MODIFIABLE FACTORS CONTRIBUTING TO BELONGINGNESS OF UNDERGRADUATE NURSING STUDENTS IN THE CLINICAL LEARNING ENVIRONMENT

by

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APPROVAL

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

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Background: Exacerbated by the impact of the COVID-19 pandemic, the current global nursing shortage continues to grow and the need for competent new graduate nurses is greater than ever. Clinical placements are recognized as a critical component in nursing students' preparation to enter professional practice. Nursing schools are tasked by accrediting agencies to ensure these experiences are robust, safe, and supportive for students. Encompassing feelings of acceptance, connection, and value alignment, the concept of belongingness has been linked to positive personal and educational outcomes in undergraduate nursing students in the clinical learning environment. These include increased learning, participation, confidence, and professional socialization as well as decreased anxiety and increased satisfaction with clinical experiences. A gap in the literature has been identified surrounding evidence-based interventions to foster these important feelings of belongingness in undergraduate nursing students in the clinical learning environment.

Methods: Three studies were completed. First, a scoping review synthesized evidence from 47 articles related to undergraduate nursing students' feelings and experiences with belongingness

in the clinical learning environment. Second, a pilot study was undertaken at a nursing school in the southern United States to adapt the Belongingness Scale – Clinical Placement Experience tool for use with nursing students in the U.S. Third, a national study was performed in which the U.S. version of the Belongingness-Scale – Clinical Placement Experience was paired with items assessing demographics, program/clinical structure, and students' experiences with and perceived value of modifiable clinical setting factors in four categories (clinical format factors, clinical site factors, relationship and interpersonal factors, and miscellaneous factors) derived from the literature as potentially increasing feelings of belongingness.

Results: The scoping review identified key areas related to belongingness in undergraduate nursing students in the clinical learning environment to include educational and personal outcomes of belongingness and alienation, contributing factors to belongingness, interventions to foster belongingness, and measurement of the concept. The pilot study established a psychometrically sound 25-item scale, the U.S. Version of the Belongingness Scale – Clinical Placement Experience, to effectively measure belongingness in U.S. undergraduate nursing students. The third study identified 1 program/clinical structure factor and 10 modifiable clinical setting factors that significantly impact belongingness, five of which potentially predict these feelings.

Conclusion: This research underscores the importance of fostering belongingness in nursing education programs to ensure students meet learning outcomes while having positive experiences in the clinical learning environment. Together, this body of work provides a foundation for nursing educators to understand, measure, and develop interventions that foster belongingness in U.S. undergraduate nursing students in the clinical learning environment. This work is of critical importance for nursing programs, pedagogy experts, and clinical agencies as efforts are made to increase the nursing workforce with skilled, professional new graduate nurses.

CHAPTER I: INTRODUCTION

Background and Significance

Nursing education is in a time of critical transition as educators are faced with new accreditation requirements, the lingering impact of the COVID-19 pandemic, and staggering attrition rates of practicing nurses creating an unprecedented need for competent new graduate nurses (Buchan et al., 2022). With shortages of nursing faculty, insufficient clinical placement opportunities, and a need for updated and adaptive curricula (Institute of Medicine, 2011), changes to traditional approaches to nursing pedagogy are of significant interest. Coupled with an influx of students from Generation Z (born in 1997-2012) who value intrapersonal learning and may have reduced personal connections due to their lifelong reliance on technology (Hampton et al., 2020), nursing educators must adapt educational approaches to maximize learning while prioritizing the student experience. As its contributions to both educational and personal outcomes have been established in the extant literature, belongingness is a critical concept at the forefront of the ever-changing world of nursing education.

In his development of a Hierarchy of Needs that contribute to human motivation and personality, Abraham Maslow (1943) is credited with first identifying the overarching concept of belongingness. In this now-ubiquitous theory of motivation, belongingness and love needs follow after physiological and safety needs and before esteem and self-actualization needs in the hierarchy of importance (Maslow, 1943). Baumeister and Leary (1995) further described this concept of "needing to belong" and feeling accepted, recognized, valued, and appreciated as a fundamental human requirement. Additionally, they emphasized that belongingness should be found across all cultures as humans have a natural drive towards both establishing and sustaining a sense of belongingness (Baumeister & Leary, 1995). In 1992, Hagerty et al. published a concept analysis that is now viewed as a cornerstone of belongingness. In this work, the authors

described valued involvement and fit as the two critical dimensions of belongingness (Hagerty et al., 1992).

Literature on belongingness has been published dating back to the mid-1900s in the fields of higher education, psychology, and other social sciences. However, Levett-Jones and colleagues first critiqued the concept and its associated implications specific to nursing education in 2007. Through their extensive work on the concept, Levett-Jones and Lathlean (2008) developed the following definition that will be used throughout this manuscript:

> Belongingness is a deeply personal and contextually mediated experience that evolves in response to the degree to which an individual feels
>
> (a) secure, accepted, included, valued and respected by a defined group,
>
> (b) connected with or integral to the group, and
>
> (c) that their professional and/or personal values are in harmony with those of the group.
>
> The experience of belongingness may evolve passively in response to the actions of the group to which one aspires to belong and/or actively through the actions initiated by the individual. (p. 104)

Detailed in a subsequent section, Levett-Jones and Lathlean (2009a) published the Ascent to Competence conceptual framework, an adaptation of Maslow's Hierarchy of Needs that illustrates nursing students' progression to competence in the clinical learning environment (CLE) after the needs of safety and security, belongingness, self-concept, and learning are met. This theoretical foundation is critical in establishing the importance of belongingness; without it, students may not be able to meet learning outcomes needed to successfully graduate and enter the nursing profession.

Significance

With more than 250,000 students enrolled in baccalaureate nursing programs in the United States at any given time (American Association of Colleges of Nursing [AACN], 2021b) and a shortage of practicing nurses spanning the country and globe (Buchan et al., 2022), the significance for research regarding all aspects of the educational outcomes of nursing students is high. Colleges of nursing are under immense pressure to graduate qualified applicants and therefore must constantly evaluate their approach to nursing pedagogy. While there is often particular focus on learning outcomes in this evaluative process, the Ascent to Competence framework may be utilized to guide students' progress towards meeting the prerequisites for learning. Efforts related to promoting safety and security, belongingness, and self-concept should be prioritized so students are adequately prepared to ascend to the levels of learning and competence.

Nursing Education in the U.S.

There are numerous educational pathways in the U.S. that culminate in nursing licensure including diploma, vocational, associate's, and bachelor's degree programs (U.S. Department of Health and Human Services [DHHS], 2020). Nursing programs vary in length, curricular components, and time spent in the CLE (DHHS, 2020) and may be accredited by different organizations. One of the prominent accrediting agencies, the AACN (2021a), recently released new accreditation *Essentials* for baccalaureate nursing programs that place responsibility on the nursing program for ensuring students' experiences in the CLE are safe, supportive, and conducive to learning. Therefore, studies are needed to assess the components, such as belongingness, that contribute to a positive CLE. Ideally, this dissertation work results in an evidence base for nursing programs that can be utilized to inform the initiatives needed to meet this important accreditation requirement. There has been and will be a lag in progression of

theory to practice related to the concept of belongingness and a subsequent delay in students' ascent to competence until this gap is bridged.

Nursing Shortage

There is an ongoing nursing shortage in the United States that has only been exacerbated by the COVID-19 pandemic. Currently, there is projected to be 200,000 fewer nurses per year than needed in the U.S. through 2031 (AACN, 2022b), thus illustrating the importance of nursing schools graduating competent, practice-ready graduates. Attrition rates for undergraduate nursing students can be as high as 50%, with academic, financial, and health reasons being attributed to nursing students leaving their programs including "failure to cope with the demands of the clinical environment" (Roos et al., 2016, p. 1). De Leon (2018) found that issues in the CLE are a theme in undergraduate nursing student attrition rates, particularly in the realm of relationship-building. With this growing nursing shortage, it is imperative that students' limited clinical experiences are high yield to prepare them to enter the workforce. As a key component in the Ascent to Competence framework and the attainment of personal and educational outcomes, efforts to foster belongingness in undergraduate nursing students in the CLE are critical.

Well-being of Nursing Students

The broader nursing education literature demonstrates the considerable levels of stress nursing students experience (Hamaideh et al., 2017; Onieva-Zafra et al., 2020; Pulido-Martos et al., 2011) and recognizes that these learners are at increased risk for anxiety and depression (Papazisis et al., 2014). Stressors are categorized as either academic, clinical, or personal/social (Pulido-Martos et al., 2011) and include challenges related to school-life balance, time management, finances, isolation, feeling unprepared for clinical practice, and feeling incompetent completing clinical skills (Montes-Berges & Augusto, 2007). Above and beyond these anticipated stressors and known risks, the COVID-19 pandemic has brought to light the

importance of addressing burnout and promoting well-being for healthcare professionals, which extends into learners in these disciplines. In their landmark report, *The Future of Nursing 2020-2030: Charting a Path to Achieve Health Equity,* the National Academies of Sciences, Engineering, and Medicine (NASEM) honed in on the need to promote well-being across the nursing continuum, specifically stating in one of their nine recommendations:

> Recommendation 3: By 2021, nursing education programs, employers, nursing leaders, licensing boards, and nursing organizations should initiate the implementation of structures, systems, and evidence-based interventions to promote nurses' health and well-being, especially as they take on new roles to advance health equity. (NASEM, 2021, p. 362)

Similarly, the AACN (2021a) captures the importance of this focus in Domain 10 of *The Essentials: "*Participation in activities and self-reflection that fosters personal health, resilience, and well-being; contributes to lifelong learning; and supports the acquisition of nursing expertise and the assertion of leadership" (p. 56). Building on Maslow's Hierarchy of Needs, in her bestselling book *Atlas of the Heart: Mapping Meaningful Connection and the Language of Human Experience*, Dr. Brené Brown (2021) writes "…finding a sense of belonging in close social relationships and with our community is essential to well-being. What makes belonging essential for us is the fact that we are a social species. We can't survive without one another" (p. 154). Therefore, there appears to be evidence that belongingness and well-being are inextricably connected and efforts to foster these important feelings should be prioritized. Lacking in the current literature is a synthesis of findings resulting in tangible, actionable interventions to promote nursing students' feelings of belongingness and upward progression through the Ascent to Competence framework. Identification of evidence-based factors and interventions that foster

belongingness and can be influenced by clinical sites, nursing schools, and students is greatly needed. This body of work aims to begin this process.

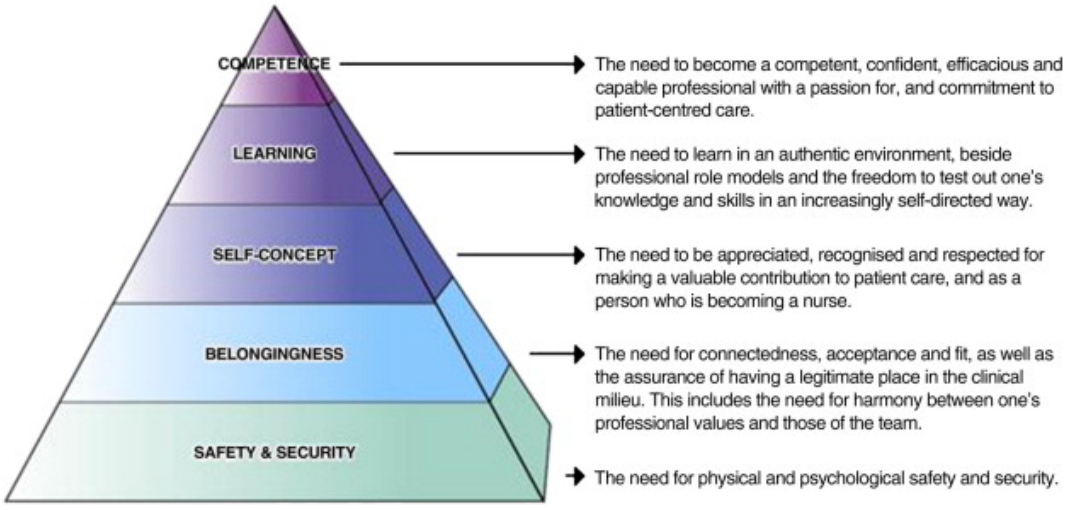
Theoretical Foundation

Levett-Jones and Lathlean's (2009a) Ascent to Competence conceptual framework (Figure 1.1) is the only conceptual framework in the literature addressing belongingness in undergraduate nursing students in the CLE to date. As an overarching perspective of the framework and key to the concept of belongingness, Levett-Jones & Lathlean (2009a) note:

> Competence is not developed serendipitously, but requires personal commitment and active involvement of students; explicit support, guidance, and careful attention of academic and clinical staff; clinical environments that are receptive and welcoming of students; and organizational and regulatory policies and processes that facilitate the process. (p. 2872-2873)

Figure 1.1

Ascent to Competence Conceptual Framework



Note. From Levett-Jones & Lathlean (2009a)

Each of the five subordinate themes in the Ascent to Competence framework is a unique concept with its own primary motivation. The first level of the framework, safety and security, is described as the need for physical and psychological safety and security with a primary motivation of meeting basic needs for survival. Key themes to this level include anxiety, which is noted to be a barrier to progress related to the fear of the unknown and moderated by self-efficacy and resilience; the importance of a planned orientation to surroundings, key personnel, and basic routines to show readiness and receptiveness to students; settling in over a period of two to four weeks; and threats to psychological and emotional safety particularly around horizontal violence. Recommendations for practice to ensure safety and security needs are met include orientation, examination of the duration and structure of clinical experiences, and evaluation and mitigation of workplace violence (Levett-Jones & Lathlean, 2009a). These interventions are critical to establishing a foundation that subsequently fosters belongingness.

