminus of the Conceptual Framework

The terminus is the outcome of an activity (Dickoff, James, and Wiedenbach 1968). Therefore, the intended terminus of the newly developed conceptual framework is as follows: improved undergraduate first-year nursing students' resilience and retention to the Bachelor of Nursing programme, improved transition of undergraduate first-year nursing students from basic to higher education, and a conceptual framework that is tailor-made to improve the resilience of undergraduate first-year nursing students by addressing context-specific issues relating to their transition from basic to higher education. Lastly, the terminus of the conceptual framework would imply improved mental and general well-being of undergraduate first-year nursing students.

The expected or desired outcome of a conceptual framework should be measured by evidence of the aforementioned terminus. Thus, the terminus of a conceptual framework is somewhat a measure of whether the intention of a conceptual framework is met or not. Some of the key features that students are expected to present with in relation to the terminus of this study include the following: academic achievements, well-rounded students who can balance academic and social life, minimal to no evidence of use of destructive coping mechanisms such as alcohol and drugs, improved communication between nurse educators and students, and sustainable mentorship programmes.

3.9 | Validation of a Conceptual Framework to Improve Resilience Among Undergraduate First-Year Nursing Students

Validation of a conceptual framework was guided by quantitative e-Delphi steps, as described by Romero-Collado (2021). The following legends were used to guide the validation process:

n: number of items assessed.

n^f: number of final items where consensus was reached.

✓: Items accepted (agreement index: ≥ 0.70).

✗: Items removed (disagreement index: ≥ 0.70).

±: Items reassessed (agreement index: < 0.70).

+: Items added by experts.

A description of the e-Delphi experts and the outcome of validation of the conceptual framework is outlined next.

3.10 | E-Delphi Experts

A total of 30 experts were purposefully recruited to validate the conceptual framework; 21 experts agreed to participate in the first round of validation, whereas 20 out of the initial 21 participated in the second round. This amounted to response rates of 70% and 66% respectively. Available literature shows different schools of thought surrounding the acceptable number of participants in an e-Delphi study (Romero-Collado 2021; Louw, Fraser, and Giraldo 2023; Heyns and Downing 2024), but 21 and 20 were deemed sufficient sample sizes to determine consensus of experts. The majority (95.2%) of the experts were from various universities in South Africa, while a few (4.8%) were from other countries within the continent of Africa. A link to the informed consent and validation tool was shared with the experts, who were allowed a 4-week window to complete the first round of validation. The second round proceeded swiftly after receiving responses from the first round.

3.11 | Round 1 e-Delphi Results

From the first round of validation, all ($n = 22$) items had an agreement index of ≥ 0.70. As a result, the number of items for which consensus was reached was $n^f = 22$, and they were accepted (✓ = 22) as validated items of the conceptual framework. No items were removed (✗ = 0) or reassessed (± = 0) by the experts. Instead, 9 items were added. Table 3 summarises the outcome of the first round of e-Delphi.

A detailed description of the summary of items presented in Table 3, including the agreement index for each item in the first round of e-Delphi, is given in Table 4.

3.12 | Round 2 e-Delphi Results

Nine items that were added from the results of the first-round e-Delphi were circulated for assessment. Twenty ($n = 20$) out of 21 experts agreed to participate in the second round of e-Delphi. An agreement index of ≥ 0.70 was recorded for eight items. One item had an agreement index of 0.631 and was not included (✗ = 1) in the conceptual framework. All of the other items were accepted (✓ = 8) and incorporated within the conceptual framework (Figure 1). The second round of e-Delphi is outlined in Table 5.

4 | Discussion

The aim of this study was to develop and validate a conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university. Dickoff, James, and Wiedenbach's (1968) practice-oriented theory model was used to guide the development of a conceptual framework, whereas validation was based on Romero-Collado's (2021) steps for conducting e-Delphi. The study findings proved that even though efforts are made by the universities to ensure a smooth transition of undergraduate first-year students from basic education to the university, the contextual needs of nursing students

TABLE 3 | Summary of round 1 of expert validation.

n	n^f	✓	✗	±	+
22	22	22	0	0	9

TABLE 4 | Detailed outcome of round 1 of expert validation.