Level 2 of the Ascent to Competence framework is the concept of belongingness with a primary motivation focused on interpersonal relationships and becoming an integral, legitimate part of the team. Within this framework, the authors explain that when students do not feel as if they belong, they are preoccupied with fitting in and unable to focus on meeting learning objectives. Levett-Jones and Lathlean (2009a) note that feelings of belongingness are determined largely by students' motivation, participation, and satisfaction from the clinical experience. Key themes to belongingness as part of the Ascent to Competence framework include values dissonance, where students experience alienation, disillusionment, and emotional disengagement if their personal and professional values are unaligned with those in their clinical experiences; mentorship with preceptors, which has the single most influence on students' sense of and experiences with belongingness; the role of nursing leadership in promoting a welcome environment; working hard for acceptance, described as students feeling 'emotionally

blackmailed' into striving for acceptance within the team and alienation if they are not accepted, which can result in a range of negative experiences including isolation, decreased motivation, disempowerment, anxiety, and stress; and an overarching sentiment of 'don't rock the boat,' meaning students' need to belong and feel accepted overpowers students' attempts to provide quality care and achieve learning objectives. These critical themes emphasize the importance of belongingness, particularly the acclimation period students undergo with each new clinical experience and the specific efforts that can and should be made by members of the CLE to foster feelings of acceptance (Levett-Jones & Lathlean, 2009a).

Level 3 of the Ascent to Competence framework is the concept of self-concept with the primary motivation of recognition and respect for nursing students' impact on patient care and the overall team. The overarching theme of this level is 'just a nuisance,' whereby students exhibit a poor self-concept and long for acknowledgement of the value they bring to clinical experiences. The authors note that a poor self-concept is often a consequence of decreased or missing feelings of belongingness and results in guarded, timid, and self-conscious behaviors in nursing students. To combat these feelings, the authors recommend students receive progressive independence, acknowledgement and recognition, and efforts are made to link self-concept and performance (Levett-Jones & Lathlean, 2009a). Without a positive self-concept, students are unable to progress through the Ascent to Competence.

Level 4 of the Ascent to Competence framework is the concept of learning, with a primary motivation of attainment of clinical knowledge and skills. Key themes for this level are 1) motivation to learn that occurs when students feel accepted, secure, and recognized for their contributions and 2) self-directed learning, which results when students have self-efficacy and feelings of belonging that promote confidence and empowerment. The authors specifically note

that anxiety resulting from a decreased sense of belonging causes short-term impairment in cognition and a reduction in intelligent thoughts (Levett-Jones & Lathlean, 2009a).

Level 5, the peak of the Ascent to Competence framework, is the concept of competence where students are able to practice professionally in a wide range of contexts. This is considered the ultimate outcome of undergraduate programs of nursing as students graduate and enter professional practice. While competence is considered situational and context-specific, Levett-Jones and Lathlean (2009a) note that it is critical for nursing programs to integrate strategies that aim to foster belongingness throughout each step of the Ascent to Competence and without such focus, students may be less prepared to transition to practice.

According to the Ascent to Competence framework, levels 3 (self-concept), 4 (learning), and 5 (competence) cannot be attained until Level 1 (safety and security) and level 2 (belongingness) needs are met. Therefore, this framework outlines the critical need for nursing programs to foster belongingness in order for students to achieve learning outcomes and ultimately a level of competency appropriate for entry into practice. The majority of nursing programs' accreditation requirements focus on outcomes related to levels 4 and 5 of the Ascent to Competence framework, which assumes that levels 1-3 have been met. Likewise, there is extensive literature focused on self-concept/self-efficacy, learning, and competence, but according to the Ascent to Competence framework, without belongingness those levels cannot be successfully reached. Focusing on research specific to belongingness and associated interventions has the potential to close the gap between safety and security and the remaining Ascent to Competence levels. This dissertation study aims to begin this important work.

Overview of Important Literature

In their seminal work on belongingness, Levett-Jones and colleagues have contributed an operational definition (Levett-Jones & Lathlean, 2008), critique of the concept (Levett-Jones et

al., 2007a), measurement scale (Levett-Jones et al., 2009a), and numerous insights on the influence of the concept on nursing students' experiences (Levett-Jones & Lathlean, 2009b; Levett-Jones et al., 2008; Levett-Jones et al., 2009b; Levett-Jones et al., 2007b). Initial literature searches on belongingness specific to undergraduate nursing students in the CLE revealed many works that were qualitative or mixed methods in approach, limited to a specific subset of the student population, and/or presented findings from relatively small sample sizes. Therefore, a scoping review was undertaken to synthesize the current literature and is presented in Chapter II. The population of interest was limited to undergraduate nursing students, defined as learners who are enrolled in a pre-licensure nursing program. The setting was limited to the CLE, which is defined as the location in which clinical experiences take place, which includes the physical space, psychosocial and interaction factors, the organizational culture, and teaching and learning components (Flott & Linden, 2015). Key areas identified in the scoping review include educational and personal outcomes of belongingness and alienation, contributing factors to belongingness, interventions to foster belongingness, and measurement of belongingness in undergraduate nursing students in the CLE (Singer et al., 2022).

Outcomes of Belongingness and Alienation

Across the literature, positive outcomes from feeling a sense of belongingness in the CLE can be categorized as either educational or personal (Singer et al., 2022). Educational outcomes include increased motivation to learn, self-directed learning, confidence to ask questions, and successful attainment of learning outcomes (Singer et al., 2022). Personal outcomes include decreased anxiety; increased meaningful participation; increased satisfaction with clinical experiences; professional socialization/nurse identity formation; increased confidence, self-esteem, and self-efficacy; and feeling valued (Singer et al., 2022). The antithesis to belongingness is alienation, which can result in negative outcomes in undergraduate nursing

students including confusion over the nurse role, adoption of unprofessional or poor practices as a means of attempting to "fit in,", decreased motivation to learn, and increased anxiety (Singer et al., 2022).

Contributing Factors to Belongingness

Researchers have identified a range of key factors that impact nursing students' sense of belongingness in the CLE which can be grouped into three categories: CLE factors, relationships and interpersonal factors, and student experience factors (Singer et al., 2022). CLE factors include a flexible, welcoming CLE and strong, welcoming clinical leadership (Singer et al., 2022). Relationships and interpersonal factors include collaboration between the CLE, schools, and students; staff-student relationships; instructor-student relationships; attitudes and behaviors of nursing staff; and attitudes of other members of the interprofessional team (Singer et al., 2022). Student experience factors include the issue of values dissonance, legitimization of the student role, and the need for shared expectations by role (Singer et al., 2022).

Interventions to Foster Belongingness

Many different interventions have been identified via qualitative inquiry to improve students' sense of belongingness. Commonalities in these recommendations across the literature can be grouped into four distinct areas (Singer et al., 2022). The first recommendation, preceptor role development, includes mentorship, feedback, and role modeling (Singer et al., 2022). Second, orientation experiences are recommended for both preceptors and students (Singer et al., 2022). Third, proactive student education beyond didactic and clinical content should include communication and "soft skills" training, preparation for the complexity and inherent challenges of the CLE, and peer support and preparation by more senior classmates (Singer et al., 2022). Lastly, clinical format optimization should include examination of duration/length of rotations and consistency in clinical sites, preceptors/mentors, and students in clinical groups (Singer et

al., 2022). Other interventions that fall outside these categories include use of social media modalities including instant messaging and initiatives to promote and value diversity of students (Singer et al., 2022).

Measurement of Belongingness

Across the literature assessing belongingness of nursing students in the CLE, three instruments to measure the concept are referenced: the Belongingness Scale – Clinical Placement Experience (BES-CPE), the Ascent to Competence Scale, and the Need to Belong Scale (Singer et al., 2022). Extracted from a subscale of Somers' (1999) Belongingness Scale, the BES-CPE (Levett-Jones et al., 2009a) is a 34-item Likert-scale questionnaire that is frequently utilized to assess belongingness in this population and setting. It assesses feelings, cognition, and behaviors surrounding the major components of belongingness: esteem, efficacy, and connectedness (Levett-Jones et al., 2009a). The BES-CPE has been successfully translated into Persian, Japanese, and Korean and utilized across the globe with consistent validity and reliability (Singer et al., 2022). It has also been used to compare levels of belongingness to perceived stress, workplace satisfaction, and clinical self-efficacy in undergraduate nursing students in the CLE (Singer et al., 2022).

Outside of the specific population and context of the scoping review, it is noted that despite numerous attempts to measure general belongingness in a range of populations and settings, there is no gold-standard instrument used across the literature. Allen et al. (2021) note one of the foremost challenges in measuring the concept of belongingness is variation in whether it is considered a trait or state measure. This lack of consistency has contributed to challenges in generalizing the research findings related to the concept of belongingness.

Relationships Between Manuscripts

The three manuscripts of this dissertation will provide an overarching perspective of the current state of belongingness in undergraduate nursing students in the CLE and solidify the foundation for future inquiry. Manuscript #1, titled *Belongingness in Undergraduate/Pre-Licensure Nursing Students in the Clinical Learning Environment: A Scoping Review*, authored by Diana Singer, Alysha Sapp, and Dr. Kathy Baker, and published in *Nurse Education in Practice* in August of 2022, explores and maps the current literature on belongingness of undergraduate nursing students in the CLE. An identified gap that arose from the scoping review was the lack of a psychometrically sound measurement tool specific to nursing students in the United States. Therefore, Manuscript #2, titled *Adaptation and Preliminary Validation of the U.S. Version of the Belongingness Scale – Clinical Placement Experience: A Pilot Study,* authored by Diana Singer, Dr. Danielle Walker, and Dr. Yan Zhang, and published in *Teaching and Learning in Nursing* in January 2023, aimed to close this gap and presents a psychometrically sound scale to measure belongingness in U.S. undergraduate nursing students.

The findings from the scoping review were extracted to develop a categorized list of Modifiable Clinical Setting Factors (MCSFs), specifically factors or interventions that could potentially impact nursing students' feelings of belongingness in the CLE. A tool was developed to assess undergraduate nursing students' frequencies of experiences with and perceived value of MCSFs. In addition to assessing demographics and program/clinical structure factors, the MCSF assessment was paired with the validated U.S. Version of the BES-CPE in the third and final manuscript, entitled *Modifiable Factors Contributing to Belongingness of Undergraduate Nursing Students in the Clinical Learning Environment: An Exploratory Study,* authored by Diana Singer, Dr. Yan Zhang, Dr. Kathy Baker, and Dr. Danielle Walker.

Study Purpose, Research Questions, and Hypothesis

The purpose of this dissertation study is to assess demographic characteristics, program/clinical structure factors, and MCSFs that impact and predict feelings of belongingness in U.S. undergraduate nursing students in the CLE.

Research Questions

The research questions this study aims to answer are:

1. What demographic factors impact levels of belongingness in U.S. undergraduate nursing students in the CLE?
2. What program/clinical structure factors impact levels of belongingness in U.S. undergraduate nursing students in the CLE?
3. What MCSFs predict higher levels of belongingness in U.S. undergraduate nursing students in the CLE?

Hypothesis

It was hypothesized that undergraduate nursing students whose programs and clinical courses promote positive student experiences would have higher levels of belongingness. Specifically, this directional hypothesis predicted that students who are enrolled in programs structured to encourage positive student experiences in the CLE and undergo clinical experiences with integrated MCSFs that foster belongingness would have higher scores on the U.S. version of the BES-CPE instrument. The literature on belongingness in this population and context supported these hypotheses that nursing students experience increased feelings of belongingness when they are welcomed into the CLE (Levett-Jones & Lathlean, 2008; McInnes et al., 2015), receive orientation (Brady et al., 2019; Manokore et al., 2019), develop positive relationships through their clinical experiences (Levett-Jones & Lathlean, 2009a; McCoy et al., 2013; McInnes et al., 2015), feel valued in the CLE (Jack et al., 2018, Levett-Jones & Lathlean,

2009b), have optimized durations and lengths of clinical rotations (Gilbert & Brown, 2015; Teskereci & Boz, 2019), and have consistency in clinical sites, mentors, and groups (Brady et al., 2019; Clarke et al., 2020; Levett-Jones et al., 2007a).

Together, these three manuscripts form a body of work that collectively informs our understanding of belongingness in undergraduate nursing students in the CLE. Rooted in global literature with a strong theoretical foundation, this work provides timely and relevant contributions to the fields of nursing pedagogy and practice. In addition, it identifies opportunities for future research aimed at the development of interventions that successfully foster belongingness in undergraduate nursing students, with opportunity to expand to learners from other healthcare disciplines that comprise the interprofessional team.

CHAPTER II: BELONGINGNESS IN UNDERGRADUATE NURSING STUDENTS IN THE CLINICAL LEARNING ENVIRONMENT: A SCOPING REVIEW

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Abstract

Aim: The aim of this scoping review was to map the literature investigating belongingness in undergraduate/pre-licensure nursing students in the clinical learning environment.

Background: The concept of belongingness, which encompasses feelings of acceptance, connection, and value alignment, has been tied to positive outcomes in undergraduate/pre-licensure nursing students including increased learning, participation, confidence, and professional socialization. It is critical for educators and clinical staff to foster a sense of belongingness for nursing students to promote positive and effective clinical learning experiences.

Design: The scoping review strategy established by the Joanna Briggs Institute was followed. The databases searched were CINAHL Complete (EBSCO), Education Source, Medline Complete (EBSCO), APA PsycINFO (EBSCO), and Epistemonikos.

Methods: Following a search of the five databases, studies were screened by title and abstract by two independent reviewers for inclusion. Data including population, concept, context, methods, and key findings relevant to the review question were extracted and synthesized using an instrument developed by the reviewers.

Results: A total of 47 articles with varying methodologies were critically appraised. Three overarching focus areas emerged: outcomes resulting from feelings of belongingness versus alienation, factors that contribute to a sense of belongingness in the clinical learning environment, and interventions to promote a sense of belongingness while students are immersed in the clinical learning environment.

Conclusions: Belongingness in the clinical learning environment is an important concept that lends itself to positive learning experiences and increased satisfaction of undergraduate/pre-licensure nursing students. Environmental, relational, and experiential factors can be maximized

and specific interventions employed to promote belongingness. This review identifies a lack of evidence on measured interventional effectiveness at the student, school, and clinical unit level. Future research to address these gaps is recommended.

Tweetable abstract: Scoping review suggests environmental, relational, and experiential factors promote positive outcomes in belongingness of nursing students.

Keywords: Belonging, belongingness, clinical experience, clinical learning environment, pre-licensure nursing students, undergraduate nursing students

Introduction

Nursing education is inherently stressful for students, with three main categories of stressors: academic, clinical, and personal/social (Pulido-Martos et al., 2011). Clinical stressors include work, fear of making mistakes, negative responses to the death or suffering of patients, and relationships with other healthcare team members (Pulido-Martos et al., 2011). In a retrospective study, Roos et al. (2016) found attrition rates in undergraduate/pre-licensure nursing students can be upwards of 50 %, with direct causes being academic, financial, and health reasons, but also the "failure to cope with the demands of the clinical environment" (p. 1). Likewise, in an integrative review, De Leon (2018) found clinical placement issues as a theme contributing to attrition among undergraduate/pre-licensure nursing students, specifically related to students' challenges in interacting with patients, family, and nursing and other staff. Undoubtedly, clinical experiences are a cornerstone of nursing education and their impact on student performance and matriculation cannot be understated.

There are numerous ways to promote a constructive clinical learning experience for nursing students, including fostering a positive atmosphere, showing appreciation for students, providing supportive mentorship, and delivering high quality patient care (Papp et al., 2003). When surveyed, students stated relationships, structure, and knowledge and experience are the most important contributors to a quality clinical experience (Courtney-Pratt et al., 2012). Underpinning these positive experiences was the feeling of a sense of belonging, that the student was "part of the team" (Albloushi et al., 2019; Levett-Jones et al., 2007b; Kern et al., 2014; Manninen et al., 2013; McCoy et al., 2013; McLeod et al., 2021; Thomas & Westwood, 2016) and "felt like a real nurse" (Albloushi et al., 2019; Ashktorab et al., 2017; Manninen et al., 2013; Teskereci & Boz, 2019). Clearly, fostering a sense of belongingness in nursing students is of critical importance.

Background

The overarching concept of belongingness was first identified by Abraham Maslow (1943) in his development of a Hierarchy of Needs that contribute to human motivation and personality. In this structure, belongingness and love needs follow after physiological and safety needs and before esteem and self-actualization needs in the hierarchy of importance for survival of and power to motivate individuals (Maslow, 1943). Baumeister and Leary (1995) further elucidated the concept and described the "need to belong" and feel accepted, recognized, valued, and appreciated as a basic human requirement. Likewise, they emphasized humans are "naturally driven toward establishing and sustaining belongingness" and "the need to belong should… be found in some degree to all humans in all cultures" (p. 499).

This concept of belongingness, while not new, is critical to nursing students feeling motivated to learn (Levett-Jones & Lathlean, 2009a), actively participating in clinical care (Levett-Jones & Lathlean, 2009a), developing confidence in their skills (Clarke et al., 2020), and forming a nursing identity (Albloushi et al., 2019; Ashktorab et al, 2017; Manninen et al., 2013; Teskereci & Boz, 2019). Given the limited in-person inpatient clinical experiences nursing students may have in their educational programs, it is critical these encounters are of utmost value. A vital component of promoting positive, effective clinical experiences is fostering a sense of belonging in students.

While there is literature describing belongingness in the fields of higher education, psychology, and other social sciences, it was not until 2007 that Levett-Jones and colleagues critiqued the concept and its associated implications for nursing education. Several studies with varying methodologies have since been published further delving into the concept and exploring assessment of belongingness, potentiating factors, and barriers to its existence, but have yet to be synthesized. A preliminary search was conducted and no current or underway scoping reviews or

systematic reviews specific to undergraduate/pre-licensure nursing students' feelings of belongingness in the clinical learning environment were identified. Therefore, a scoping review was proposed to identify and map the current extent and types of research addressing this concept, population, and context.

Review Question

Prior to searching the literature, the review question and subquestions were established: What is known about belongingness in the clinical learning environment for undergraduate/pre-licensure nursing students? How is belongingness assessed and/or measured in this population? What strategies/interventions are utilized to impact belongingness in this population?

Methods

This scoping review is intended to highlight areas rich in research potential and inform future studies by providing a deep understanding of the concept of belongingness. In addition, the review includes recommendations on measuring the phenomenon to guide in the development of targeted interventions to maintain, improve, and evaluate the belongingness of undergraduate/pre-licensure nursing students in the clinical learning environment. This review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews (Aromataris and Munn, 2020).

Inclusion and Exclusion Criteria

This review considered global studies that included undergraduate nursing students participating in clinical experiences within a formal pre-licensure program. Interprofessional studies involving disciplines other than nursing were excluded, as well as studies assessing belongingness in graduate nursing students, practicing nurses, and/or faculty members. This review considered studies that explored belongingness of nursing students within the clinical learning environment. Studies examining belongingness outside the clinical learning

environment were excluded.

Studies were reviewed for the definition, measurement of, and interventions related to undergraduate/pre-licensure nursing students' feelings of belongingness. All studies meeting inclusion criteria were included regardless of cultural factors, geographic location, or race/ethnicity/gender identification of learners. This scoping review considered quantitative, qualitative, and mixed methods study designs for inclusion. In addition, literature reviews and opinion papers were considered for inclusion.

Search Strategy

The search strategy aimed to locate both published and unpublished primary studies, reviews, and opinion papers. An initial limited search of Medline Complete and CINAHL was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles and the index terms used to describe the articles were used to develop a full search strategy. The search took place in March 2021 with the final search strategy outlined in Table 2.1. The reference lists of articles selected for full text review included in the review were screened for additional papers.

Table 2.1

Final Search Strategy

Relation to inclusion criteria	**Search terms used**	**Expanded terms**
Concept	Belonging*	Belong, belongingness
Population	AND Student* OR Pre-licensure* OR Undergraduate*	Student Pre-licensure Undergraduate
Context	AND nurs*	Nurse, nursing
Limited to the English language; no date limits.		

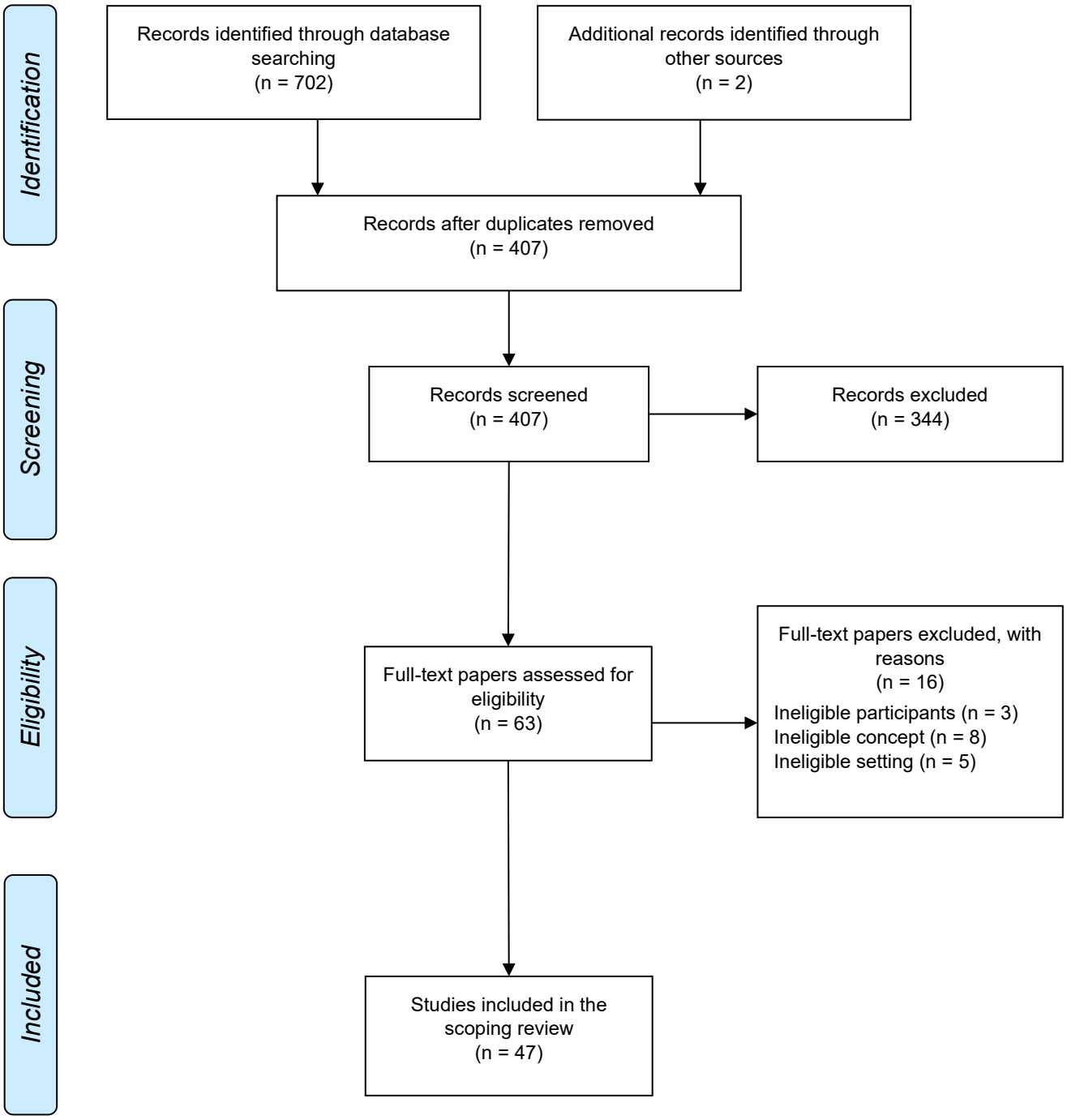
Only articles published in English were included due to the authors' inability to translate from other languages. No date limits were set; studies published to present were included. The databases searched included CINAHL Complete (EBSCO), Education Source, Medline Complete (EBSCO), and APA PsycINFO (EBSCO). Epistemonikos was searched for unpublished studies and gray literature.

Study Selection

Following the search, all identified records were collated and uploaded into EndNote X9 (Clarivate Analytics, PA, USA) and duplicates removed. Following a pilot test, titles and abstracts were screened by two independent reviewers for assessment against the inclusion criteria for the review. Full-text papers that did not meet the inclusion criteria were excluded. Any disagreements that arose between the reviewers were resolved through discussion. The search strategy initially resulted in 702 articles which was ultimately reduced to 47 articles after screening (Figure 2.1). The primary reasons for exclusion were ineligible participants, setting, or concept.

Figure 2.1

PRISMA Flowchart of Search Results and Study Selection



Data Extraction

Data were extracted from papers included in the scoping review and critically appraised by two independent reviewers using a tool developed by the reviewers (Table 2.2). Specific data points extracted included: country, sample, purpose, methodology, key findings/results, scale utilization/measurement of belongingness, and strategies/interventions employed relevant to the review question (Table 2.2).