Criterion	Agreement index	Consensus outcome
Agents		
1. Nurse educators	0.904	✓
2. Registered nurses	0.905	✓
3. Clinical preceptors	0.857	✓
4. Clinical accompanists	0.714	✓
5. Peer mentors	0.762	✓
Recipients		
1. Undergraduate first-year nursing students	0.905	✓
Context		
1. Nursing education institutions	0.904	✓
2. Healthcare facilities	0.905	✓
Dynamics		
1. Collaboration of key stakeholders	0.905	✓
2. Information support through orientation programmes	0.857	✓
3. Mentoring and coaching	0.857	✓
4. Social support	0.905	✓
5. Extracurricular activities	0.857	✓
6. Functional students' support services	0.81	✓
Guiding principles		
1. Provision of human and material resources	0.857	✓
2. Training and capacitating agents	0.905	✓
3. Integration of a conceptual framework within the university orientation programme for undergraduate first-year nursing students	0.81	✓
4. Establishment of communities of practice both at the university and at work-integrated learning sites	0.952	✓
5. Continuous monitoring and evaluation	0.952	✓
Terminus		
1. Improved undergraduate first-year nursing students' resilience and retention in the Bachelor of Nursing programme	0.952	✓
2. Improved transition of undergraduate first-year nursing students from basic to higher education	0.953	✓
3. A conceptual framework that is tailor-made to improve the resilience of undergraduate first-year nursing students	0.905	✓

are often not accommodated. This is because the challenges that undergraduate first-year nursing students face differ significantly from those experienced by their peers in their first year of entering the university environment. These challenges include those that emanate from the competing interests of a potentially destructive university social life, theoretical demands and clinical demands. This implies that undergraduate nursing students are not likely to cope with the transition from basic to higher education.

The results of this study showed that nurse educators, clinical preceptors, clinical accompanists, students' mentors and registered nurses should work hand in hand in implementing the newly developed conceptual framework to improve resilience among undergraduate first-year nursing students at a South African university. This is because undergraduate nursing students exist between four contexts, namely South African university, WIL clinical facilities, South African higher education and the South African Nursing Council. Therefore, it can be said

TABLE 5 | Detailed outcome of round 2 of expert validation.

Criterion	Agreement index	Consensus outcome
Agents		
1. Institutional student counsellors	0.80	✓
Context		
1. South African higher education	0.85	✓
2. South African Nursing Council	0.70	✓
Dynamics		
1. Debriefing	0.75	✓
2. Self-care practices	0.75	✓
3. Social skills workshops	**0.65**	✗
Guiding principles		
1. Establishment of self-help or support groups	0.95	✓
2. Strengthening internal resources	0.80	✓
Terminus		
4. Improved mental well-being	0.80	✓

that the identified agents are key in ensuring proper implementation of the conceptual framework, since they are placed at the strategic positions where undergraduate first-years spend most of their academic life.

Among the key findings of this study were the energy sources that are believed to have the potential to realise implementation of the conceptual framework. These include, among others, the need for mentoring and coaching, social support, and extracurricular activities. The same findings were echoed by Thomas and Asselin (2018), who found that mentorship programmes, social support, and positive professional relationships are key in ensuring resilience for nursing students. However, the current structure of the Bachelor of Nursing programme does not cater for the likes of mentorship programmes, social support or extracurricular activities to thrive. This is because students are either swamped with theoretical expectations, the need to satisfy clinical requirements, or self-directed learning at the simulation labs to sharpen their clinical skills. In addition, long classes together with group work or preparation for WIL also counter the opportunity for socialisation for undergraduate first-year nursing students.