Table 2.2

Data Extraction Table

Author(s)	Year	Country	Sample	Purpose	Methodology	Key findings/results	Scale utilization/ measurement	Strategies/ interventions
Albloushi, M., Ferguson, L., Stamler, L., Bassendowski, S., Hellsten, L., & Kent-Wilkinson, A.	2019	Saudi Arabia	Fourth-year nursing students (n=16)	Learn more about the meaning of sense of belonging, the consequences of sense of belonging, and the factors that affect Saudi female nursing students' sense of belonging in clinical settings.	Qualitative: Semi-structured interviews	Participation in patient care, a welcoming environment, English language skills, the nationality of nursing staff, and acceptance by nursing staff, patients, and other health care professionals are some of the factors that affect Saudi female nursing students' sense of belonging in clinical settings.	N/A	N/A
Ashktorab, T., Hasanvand, S., Seyedfatemi, N., Salmani, N., &	2017	Iran	Junior and senior nursing students (n=12)	Studying the experiences of belongingness among nursing students in clinical settings.	Qualitative: Semi-structured interviews	Identification of five themes: moving in the direction of evolvement, attention to human and ethical values, professional integrity, achieving inner satisfaction, and the	N/A	N/A

Hosseini, S. V.						environment conformity with the learner.		
Ashktorab, T., Hasanvand, S., Seyedfatemi, N., Zayeri, F., Levett-Jones, T., & Pournia, Y.	2015	Iran	Third- and fourth-year nursing students (n=300)	Translate the BES-CPE into Persian, evaluate psychometric properties, and measure belongingness experiences of Iranian nursing students.	Quantitative: Survey	Following confirmatory factor analysis, the Persian version of the BES-CPE demonstrated strong psychometric properties with strong validity and reliability, indicating its utility and appropriateness when measuring Iranian nursing students' belongingness experiences.	BES-CPE	N/A
Astley-Cooper, J.	2012	United Kingdom	Pre-registration student nurses (n=10)	Explore through the lens of the student the phenomenon of clinical placement in relation to learning and the construction of their identity as a nurse, to discover the common patterns that arise to enable a greater understanding	Qualitative: Phenomenological unstructured interviews	Four themes emerged: being on the outside, learning on the margins, identity crisis, and human buffers.	N/A	N/A

				of this experience.				
Borrott, N., Day, G. E., Sedgwick, M., & Levett-Jones, T.	2016	Australia, Canada	Third-year nursing students (n=468)	Explore the relationship between, and factors that may influence final semester nursing students' need to belong, sense of belonging and workplace satisfaction while on clinical placements.	Mixed Methods, quantitative phase: Survey	Participants wanted to have someone to turn to, and to be accepted. Participants were usually comfortable to ask for and accept help but many felt discriminated against during clinical placements. Nursing students' satisfied sense of belonging influenced their workplace satisfaction while on clinical placements.	BES- CPE. Need to Belong Scale, Nursing Workplace Satisfaction Questionnaire	N/A
Brady, M., Price, J., Bolland, R., & Finnerty, G.	2019	United Kingdom	First year nursing students (n=21); professional nursing staff (n=9)	Examine first year nursing students' anxieties before their first practice placement and their support needs during that time.	Mixed methods Quantitative: Survey Qualitative: Focus groups	Five themes emerged: excitement, anxiety, concerns, ownership, and use of jargon. Nine resources to help prepare for rotations and eight support mechanisms while on placement were identified by students.	N/A	Preceptor role development: Mentorship Orientation: Student Student education: Communication & soft skills

								Misc.: Peer Support & preparation Clinical format: Consistent clinical groups
Clarke, J., van der Riet, P., & Bowen, L.	2020	Australia	N/A	Identify, and critically review student, nurse clinician and clinical facilitator/educator experiences of collaborative clinical placement models in acute hospitals.	Review: Integrative	Collaborative clinical placement programs have a positive impact on the student experience. A majority of studies reported that sense of belongingness and acceptance was identified as a key theme because it was perceived by participants as an important factor in combination with sub-themes in contributing to positive clinical placement experiences.	N/A	Clinical format: Consistent clinical sites
Courtney-Pratt, H., FitzGerald, M., Ford, K., Marsden, K., &	2012	Australia	Second-year undergraduate nursing students (n=163)	Describe the quality of clinical placements provided to second year undergraduate students in an	Mixed methods Quantitative: Survey Qualitative: Free text	Survey results revealed high quality placement experiences across four themes: welcome and belonging, teaching and learning, feedback, and confidence and competence. Three	Quality Clinical Placement Inventory	N/A

Marlow, A.				acute care hospital.		qualitative themes emerged: relationships, structure, and knowledge and experience.		
Dunbar, H., & Carter, B.	2017	Australia	N/A	Editorial outlining the importance of fostering student nurses' affective bonds and sense of belonging.	Opinion	Creating learning environments which foster the sense of belongingness is not an optional extra, it is fundamental to facilitating student nurses' engagement in their learning.	N/A	N/A
Ford, K., Courtney-Pratt, H., Marlow, A., Cooper, J., Williams, D., & Mason, R.	2016	Australia	Undergraduate nursing students in clinical placements (n=1121)	Evaluate, understand, and improve the quality of clinical placements from the perspectives of undergraduate nursing students and their supervising ward nurses.	Mixed methods: Quantitative: Survey Qualitative: Free text	Meaningful learning occurs within an environment that facilitates mutual respect and shared expectations. A sense of belonging affected the level of questioning and information seeking that students felt they could engage in, which increases (or decreased) their learning experiences.	Tool assessing welcome and belonging, competence and confidence: reflections on learning, support for learning.	Student education: Complexity & inherent challenges
Gilbert, J., & Brown, L.	2015	Australia	N/A	Identify some of the issues related to the nursing students'	Review	The literature has identified some examples of where students have felt a sense of belonging to the clinical	N/A	Preceptor role development: Feedback

				experience of belonging on clinical placements from current Australian literature.		environment and others where the situation has been less than encouraging.		Preceptor role development: Role modeling Clinical format: Duration/length
Grobecker, P.	2016	United States	Baccalaureate nursing students who have completed at least one clinical experience (n=1296)	Describe the level of a sense of belonging and perceived stress among baccalaureate nursing students in their clinical placements.	Quantitative: Survey	Statistically significant low inverse relationship between a sense of belonging and perceived stress. Results supported the concept of a sense of belonging as a fundamental human need, having a positive influence and impact on learning, motivation, and confidence.	BES-CPE, Perceived Stress Scale	N/A
Honda, K., Levett-Jones, T., Stone, T., & Maguire, J.	2016	Australia, Japan	Third- and fourth-year nursing students (n=92)	Measure the extent to which Japanese nursing students experience a sense of belonging in clinical placements and explore factors	Mixed methods: Quantitative: Survey Qualitative: Semi-structured interviews	Supportive and welcoming clinical environments facilitated participants' belongingness and motivation to learn. Belongingness scores were lower than other studies, potentially due to Japanese cultural values.	BES-CPE	Orientation: Preceptor Student education: Communication & soft skills

				that impact on and are consequences of that experience.				
Jack, K., Hamshire, C., Harris, W. E., Langan, M., Barrett, N., & Wibberley, C.	2018	United Kingdom	Student nurses (n=1425)	Explore the perceived unfairness by student nurses during clinical placements in healthcare settings.	Mixed methods, qualitative phase: free response surveys and interviews	Student nurses want to have feelings of belongingness in the clinical area and value enthusiasm and teaching from mentors.	N/A	Preceptor role development: Mentorship
Kern, A., Montgomery, P., Mossey, S., & Bailey, P.	2014	Canada	Third- and fourth-year nursing students (n=22)	Describe baccalaureate nursing students' perception of how their belongingness evolves in clinical learning environments through partnerships with their clinical educator and unit-based nurses.	Qualitative: Semi-structured and one-to-one interviews	Students described belongingness as possible when their demonstrated competencies were validated by others who had the capacity to optimize their professional socialization and development within the clinical setting.	N/A	Preceptor role development: Feedback
Kim, Miyoung	2012	South Korea	Senior nursing	Determine the reliability and	Quantitative: Survey	Following psychometric evaluation, the modified	BES-CPE	N/A

& Jung, Dukyoo			students (n=335)	validity of the Korean version of the Belongingness Scale-Clinical Placement Experience.		Korean version of the BS-CPE is applicable for use with university undergraduates to measure belongingness in clinical practice.		
King, C.	2017	Australia	Subject matter experts (n=18)	Describe the impending development and validation of a toolkit for nurses to create the experience of belongingness with a team approach, for student nurses undertaking a clinical placement.	Mixed methods, qualitative phase: Delphi survey	Development of practical strategies in the form of a toolkit which will assist nurses to actively engage in managing the clinical learning environment in a positive manner. Toolkit is a suite of interactive strategies, resources, and processes designed for and around key activities such as orientation, legitimization of the student role, and informal social inclusion strategies that will guide nurses in providing an effective, sustainable, and inclusive environment both now and into the future.	N/A	Orientation: Preceptor
Lekalakala-Mokgele, E., & Caka, E. M.	2015	South Africa	Pupil enrolled nurses undergoing a two-year	Describe pupil enrolled nurses' experiences of facilitative and obstructive factors in	Qualitative: Focus Groups	Identification of facilitating factors (self-directed learning, acceptance by staff) and obstructive factors: non-acceptance by staff,	N/A	N/A

			nursing program (n=30)	military and public health clinical learning settings.		wearing military uniform in public health settings, workplace violence. Students feel that they belong when the staff shows interest in them and welcomes them.		
Levett-Jones, T., & Lathlean, J.	2008	Australia, United Kingdom	Nursing students (n=18)	To identify the factors that impact nursing students' experience of belongingness in the clinical learning environment and the consequences of that experience.	Mixed methods, qualitative phase: Semi-structured interviews	Four themes emerged specific to belongingness and learning: motivation to learn (feeling accepted was key to being motivated while alienation resulted in a lack of motivation to learn); self-directed learning (feeling comfortable to negotiate for learning needs in an autonomous way); anxiety - a barrier to learning (baseline stress of the experience is reduced when nurses are welcoming and supportive); confidence to ask questions (students need to feel like they "fit in" to feel comfortable asking questions).	N/A	Student education: Complexity & inherent challenges

Levett-Jones, T., & Lathlean, J.	2009a	Australia, England	Pre-registration nursing students (n=18)	Present qualitative findings from a study that explored nursing students' experiences of belongingness when undertaking clinical experience. Aim to locate the professional and practical implications of the research within an Ascent to Competence conceptual framework.	Mixed methods, qualitative phase: Semi-structured interviews	The framework demonstrates that students progress to a stage where attainment of competence is possible only after their previous needs for safety and security, belongingness, healthy self-concept, and learning have been met.	N/A	Preceptor role development: Mentorship Clinical format: Duration/length
Levett-Jones, T., & Lathlean, J.	2009 b	Australia, United Kingdom	Third year nursing students (n=18)	Present selected findings that focus on the relationship between belongingness, conformity, and compliance.	Mixed methods; qualitative phase: Case Study	Three themes emerged: don't rock the boat; getting the RNs offside (students do not feel like they could tell nurses when they are doing something unsafe); speaking up.	N/A	Student education: Communication & soft skills Student education: Complexity &

								inherent challenges
Levett-Jones, T., Lathlean, J., Higgins, I., & McMillan, M.	2008	Australia, United Kingdom	Third year undergraduate nursing students (n=362)	Determine the manner in which the experience of belongingness is influenced by the duration of students' clinical placements.	Mixed methods: Quantitative: Survey Qualitative: Semi-structured interviews	Students' self-concept, degree of self-efficacy, confidence, resilience, willingness to question or conform to poor practice, career decisions, capacity, and motivation to learn were all impacted by the extent to which they experienced belongingness. The duration and structure of clinical placements is one of the most important factors affecting students' belongingness.	BES-CPE	Clinical format: Duration/length Clinical format: Consistent preceptors/mentors
Levett-Jones, T., Lathlean, J., Higgins, I., & McMillan, M.	2009a	Australia, England	Third-year nursing students (n=362)	Development and psychometric testing of the Belongingness Scale – Clinical Placement Experience, an instrument designed to measure the extent to which nursing students experience belongingness	Quantitative: Survey	Principal component analysis revealed a three-component structure: Esteem, Connectedness, and Efficacy with high internal consistency. The scale was determined overall reliable and valid and is capable of differentiating between respondents and cohorts.	BES-CPE	N/A

				related to their clinical placements.				
Levett-Jones, T., Lathlean, J., Higgins, I., & McMillan, M.	2009 b	Australia, United Kingdom	Third-year nursing students (n=18)	Explore the relationship between belongingness and placement experiences of pre-registration nursing students.	Qualitative: semi-structured interviews	Staff-student relationships (including receptiveness, inclusion/exclusion, legitimization of the student role, recognition and appreciation, challenge, and support) were the most important influence on students' sense of belonging and learning.	N/A	N/A
Levett-Jones, T., Lathlean, J., Maguire, J., & McMillan, M.	2007a	Australia	N/A	Explore literature and clarify concept of belongingness in nursing education.	Review: Critical literature	The potential relationships between belongingness, nursing students, and their clinical placement experiences are exemplified by excerpts taken from the nursing literature.	N/A	Clinical format: Duration/length
Levett-Jones, T., Lathlean, J., McMillan, M., & Higgins, I.	2007 b	Australia, United Kingdom	Third-year nursing students (n=18)	Measure the extent to which nursing students experience belongingness and explore students' perceptions of the factors that	Mixed methods: qualitative phase: Semi-structured interviews	A sense of belonging to the nursing team is crucial to a positive and productive learning experience. Students seek connectedness and friendly, comfortable, and cooperative working relationships with their	N/A	Preceptor role development: Mentorship Clinical format: Consistent preceptors/mentors

				impact upon and are consequences of belongingness.		nursing colleagues. They aim to find a place in the clinical environment and meaningful involvement as they learn to care for patients.		
Liljedahl, M., Björck, E., Kalén, S., Ponzer, S., & Bolander Laksov, K.	2016	Sweden	Undergraduate nursing students (n=5), supervisors (n=3), clinical leaders (n=2)	Explore the interdependence between affordances and engagement in clinical learning environments of nursing students, specifically: How are nursing students influenced in their interactions with clinical learning environments?	Qualitative: Ethnography	Three themes emerged: being aspirational in taking up the offered role (a dimension of the community of clinical learning); being overwhelmed by the responsibility of care (a dimension of the design of clinical learning); being hesitant to negotiate own values with reality (a dimension of the context of clinical learning).	N/A	N/A
Manninen, K., Henriksson, E. W., Scheja, M., & Silén, C.	2013	Sweden	First-year nursing students (n=19)	Explore in depth the first-year nursing students' experiences of learning at a clinical education ward.	Qualitative: Semi-structured interviews	The most important components in students' learning are mutual relationships and a sense of belongingness. A mutual relationship between the students and the patients is created and becomes the basis of	N/A	Clinical format: Consistent clinical sites

						students' learning. Belongingness means the students' experience of being for real a part of the team taking care of the patients.		
Manokore, V., Rosalia, G. I., Ali, F., Letersky, S., Piadu, I. O., & Palmer-Virgo, L.	2019	Canada	Diploma nursing students (n=12) and clinical instructors (n=4)	Explore practical nursing students' experiences in clinical education with regard to their sense of belongingness and examine clinical instructors' experiences in fostering a sense of belongingness to students in clinical settings.	Qualitative: Phenomenology	Students described the uniqueness of their instructors and clinical sites as important attributes to enable them to cross various "borders" as they gain access to a "belongingness" space of acceptance, respect, and competency. Productive learning experiences were achieved by students who felt supported and "granted permission" to enter the belongingness space. The instructors highlighted their perceived roles in providing scaffolding supports they thought would help students feel a sense of belonging.	N/A	Orientation: Preceptor Orientation: Student
McCoy, M. A., Levett-Jones, T., & Pitt, V.	2013	Australia	Third-year nursing students (n=88)	Development and psychometric testing of the Ascent to	Quantitative: Survey	Exploratory factor analysis resulted in a three-component structure termed "being welcomed,"	Ascent to Competence Scale	N/A

				Competence Scale, an instrument designed to measure nursing students' perceptions of the quality of their clinical placement experience.		"belongingness," and "learning and competence." The Ascent to Competence scale provides a fresh perspective on clinical placements as it allows for the relationship between belongingness, learning and competence to be explored.		
McInnes, S., Peters, K., Hardy, J., & Halcomb, E.	2015	Australia	Pre-registration nursing students (n=15)	Explore pre-registration clinical placements in Australian general practices.	Mixed methods, qualitative arm: Semi-structured interviews	Four themes emerged: knowledge of the practice nurse role; quality of the learning experience; support, belonging, and mutual respect; and employment prospects. Relationships with the supervising nurse, the model of supervision, exposure to learning experiences, and a culture of respect and acceptance were considered positive enablers.	N/A	N/A
McLeod, C., Jokwiro, Y., Gong,	2021	Australia	Undergraduate nursing and	Explore final year undergraduate nursing and	Mixed methods, qualitative	Students described CSS as a favored supervision model with students being able to take	NA	Clinical format: Consistent clinical sites

Y., Irvine, S., & Edvardsson, K.			midwifery students in the final year (n=43), clinical preceptors (n=13)	midwifery students and their preceptors' experiences of a newly introduced Clinical School Supervision (CSS) model, which was implemented to reduce a perceive disconnect between theory and practice.	phase: Open-ended surveys	advantage of support from both the academic supervisor and nursing staff in the clinical setting, a model which also supported student's sense of belonging. An overwhelming sense of belonging was embodied in the student's experience of their final placement. Associated with a positive experience was being welcomed, valued, and being part of the team and able to contribute without a sense of being a burden.		
Oosterbroek, T. A., Yonge, O. J., & Myrick, F.	2019	Canada	Nursing students (n=9), preceptors and faculty advisors (n=5)	Explore the challenges and opportunities associated with rural preceptorship by nursing students, their faculty advisors, and preceptors.	Qualitative: Participatory action	As participants described their experiences throughout the rural preceptorship placement, belongingness emerged throughout the data as a predominant theme. The experience of belonging had a significantly positive impact on student learning and overall rural preceptorship experience.	N/A	N/A

Perry, C., Henderson, A., & Grealish, L.	2018	Australia	N/A	An integrative review identified nurses' behaviors that increase student accountability for learning in clinical practice.	Review: Integrative	Four themes emerged: Belongingness associated with a genuine partnership; empowerment and increasing student self-efficacy; trust linked to increasing and staged independence; and balancing clinical and educational requirements. Behaviors of nurses significantly influence students' accountability for learning and accordingly, their ability to be adequately prepared for professional nursing practice.	N/A	Orientation: preceptor
Pimmer, C., Brühlmann, F., Odetola, T. D., Dipeolu, O., Gröhbiel, U., & Ajuwon, A. J.	2018	Nigeria	Nursing students (n=196)	Examine the use of the instant messaging platform WhatsApp by nursing students during placements and potential associations with socio-	Quantitative: Survey	Students use WhatsApp frequently and perceived it strongly enhanced their communication with other students and nurses. Use was positively associated with students' maintenance of social capital with peer students, the development of a professional identity, placement satisfaction,	Author-developed questionnaire	Misc.: Social media

				professional indicators.		reduced feelings of isolation from professional communities. Social media use was associated with learners' sense of connectedness and belongingness to a professional community.		
Pourteimour, S., Hossein, J., & Parizad, N.	2020	Iran	Third- and fourth-year nursing students (n=216)	Assess clinical self-efficacy and clinical belongingness and their relationship among nursing students.	Quantitative: Survey	Nursing students have high clinical belongingness and moderate clinical self-efficacy, and their clinical belongingness is a significant positive predictor of their clinical self-efficacy.	BES-CPE, Self-Efficacy in Clinical Performance Questionnaire	N/A
Sedgwick, M.	2013	Canada	Traditional nursing program students (n=408), second-degree nursing program students (n=47)	Compare second-degree students' sense of belonging with traditional nursing students' sense of belonging during clinical experiences.	Quantitative: Survey	Second-degree students experienced belonging to a lesser degree than did traditional nursing students during clinical placements.	BES-CPE	N/A
Sedgwick, M. G., & Kellett, P.	2015	Canada	Undergraduate nursing	Determine whether there were any	Quantitative: Survey	No statistically significant difference in total scores, esteem, or	BES-CPE	Misc.: Value diversity

			students (n=462)	differences in feelings of belongingness between male and female nursing students during clinical placement experiences.		connectedness. Statistically significantly lower scores on efficacy subscale, suggesting some men experience feelings of marginalization and discrimination.		
Sedgwick, M., Oosterbroek, T., & Ponomar, V.	2014	Canada	Undergraduate nursing students (n=461)	Identify factors that influence minority nursing students' sense of belonging during clinical experiences.	Mixed methods: Quantitative: survey Qualitative: interviews	Minority students' sense of belonging is dependent on their interactions with RNs with whom they work, clinical nursing instructors, and student peers. Positive experiences enhance students' sense of belonging, while negative experiences may severely impact their belongingness.	BES-CPE	Misc.: Value diversity
Sedgwick, M. G., & Rougeau, J.	2010	Canada	Fourth-year nursing students (n=12)	To identify events that influenced students' sense of belonging to the community of rural hospital nurses and to explore their meaning.	Qualitative: Semi-structured interviews	The clinical environment that includes everyone who interacts with the student has the potential to positively or negatively influence students' sense of belonging. Tension developed when students' expectations of	N/A	Orientation: Preceptor Orientation: Student Student education: Communicati

						their preceptor, nurses, and other professional team members did not coincide with the reality of the everyday clinical environment. Only when the differences between themselves and the registered nurses they worked with on a daily basis were minimized did the participants in this study feel as if they belonged to the community of professional nurses.		on & soft skills
Teskereci, G., & Boz, İ.	2019	Turkey	First-year nursing students (n=12)	To explore the experiences of first-year student nursing students in their initial clinical practicums.	Qualitative: Phenomenological semi-structured interviews	Four themes and nine subthemes arose from the data: conflicts between emotions and professionalism (effort to hide feelings and questioning profession and self; acting like a nurse (use of caring behaviors and in-depth understanding of nursing; growth through challenges (caregiver faculty and challenging environment; care outputs (be the cause of healing, development of	N/A	Clinical format: Duration/length

						sensitivity to others, and sense of belonging).		
Thomas, M., & Westwood, N.	2016	United Kingdom	Undergraduate nursing students (n=367)	Evaluate the hub and spoke model utilized for organization of placement and the associated student experience (views, feelings, and experiences).	Qualitative: Free text surveys and focus groups	Four themes were identified: belongingness; learning and development; student mentor relationship; and quality. The hub and spoke model was found to be beneficial and enhanced the student's experience, satisfaction, and learning, which in turn had a positive effect on practice.	N/A	Clinical format: Consistent clinical sites Clinical format: Consistent preceptors/mentors
Thomson, R., Docherty, A., & Duffy, R.	2017	United Kingdom	Final placement students (n=7)	Explore final-year nursing students' experiences of the mentoring role in their final placement.	Qualitative: Phenomenological unstructured interviews	Five themes emerged: being more independent; support; belongingness; feedback; anticipatory anxiety.	N/A	Preceptor role development: Mentorship Preceptor role development: Feedback
Towns, W., & Wink, D.	2002	United States	N/A	Explore ramifications of changing clinical groups with each rotation or keeping the same.	Opinion	Benefit of keeping group together is belongingness: allows students to feel secure in their environment, a vital contributor to educational success. Trust increases confidence levels as students learn to work together to promote	N/A	Clinical format: Consistent clinical groups

						learning in each member of the group. Friendships serve as emotional resources that aid in adapting to stress; they increase cognitive resources, allowing better problem-solving and knowledge acquisition; and they form social contexts for the development of communication, cooperation, and other group-related skills.		
Tremayne, P., & Hunt, L.	2019	United Kingdom	N/A	Explore the significance of offering a meaningful welcome to a practice placement and how this is integral to influencing a positive learning experience.	Opinion	Making both patients and students welcome is essential to establishing a rapport and a sense of belonging at a time when each can feel at their most vulnerable. This can influence their journey into something that is positive or negative.	N/A	Orientation: Preceptor Orientation: Student Preceptor role development: Feedback Clinical format: Consistent preceptor/mentors
van der Riet, P.,	2018	Australia	Third-year	Explore students'	Qualitative: Semi-	Six main themes were identified: convenience	N/A	Clinical format:

Levett-Jones, T., & Courtney-Pratt, H.			nursing students (n=14)	perceptions of a collaborative clinical placement model during their three years of undergraduate study.	structured focus groups	and camaraderie; familiarity and confidence; welcomed and wanted; belongingness and support; employment; the need for broader clinical experiences.		Consistent clinical sites
Vinales, J. J.	2015	United Kingdom	N/A	Discussion on the importance of role modelling and 'belongingness' in practice, and how mentors may influence the pre-registration student nurse while in the learning environment.	Opinion	Students will learn from role models in the learning environment, whether the learning is planned, intended, unplanned or unintended. The welcoming and inclusion of the student nurse into the new learning environment is crucial to their development. Mentors in clinical practice will have an impact on aspiring nurses from very early on. Health professionals in clinical practice are often unaware that students, and even other members of staff, might see them as role models. Mentors who lack expertise and knowledge could be seen as	N/A	Preceptor role development: Mentorship Preceptor role development: Feedback Preceptor role development: Role modeling

						contravening the Nursing and Midwifery Council's Code/ Mentors need to be aware of the importance of their role in helping students integrate into a new learning environment.		