During conceptualisation it was believed that this study was one of its kind within the context of South Africa and possibly globally. However, as the study progressed, a related study was conducted in the Eastern Cape Province of South Africa by Nkutu and Seekoe (2022). Although the two studies seem related, there are vast differences in terms of the overall aim, target population and context. Thus, this study could still be regarded as ground-breaking in exploring the phenomenon of resilience within undergraduate first-year nursing students. In their study, Nkutu and Seekoe (2022) aimed to develop a conceptual framework for the retention of undergraduate nursing students in general (at all year levels), whereas in this study the focus was on undergraduate first-year nursing students. This is because the literature alludes to the fact that undergraduate first-year nursing students experience difficulties with the transition from basic to higher education (Zhao et al. 2016). The same authors add that students in higher levels of the Bachelor of Nursing programme are considered to be acclimatised.

4.1 | Limitations

The context of the study was undergraduate first-year nursing students at a multi-campus South African university. There is a possibility that if multiple universities, including public nursing colleges, were included, the outcome of the study could have been influenced. However, although this is regarded as a limitation, the study remains vital as there is no conceptual framework for this phenomenon. Therefore, this study can serve as a steppingstone for future research on the phenomenon under examination.

5 | Conclusions and Recommendations

A conceptual framework to improve resilience among undergraduate first-year nursing students was developed and validated in this study. This is the first conceptual framework that is context-specific to the needs of undergraduate first-year nursing students during their transition from basic to higher education. This conceptual framework is essential, as it has been validated to have the potential to improve resilience among undergraduate first-year nursing students. It is recommended that the conceptual framework should be adopted, implemented and evaluated for its effectiveness in improving resilience among undergraduate first-year nursing students. It is further recommended that similar studies should be conducted in different settings, such as among undergraduate

first-year nursing students at public and private nursing colleges and other universities.

Author Contributions

G.G., L.A.S. and M.J.M. contributed equally on conceptualisation and final writing up of the manuscript. L.A.S. and M.J.M. also supervised the drafting of the manuscript.

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Ethics Statement

The study was approved by North-West University Health Research Ethics Committee (Ref: NWU-00053-23-A1). Other permissions received included those of the deputy directors in the School of Nursing for each campus. Furthermore, participation of both sets of participants was voluntary (nursing students who participated in the empirical phase and experts who participated in the validation step). This was facilitated through signing of an informed consent form. The participants and experts were informed that they could withdraw their consent at any time with no consequences.

Consent

The authors have nothing to report.

Conflicts of Interest

The authors declare no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Disclaimer

The views and opinions expressed in this study are those of the authors and do not reflect the position or any official policy of the funders or affiliated institutions of the authors.

References

Alahmedi, S. 2022. *Nursing Students' Cultural Awareness and High-Fidelity Simulation Skills Doctoral Dissertation*. Arlington: University of Texas.

Alatawi, A. O., N. M. Morsy, and L. S. Sharif. 2022. "Relation Between Resilience and Stress as Perceived by Nursing Students: A Scoping Review." *Evidence-Based Nursing Research* 4, no. 1: 19.

Brink, H., C. Van der Walt, and G. H. Van Rensburg. 2022. *Fundamentals of Research Methodology for Healthcare Professionals*. Fifth ed. Cape Town, South Africa: Juta.

Christiansen, A., Y. Salamonson, R. Crawford, et al. 2019. "Juggling Many Balls: Working and Studying Among First-Year Nursing Students." *Journal of Clinical Nursing* 28, no. 21–22: 4035–4043.

Dickoff, J., P. James, and E. Wiedenbach. 1968. "Theory in a Practice Discipline I. Practice Oriented Discipline." *Nursing Research* 17, no. 5: 415–435.

Edwards, M., E. Williams, and K. Akerman. 2022. "Promoting Academic Resilience Through Peer Support in a New Pre-Registration Nursing Programme." *British Journal of Nursing* 31, no. 22: 1144–1148.

Froneman, K., E. Du Plessis, and M. P. Koen. 2016. "Effective Educator Student Relationships in Nursing Education to Strengthen Nursing Students' Resilience." *Curationis* 39, no. 1: 1–9.

Gause, G., L. A. Sehularo, and M. J. Matsipane. 2024a. "Coping Strategies Used by Undergraduate First-Year Nursing Students During Transition From Basic to Higher Education: A Qualitative Study." *BMC Nursing* 23, no. 1: 276.