Note. BES-CPE = Belongingness Scale – Clinical Placement Experience

Results

The 47 articles included encompassed a variety of methodological approaches including literature reviews (n = 4), quantitative studies (n = 9), qualitative studies (n = 15), mixed methods studies (n = 15), and opinion pieces (n = 4). Included studies reported outcomes from Australia (n = 21), Canada (n = 8), England (n = 2), Japan (n = 1), Iran (n = 3), Nigeria (n = 1), Saudi Arabia (n =1), South Africa (n = 1), South Korea (n = 1), Sweden (n = 2), Turkey (n = 1), the United Kingdom (n = 12) and the United States (n = 2). Nine studies utilized sites in more than one country. Across the included articles, Levett-Jones and Lathlean's (2008) definition was widely referenced and therefore is used as the operational definition for evaluation of inclusion criteria in this review:

> Belongingness is a deeply personal and contextually mediated experience that evolves in response to the degree to which an individual feels
>
> (a) secure, accepted, included, valued and respected by a defined group,
>
> (b) connected with or integral to the group, and
>
> (c) that their professional and/or personal values are in harmony with those of the group.
>
> The experience of belongingness may evolve passively in response to the actions of the group to which one aspires to belong and/or actively through the actions initiated by the individual. (p. 104)

The included studies utilized three scales to assess components of belongingness: the Belongingness Scale – Clinical Placement Experience (BES-CPE) (Levett-Jones et al., 2009a), Ascent to Competence Scale (McCoy et al., 2013), and the Need to Belong Scale (Borrott et al., 2016). The BES-CPE (Levett-Jones et al., 2009a), a 34-item questionnaire, is the most widely referenced measurement tool for this phenomenon (Ashktorab et al., 2015; Borrott et al., 2016; Grobecker, 2016; Honda et al., 2016; Kim & Jung, 2012; Levett-Jones et al., 2008; Pourteimour

et al., 2020; Sedgwick, 2013; Sedgwick & Kellett, 2015; Sedgwick et al., 2014). This scale has been successfully translated into Persian (Ashktorab et al., 2015), Japanese (Honda et al., 2016), and Korean (Kim & Jung, 2012) and utilized across the globe with consistent validity and reliability (Ashktorab et al., 2015; Honda et al., 2016; Kim & Jung, 2012; Levett-Jones et al., 2009a).

In addition, Levett-Jones and Lathlean (2009a) published the Ascent to Competence framework, an adaptation of Maslow's Hierarchy of Needs that shows student progression to competence after the needs of safety and security, belongingness, self-concept, and learning are met. To date, this is the only conceptual framework in the literature addressing belongingness in undergraduate/pre-licensure nursing students. Beyond the definition, and measurement scales, and conceptual framework of belongingness, overarching focus areas we identified in the literature include outcomes of experiencing feelings of belongingness or alienation, contributing factors to developing a sense of belongingness, and interventions to foster belongingness in the clinical learning environment.

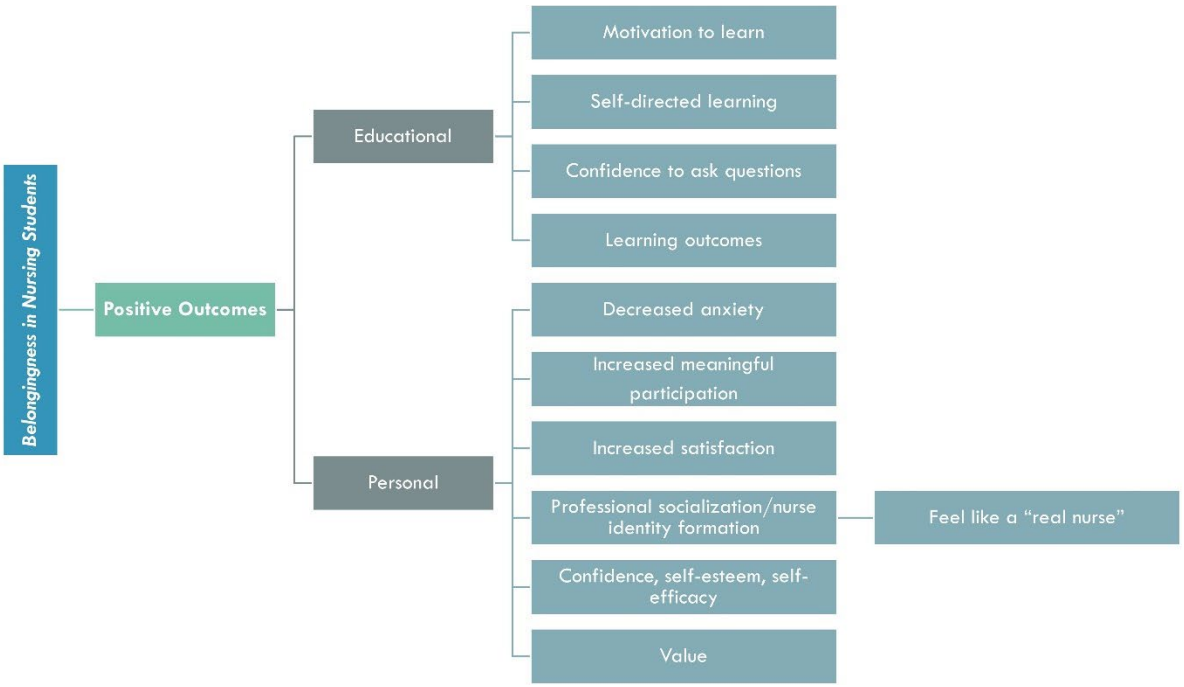
Outcomes of Belongingness or Alienation

Across the literature, positive outcomes from feeling a sense of belongingness in the clinical learning environment can be categorized as either educational or personal (Figure 2.2). Educational outcomes included increased motivation to learn (Albloushi et al., 2019; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009a; Teskereci & Boz, 2019; Thomas & Westwood, 2016), self-directed learning (Kern et al., 2014; Lekalakala-Mokgele & Caka, 2015; Levett-Jones & Lathlean, 2008), confidence to ask questions (Levett-Jones & Lathlean, 2008), and successful attainment of learning outcomes (Ford et al, 2016; Manokore et al., 2019). Personal outcomes include decreased anxiety (Levett-Jones & Lathlean, 2009a); increased meaningful participation (Albloushi et al., 2019; Levett-Jones & Lathlean, 2009a; Levett-Jones

et al., 2007b; Manninen et al., 2013; McInnes et al., 2015; McLeod et al., 2021); increased satisfaction with clinical experiences (Ashktorab et al., 2017; Borrott et al., 2016; Levett-Jones & Lathlean, 2009b); professional socialization/nurse identity formation (Albloushi et al., 2019; Ashktorab et al., 2017; Kern et al., 2014; Manninen et al., 2013; Teskereci & Boz, 2019); increased confidence, self-esteem, and self-efficacy (Clarke et al., 2020; Levett-Jones & Lathlean, 2009b; Pourteimour et al., 2020; Teskereci & Boz, 2019); and feeling valued (Albloushi et al., 2019; McLeod et al., 2021).

Figure 2.2

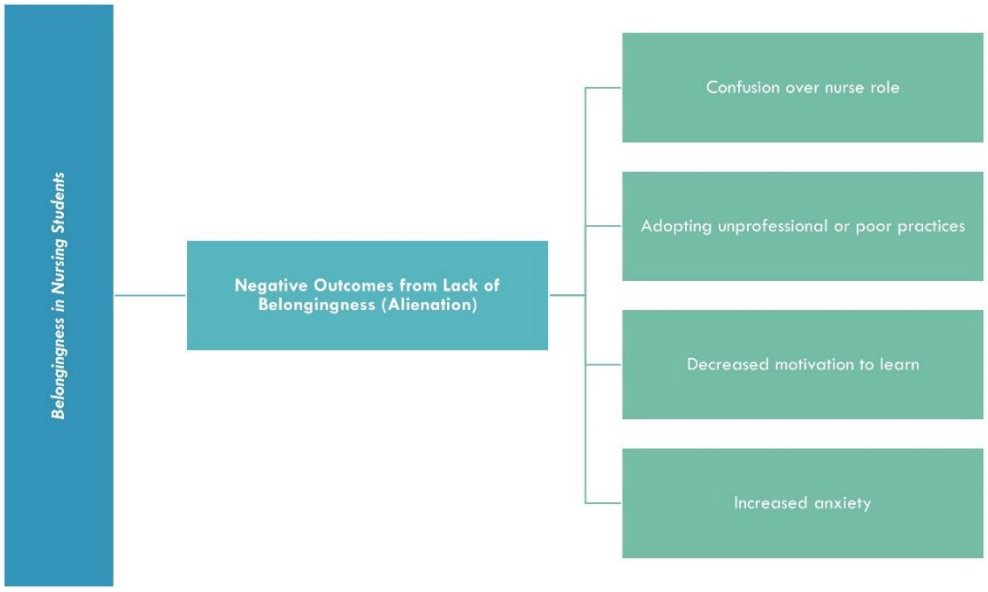
Positive Outcomes of Belongingness



The antithesis to belongingness is alienation (Levett-Jones & Lathlean, 2008), which can result in negative outcomes including confusion over the nurse role (Astley-Cooper, 2012), adaptation of unprofessional or poor practices as a means of attempting to "fit in" (Astley-Cooper, 2012; Levett-Jones & Lathlean, 2009b), decreased motivation to learn (Levett-Jones & Lathlean, 2008), and increased anxiety (Levett-Jones & Lathlean, 2008) (Figure 2.3).

Figure 2.3

Negative Outcomes from Lack of Belongingness (Alienation)



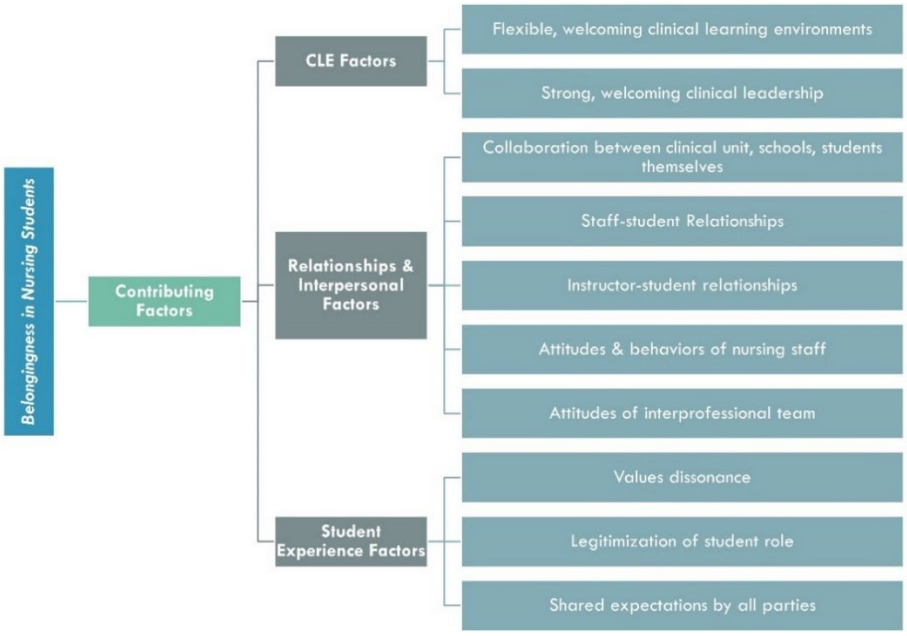
Contributing Factors to Belongingness

Nursing students report a range of factors impacting individual sense of belongingness in the clinical learning environment. These can be grouped into three categories: clinical learning environment factors, relationships and interpersonal factors, and student experience factors (Figure 2.4). Clinical learning environment factors include a flexible, welcoming clinical learning environment (Levett-Jones & Lathlean, 2008; McInnes et al., 2015) with strong, welcoming clinical leadership (Jack et al., 2018; Levett-Jones et al., 2007b). Relationships and interpersonal factors include collaboration between the clinical learning environment, schools,

and students (Honda et al., 2016; Jack et al., 2018; Levett-Jones & Lathlean, 2008); staff-student relationships (Kern et al., 2014; Lekalakala-Mokgele & Caka, 2015; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009b; Levett-Jones et al., 2009b; Levett-Jones et al., 2007b; McCoy et al., 2013; McInnes et al., 2015; Oosterbroek et al., 2019; Sedgwick et al., 2014; Tremayne & Hunt, 2019); instructor-student relationships (Levett-Jones & Lathlean, 2008; Kern et al., 2014; Manokore et al., 2019; Sedgwick, et al., 2014); attitudes and behaviors of nursing staff (Albloushi et al., 2019; Levett-Jones & Lathlean, 2008; Kern et al., 2014; Perry et al., 2018; Sedgwick et al., 2014); and attitudes of other members of the interprofessional team (Albloushi et al., 2019; Sedgwick & Rougeau, 2010). Student experience factors include the issue of values dissonance (Levett-Jones & Lathlean, 2009a; Liljedahl et al., 2016), legitimization of the student role (Jack et al., 2018; Levett-Jones, et al., 2009b), and the need for shared expectations by role (Ford et al., 2016; Sedgwick & Rougeau, 2010).

Figure 2.4

Contributing Factors to Belongingness



Note. CLE = Clinical Learning Environment.

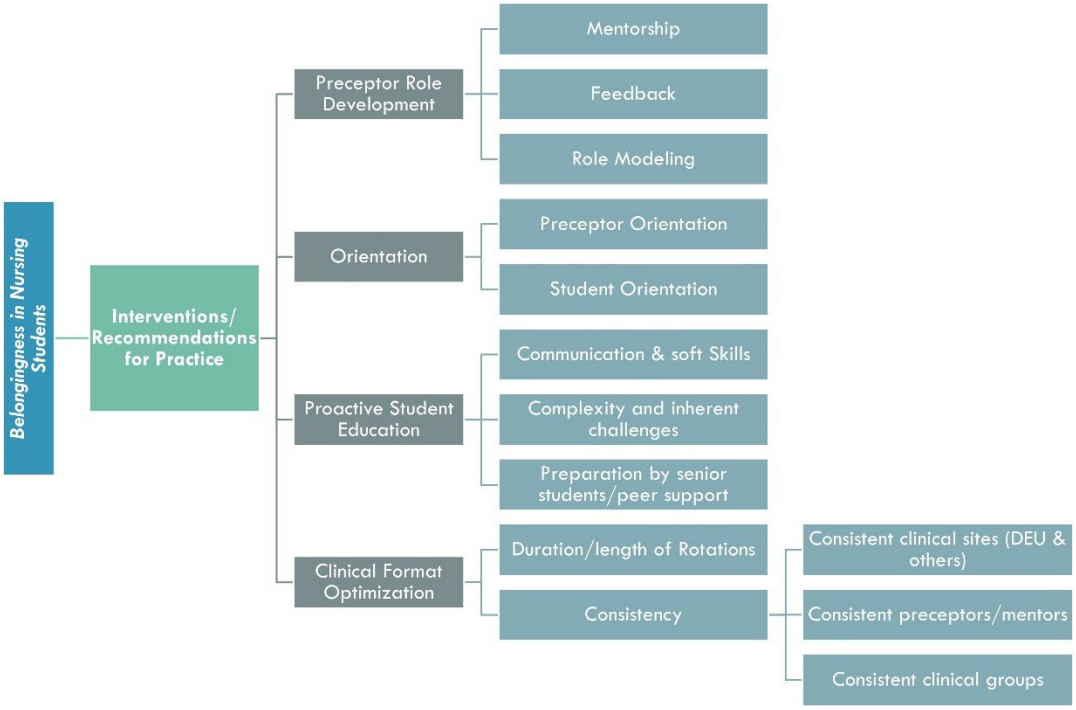
Interventions

Many different interventions have been assessed to improve students' sense of belongingness. Commonalities in these recommendations across the literature can be grouped into four distinct areas (Figure 2.5). The first recommendation, preceptor role development, includes mentorship (Brady et al., 2019; Jack et al, 2018; Levett-Jones & Lathlean, 2009a; Levett-Jones et al., 2007b; Thomson et al., 2017; Vinales, 2015), feedback (Gilbert & Brown, 2015; Kern et al., 2014; Thomson et al., 2017; Tremayne & Hunt, 2019; Vinales, 2015), and role modeling (Gilbert & Brown, 2015; Vinales, 2015). Second, orientation experiences are recommended for both preceptors (Honda et al., 2016; Manokore et al., 2019; Perry et al., 2018; Sedgwick & Rougeau, 2010; Tremayne & Hunt, 2019) and students (Brady et al., 2019; Manokore et al., 2019; Sedgwick & Rougeau, 2010; Tremayne & Hunt, 2019). Third, proactive student education beyond didactic and clinical content should include communication and "soft skills" training (Brady et al., 2019; Honda et al., 2016; Levett-Jones & Lathlean, 2009b; Sedgwick & Rougeau, 2010) as well as preparation for the complexity and inherent challenges of the clinical learning environment (Ford et al, 2016; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009b). In some instances, this may occur via peer support and preparation by more senior classmates (Brady et al., 2019). Lastly, clinical format optimization should include examination of duration/length of rotations (Gilbert & Brown, 2015; Levett-Jones & Lathlean, 2009a, Levett-Jones et al, 2009a; Teskereci & Boz, 2019) and consistency in clinical sites (Clarke, et al., 2020; Manninen et al., 2013; McLeod et al., 2021; Thomas & Westwood, 2016; van der Riet et al., 2018), preceptors/mentors (Levett-Jones et al., 2007b; Levett-Jones et al., 2009b; Thomas & Westwood, 2016; Tremayne & Hunt, 2019), and students in clinical groups (Brady et al., 2019; Towns & Wink, 2002). Other interventions that fall outside these categories include use of social media modalities including instant messaging (Pimmer et al., 2018) and

initiatives to promote and value diversity of students (Sedgwick & Kellett, 2015; Sedgwick et al., 2014).

Figure 2.5

Interventions/Recommendations for Practice to Foster Belongingness



Discussion

The 47 studies included in this review represent diverse geographic locations, methodology, samples, and interventions. More than half of the studies involved some component of qualitative methodology. It is clear from the literature that immersion into the clinical learning environment remains a cornerstone of nursing education (Ford et al., 2016) and the results of this scoping review indicate belongingness remains an important and relevant concept influencing the impact of clinical experiences (Albloushi et al., 2019; Levett-Jones & Lathlean, 2009a; Levett-Jones et al., 2007b; Manninen et al., 2013; McInnes et al., 2015; McLeod et al., 2021). Over the past two decades, the concept of belongingness specific to nursing students has been defined and critiqued (Levett-Jones et al., 2007a) and a specific

measurement scale developed that has been psychometrically analyzed to be valid and reliable (Levett-Jones et al., 2009a).

Several studies have illustrated the impact of feeling a sense of belongingness on nursing students' feelings of acceptance (Albloushi et al., 2019; Clarke et al, 2020; Lekalakala-Mokgele & Caka, 2015; Levett-Jones & Lathlean, 2008; Levett-Jones et al., 2007b; Kern et al., 2014; Manokore et al., 2019; McCoy et al., 2013; McInnes et al., 2015), safety (Albloushi et al., 2019; Ashktorab et al., 2017; Levett-Jones & Lathlean, 2009b), and feelings of being a contributing member of the care team (Albloushi et al., 2019; Levett-Jones et al., 2007b; Manninen et al., 2013; McCoy et al., 2013; McLeod et al., 2021; Thomas & West, 2016). While there are currently no studies explicitly comparing feelings of belongingness and academic success and/or graduation rates, there are numerous studies confirming the positive educational outcomes of students feeling as if they belong (Albloushi et al., 2019; Lekalakala-Mokgele & Caka, 2015; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009a; Teskereci & Boz, 2019; Thomas & Westwood, 2016).

The studies included in the review elucidate the negative feelings nursing students may experience as they embark on their clinical education. These include anxiety (Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009a), role confusion (Astley-Cooper, 2012), and fear of intimidation resulting in adaptation of unprofessional or poor practices (Astley-Cooper, 2012; Levett-Jones & Lathlean, 2009b). These findings highlight the importance of skilled preceptors and invested clinical instructors serving as mentors (Brady et al., 2019; Jack et al, 2018; Levett-Jones & Lathlean, 2009a; Levett-Jones et al., 2007b; Thomson et al., 2017; Vinales, 2015) and role models (Gilbert & Brown, 2015; Vinales, 2015) as they provide constructive feedback to student nurses (Gilbert & Brown, 2015; Thomson et al., 2017; Tremayne & Hunt, 2019; Vinales, 2015).

Throughout the studies reviewed, it is evident the responsibility for promoting feelings of belongingness should be a collaborative effort across academic institutions, clinical partners, and specific individuals such as preceptors and clinical instructors (Honda et al., 2016; Jack et al., 2018; Levett-Jones & Lathlean, 2008). Opportunities to overcome logistical challenges to optimize clinical experiences are abundant, including efforts to provide time to "settle in" (Levett-Jones & Lathlean, 2009a) when determining length and duration of placements. Likewise, the literature emphasized that consistency is key in terms of solidifying clinical sites (Clarke, et al., 2020; Manninen et al., 2013; McLeod et al., 2021; Thomas & Westwood, 2016; van der Riet et al., 2018), preceptors and mentors (Levett-Jones et al., 2007b; Levett-Jones et al., 2008; Thomas & Westwood, 2016, Tremayne & Hunt, 2019) and student clinical groups (Brady et al., 2019; Towns & Wink, 2002).

The literature also brought to light the importance of acknowledging the needs of non-traditional and diverse learners and their potential increased risks of feelings of alienation (Sedgwick et al., 2014; Sedgwick & Kellett, 2015). Likewise, the literature has demonstrated the considerable levels of stress nursing students experience (Hamaideh et al., 2017; Onieva-Zafra et al., 2020; Pulido-Martos et al., 2011). As Grobecker (2016) discovered a small inverse relationship between a sense of belonging and perceived stress, there is great opportunity to further examine this connection and assess ways to promote belongingness to ameliorate these feelings of stress and anxiety.

This review also identified numerous examples of innovative approaches to promote a sense of belongingness including preceptor role development (Brady et al., 2019; Gilbert & Brown, 2015; Jack et al, 2018; Levett-Jones & Lathlean, 2009a; Levett-Jones et al., 2007b; Thomson et al., 2017; Tremayne & Hunt, 2019; Vinales, 2015), student and preceptor orientation (Brady et al., 2019; Honda et al., 2016; King, 2017; Manokore et al., 2019; Sedgwick &

Rougeau, 2010; Tremayne & Hunt, 2019; Perry et al., 2018), and proactive student education on communication skills and the complexities of the clinical environment they are likely to encounter (Brady et al., 2019; Ford et al., 2016; Honda et al., 2016; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009b; Sedgwick & Rougeau, 2010). Yet, many of the reports of these interventions are anecdotal opinion recommendations from cross-sectional studies. As the BES-CPE has been deemed reliable and valid to discern between respondents and cohorts (Levett-Jones et al., 2009a), there is great need for robust intervention studies examining large sample sizes on a longitudinal basis.

In summary, this scoping review allows nursing educators to better understand the critical importance of promoting feelings of belongingness in undergraduate/pre-licensure nursing students in the clinical learning environment. We have determined the literature has gaps and as nursing education programs across the globe face competing demands with limited resources, it will be critical to focus on the most rewarding interventions with the largest impact on belongingness.

Strengths and Limitations

Strengths of this study include close attention to methodological rigor and ongoing involvement of a librarian to maximize a successful search strategy and inclusion of quality evidence. This scoping review also resulted in literature with great variation in research design, methods, and rigor. While there is value in including all approaches to gain multiple perspectives on the concept of belongingness, there is less methodological rigor in including studies such as literature reviews and opinion pieces in the overarching review. Other potential limitations include the relatively small sample sizes found in many of the included studies and exclusion of articles outside the English language.

Future Research

There is need for continued research on belongingness in nursing students as well as the larger interprofessional health sciences student population. Specific recommendations include further studies utilizing the BES-CPE across varying schools and countries so a robust systematic review can be undertaken to compare the impact of interventions that support belongingness on attrition and graduation rates of nursing students. There is also opportunity to utilize the BES-CPE in comparing experiences with belongingness across different years of schooling and educational programs (i.e., online versus in-person and traditional versus accelerated tracks). There is great need for rigorous intervention studies to establish best practices for fostering belongingness by clinical instructors, preceptors, and nursing leadership alike. Lastly, there is a paucity of literature assessing the role of the patient in nursing students' sense of belongingness which presents an excellent avenue for future research.

Conclusions

This scoping review identified evidence regarding the importance of belongingness in the clinical learning environment for undergraduate/pre-licensure nursing students and its associated impact on learning outcomes, overarching experiences, and professional socialization. Further, it illustrated specific outcomes that can be met or improved when feelings of belongingness are in place as well as contributing factors and interventions to promote belongingness in the clinical learning environment.

What is known about belongingness in the clinical learning environment for undergraduate/pre-licensure nursing students? This broad research question helped to discover the evidence that demonstrated a widely accepted definition of belongingness in undergraduate/pre-licensure nursing students. It also led to the synthesis of the literature resulting in three focus areas: outcomes resulting from feelings of belongingness or alienation,

factors that contribute to belongingness in the clinical learning environment, and interventions to promote belongingness while students are immersed in the clinical learning environment.

How is belongingness assessed and/or measured in this population? Belongingness in undergraduate/pre-licensure nursing students was measured using three scales with items specific to belongingness (the BES-CPE, Ascent to Competence to Scale, and Need to Belong Scale), along with other author-developed measures. Belongingness has been compared to other phenomena including perceived stress, workplace satisfaction, and clinical self-efficacy in a limited fashion.

What strategies/interventions are utilized to impact belongingness in this population? This research question revealed many approaches including preceptor role development, orientations, proactive student education, optimization of the clinical format, and other miscellaneous tactics. Many of these strategies were reported anecdotally, revealing a great area for future intervention research.

While there are undoubtedly numerous competing demands in nursing pedagogy today, there is great need to focus attention on fostering belongingness. It is easy to overlook a concept so rudimentary, yet belongingness theoretically impacts the experience of nursing students, graduation rates, and ultimately the number of qualified and confident nurses entering professional practice.

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Conflict of Interest

None.

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Author Contribution

All authors contributed to the conception and design of the study, data acquisition, analysis, and interpretation, and drafting and revising the article. All authors approve of the final manuscript for submission.

CHAPTER III: ADAPTATION AND PRELIMINARY VALIDATION OF THE U.S. VERSION OF THE BELONGINGNESS SCALE – CLINICAL PLACEMENT EXPERIENCE: A PILOT STUDY

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Abstract

Background: With a focus on acceptance, connection, and value alignment, belongingness has been tied to positive outcomes including increased participation, motivation to learn, confidence, and self-efficacy in nursing students in the clinical learning environment. This concept has been minimally assessed in the United States.