Gause, G., L. A. Sehularo, and M. J. Matsipane. 2024b. "Factors That Influence Resilience Among First-Year Undergraduate Nursing Students: A Cross-Sectional Descriptive Study." *Nursing Reports* 14, no. 2: 1324–1337.

Harrison, R. L., T. M. Reilly, and J. W. Creswell. 2020. "Methodological Rigor in Mixed Methods: An Application in Management Studies." *Journal of Mixed Methods Research* 14, no. 4: 473–495.

Hasson, F., P. F. Slater, and X. J. Guo. 2021. "Resilience, Stress and Well-Being in Undergraduate Nursing Students in China and the UK." *International Journal of Research in Nursing* 12, no. 1: 11–20.

Heyns, B., and C. Downing. 2024. "Validation of a Care Model in Neonatal Intensive Care Units: A Mixed Method Study." *Journal of Neonatal Nursing* 30: 450–455.

Langtree, E. M., A. Razak, and F. Haffejee. 2018. "Factors Causing Stress Among First-Year Students Attending a Nursing College in KwaZulu-Natal, South Africa." *African Journal of Health Professions Education* 10, no. 2: 90–95.

Levett-Jones, T., K. Reid-Searl, and S. Bourgeois. 2018. *The Clinical Placement: An Essential Guide for Nursing Students*. Chatswood, NSW: Elsevier Health Sciences.

Lincon, Y. S., and E. G. Guba. 1985. *Naturalistic Inquiry*. Beverly Hills, CA: Sage.

Louw, V. J., I. Fraser, and P. Giraldo. 2023. "Management Goals of Type 1 Gaucher Disease in South Africa: An Expert Delphi Consensus Document on Good Clinical Practice." *PLoS One* 18, no. 8: e0290401.

Mason, H. D. 2018. "The Experience of Resilience Among Nursing Students: A Qualitative Study." *Journal for New Generation Sciences* 16, no. 1: 62–78.

Mthimunye, K., and F. M. Daniels. 2019. "Predictors of Academic Performance, Success and Retention Amongst Undergraduate Nursing Students: A Systematic Review." *South African Journal of Higher Education* 33, no. 1: 200–220.

Ndlela, N. T., and P. Brysiewicz. 2018. "Students' Perceptions of Student Support Services at a Nursing Campus." *Africa Journal of Nursing & Midwifery* 20, no. 2: 14.

Nkutu, N. T., and E. Seekoe. 2022. "A Conceptual Framework for the Retention of Undergraduate Nursing Students in the Eastern Cape Province of South Africa." *African Journal for Physical Activity and Health Sciences (AJPHES)* 28, no. 2: 81–99.

Nkutu, N. T., E. Seekoe, and D. T. Goon. 2018. "Factors Associated With Dropout, Retention and Graduation of Nursing Students in Selected Universities in South Africa: A Narrative Review." *Global Journal of Health Science* 10: 80–86.

Porteous, D. J., and A. Machin. 2018. "The Lived Experience of First Year Undergraduate Student Nurses: A Hermeneutic Phenomenological Study." *Nurse Education Today* 60: 56–61.

Romero-Collado, A. 2021. "Essential Elements to Elaborate a Study With the (e) Delphi Method." *Enfermería Intensiva (English Ed.)* 32, no. 2: 100–104.

Thomas, L. J., and M. Asselin. 2018. "Promoting Resilience Among Nursing Students in Clinical Education." *Nurse Education in Practice* 28: 231–234.

Walker, L. O., and K. C. Avant. 2019. *Strategies for Theory Construction in Nursing*. Sixth ed. New York, NY: Pearson.

Warshawski, S. 2022. "Academic Self-Efficacy, Resilience and Social Support Among First-Year Israeli Nursing Students Learning in Online Environments During COVID-19 Pandemic." *Nurse Education Today* 110: 105267.

Zhao, F., Y. Guo, R. Suhonen, and H. Leino-Kilpi. 2016. "Subjective Well-Being and Its Association With Peer Caring and Resilience Among Nursing vs Medical Students: A Questionnaire Study." *Nurse Education Today* 37: 108–113.