Objective: This study describes the adaptation of the Belongingness Scale – Clinical Placement Experience (BES-CPE) instrument to language used in the United States and provides preliminary assessment of its utility, validity, and reliability.

Design: A cross-sectional survey study.

Setting: A university-based nursing school in the southern United States.

Participants: Undergraduate nursing students enrolled in the final year of a baccalaureate nursing program.

Methods: Following adaptation of the BES-CPE instrument, review by content experts, and a pilot with students, a self-reported questionnaire was disseminated. The survey was completed by 38/181 (21%) of eligible students. Descriptive statistics, reliability, and validity using principal component analysis were evaluated.

Results: The adapted scale demonstrated high internal consistency reliability (Cronbach's alpha = 0.93). Seven items were removed from the scale based on the results of principal component analysis followed by two additional items recommended by the scale developers, resulting in a 25-item final scale.

Conclusions: As with other versions of the BES-CPE, the U.S. version is reliable and valid. With utility established, future research should focus on use of the scale to evaluate interventions that foster belongingness in nursing students in the clinical learning environment.

Keywords: Belonging, belongingness, nursing students, clinical experience, clinical learning environment, psychometric testing, validity, reliability

Introduction

As another global nursing shortage emerges in the wake of the COVID-19 pandemic, the need for qualified nursing students to graduate and enter the workforce has increased dramatically. A key component of nursing education is the time spent in the clinical learning environment (CLE). Nursing students have reported that relationships, structure, and knowledge and experience are the most important contributors to a quality clinical experience (Courtney-Pratt et al., 2012). These positive experiences are reinforced by the feeling of a sense of belongingness, that the student is "part of the team" (Albloushi et al., 2019; Levett-Jones et al., 2007b; Kern et al., 2014; Manninen et al., 2013; McCoy et al., 2013; McLeod et al., 2021; Thomas & Westwood, 2016) and "feels like a real nurse" (Albloushi et al., 2019; Ashktorab et al., 2017; Manninen et al., 2013; Teskereci & Boz, 2019).

Adapted from a subscale of Somers' (1999) Belongingness Scale, Levett-Jones et al. (2009a) developed the Belongingness Scale – Clinical Placement Experience (BES-CPE) to assess belongingness in the CLE. Levett-Jones et al. (2009a) noted the need for the scale to be used within different contexts and with diverse cohorts to further assess its validity and reliability. First used with third-year pre-licensure nursing students at three universities in Australia and England, the BES-CPE has been successfully translated from English into Persian (Ashktorab et al., 2015), Japanese (Honda et al., 2016), and Korean (Kim & Jung, 2012) with consistent validity and reliability. Used once in the United States (U.S.), Grobecker (2016) utilized the original BES-CPE scale to compare belongingness with perceived stress in nursing students. The authors noted dialectical and phrasing differences between the original scale and terminology used in U.S. nursing programs that could potentially lead to response inconsistencies and ultimately inaccurate conclusions. Therefore, the authors aimed to adapt the

BES-CPE tool to reflect language norms in the United States and psychometrically evaluate the validity and reliability of the revised scale.

Background

Abraham Maslow (1943) first identified the concept of belongingness as part of his Hierarchy of Needs that impact human motivation and personality. In this often-referenced model outlining the hierarchy of needs for survival, physiological and safety needs make up the base, followed by belongingness and love needs, esteem needs, and self-actualization needs (Maslow, 1943). Years later, Baumeister and Leary (1995) further described belongingness as a basic human requirement underpinned by feelings of acceptance, recognition, value, and appreciation.

Levett-Jones et al. (2007a) critiqued the concept of belongingness specific to nursing education. Levett-Jones and Lathlean's (2008) definition is widely accepted within this context:

> Belongingness is a deeply personal and contextually mediated experience that evolves in response to the degree to which an individual feels
>
> (a) secure, accepted, included, valued and respected by a defined group,
>
> (b) connected with or integral to the group, and
>
> (c) that their professional and/or personal values are in harmony with those of the group.
>
> The experience of belongingness may evolve passively in response to the actions of the group to which one aspires to belong and/or actively through the actions initiated by the individual. (p. 104)

Levett-Jones and Lathlean (2009a) published the Ascent to Competence framework, a modification of Maslow's Hierarchy of Needs that shows nursing student needs in the CLE from safety and security, belongingness, self-concept, and learning to eventual competence. As a key

component of the Ascent to Competence framework, belongingness has been established as critical to nursing students' participation in clinical care (Albloushi et al., 2019), motivation to learn (Albloushi et al., 2019; Levett-Jones et al., 2007b; Levett-Jones & Lathlean, 2008; Teskereci & Boz, 2019), development of confidence (Clarke et al., 2020; Levett-Jones & Lathlean, 2009b; Teskereci & Boz, 2019), and formation of a nursing identity (Albloushi et al., 2019; Ashktorab et al, 2017; Manninen et al., 2013; Teskereci & Boz, 2019). As students' time spent in the CLE is increasingly limited in our current educational landscape, there is great need for a reliable and valid tool to assess belongingness of U.S. nursing students and the eventual ability to assess and evaluate associated interventions as contributors to the concept. The purpose of this study was to psychometrically evaluate the validity and reliability of the adapted BES-CPE developed by Levett-Jones et al. (2009a) for use with nursing students in the United States.

Methods

Study Design

A cross-sectional survey study was conducted. A questionnaire was developed for nursing students to self-report their demographic and clinical experience information in addition to belongingness scores.

Sample/Participants

Participants were recruited from a nursing school in the southern United States in the fall of 2021. Inclusion criteria included enrollment in the final year of the baccalaureate nursing program in either the traditional or accelerated nursing track, where students complete the nursing curriculum in 24 or 16 months, respectively. In alignment with Levett-Jones et al. (2009a) approach, final-year students were specifically chosen as they had completed a variety of clinical rotations and therefore had experience in the CLE. Exclusion criteria included

enrollment in other majors or plans of study, class status other than in the final year of the baccalaureate program, and an age younger than 18.

Ethical Considerations

The study was approved by the university's institutional review board (2021-177). Informed consent was obtained electronically from students prior to them responding to the survey questions. The study was completely voluntary and students could withdraw at any time. Participants were guaranteed anonymity and reassured that completing the survey would have no influence on academic progression.

Instrument Adaptation

The BES-CPE assesses feelings, cognition, and behaviors surrounding belongingness in the CLE (Levett-Jones et al., 2009a). A 34-item survey, the BES-CPE items are answered on a five-point Likert scale (1 = never true, 2 = rarely true, 3 = sometimes true, 4 = often true, 5 = always true) (Levett-Jones et al., 2009a). There are both negatively and positively worded items in an effort to reduce bias and four of the 34 items are reverse-coded (Levett-Jones, et al., 2009a). In initial psychometric testing of the scale, Levett-Jones et al. (2009a) identified three subscales: esteem, connectedness, and efficacy. Due to poor fit or cross-loading during principal components analysis (PCA), the developers ultimately recommended removal of three items from the scale (Q6: "I view my placements as a place to experience a sense of belonging," Q12: "It is important to me that someone at my placement acknowledges my birthday in some way," and Q22r: "I am uncomfortable attending social functions on placements because I feel like I don't belong"). However, for this study all 34-items were utilized in order to assess for variations related to language norms and to fully assess psychometric properties of the scale.

Permission was obtained from the original developer of the BES-CPE, Dr. Tracy Levett-Jones. Initial scale development by Levett-Jones et al. (2009a) was reviewed for methodology as

they adapted the BES-CPE from Somers' Belongingness Scale (BES) (1999). The BES, based on Baumeister and Leary's (1995) theoretical framework, is a psychometrically sound 140-item scale that assesses general belongingness in four environments: family, friends, work/school, and neighborhood. Levett-Jones et al. (2009a) subsequently adapted the work/school subscale from the BES to develop the BES-CPE.

It was noted that "clinical placement" was substituted for "work/school," and "colleagues" for "co-workers/classmates" in the original adaptation by Levett-Jones et al. (2009a). In alignment with Somers' original scale and common practice and terminology used by U.S. nursing programs, the following adaptations were made from the BES-CPE as published by Levett-Jones et al. (2009a): "colleagues" and "students or staff" were changed to "classmates," "placement" was changed to "clinical(s)" or "clinical group," and "work" was changed to "attend." All 34 items required adaptation. Two independent researchers with expertise in nursing pedagogy verified the content, language, and terminology adaptations. Additionally, five students entering their final year of the nursing program piloted the instrument and were interviewed for their perception of readability, usability, and clarity of each item. Changes stemming from their recommendations were made accordingly.

Data Collection Procedures

One hundred and eighty-one students met the eligibility criteria and initially received information via electronic mail explaining the study and a link to provide informed consent and enroll in the study. Information on the study was subsequently disseminated via the university's web-based learning management system to promote participation. The adapted BES-CPE scale along with a questionnaire collecting demographic information was sent in November of 2021 asking students to reflect on their most recent clinical experience of that semester when answering questions. These specific clinical experiences were semester-long courses where

students were immersed in the CLE. Students were assured via the informed consent process that there were no potential penalties for completing this survey and none of the authors were clinical faculty for these students during the survey period. Over a 4-week period, 40 (22%) of eligible students completed the survey. Of these, two were incomplete and were therefore excluded. 38 (21%) of eligible students completed a demographics questionnaire and the BES-CPE scale in its entirety and their responses were subsequently analyzed. As a pilot study with narrow inclusion criteria, a low response rate was anticipated and this was taken into consideration as psychometric assessment was performed.

The disseminated survey collected demographic information including age, gender identity, primary language, curricular track enrollment (traditional versus accelerated), current semester, facility of the most recent clinical experience, participation in the dedicated educational unit (DEU) program, and employment status, including hours worked per week and if the student is employed in the same facility they completed their most recent clinical experience. Following those questions, the students completed the 34-item U.S. version of the BES-CPE. To promote clarity and consistency, students were provided the following information for reference as they completed the BES-CPE: "Use the following terms as you answer these questions. Classmates: Your cohort of students (those that are graduating at the same time as you and are in your classes and clinical groups). Clinical: Your [specific course names] clinical this semester. Staff: The nursing staff you worked with during your clinical experiences."

Data Analyses

Data analysis was completed utilizing the Statistical Package for Social Sciences (SPSS), version 28. Demographic data was analyzed using descriptive statistics. Independent sample t-tests and one-way analysis of variance (ANOVA) were performed to assess for differences between demographic categories and levels of belongingness as measured by the BES-CPE.

Psychometric evaluation was completed to assess validity and reliability of the U.S. version of the BES-CPE scale. Construct validity was assessed using PCA with varimax rotation. Internal consistency reliability of the scale was determined using Cronbach's coefficient alpha.

Results

Scale Adaptation

Table 3.1 presents the final 25-item scale and adaptations that were made. A detailed explanation of the process of removing items is explained in the results of the preliminary validation. Feedback from students who piloted the scale and the results of the pilot study reveal that the revised scale reflects cultural appropriateness and language norms of the United States.

Table 3.1

Adaptation of the Original BES-CPE to the U.S. Version of the BES-CPE

Item	Original BES-CPE Items	U.S. Version of the BES-CPE Items	Adaptations Made	Psychometric Evaluation
Q1	I feel like I fit in with others during my placements.	I feel like I fit in with others during my clinicals.	"placement" to "clinical"	Included per PCA
Q2	It is important to feel accepted by my colleagues.	It is important to feel accepted by my classmates.	"colleagues" to "classmates"	Included per PCA
Q4	Colleagues offer to help me when they sense I need it.	Classmates offer to help me when they sense I need it.	"colleagues" to "classmates"	Included per PCA
Q7	I get support from colleagues when I need it.	I get support from classmates when I need it.	"colleagues" to "classmates"	Included per PCA
Q8	I am invited to social events outside my placements by (nursing staff) colleagues.	I am invited to social events outside my clinicals by classmates.	"placement" to "clinical" "(nursing staff) colleagues" to "classmates"	Included per PCA
Q9	I like the people I work with on placements.	I like the people I work with in clinicals.	"on placements" to "in clinicals"	Included per PCA

Q10r	I feel discriminated against on placements.	I feel discriminated against in clinicals.	"on placements" to "in clinicals"	Included per PCA (removed in Korean and Persian versions)
Q13	I invite colleagues to eat lunch/dinner with me.	I invite classmates to eat lunch/dinner with me.	"colleagues" to "classmates"	Included per PCA
Q14r	On placements I feel like an outsider.	In clinicals I feel like an outsider.	"on placements" to "in clinicals"	Included per PCA
Q15	There are people that I work with on placements who share my values.	There are people that I work with in clinicals who share my values.	"on placements" to "in clinicals"	Included per PCA
Q16	Colleagues ask me for my ideas or opinions on different matters.	Classmates ask me for my ideas or opinions on different matters.	"colleagues" to "classmates"	Included per PCA
Q17	I feel understood by my colleagues.	I feel understood by my classmates.	"colleagues" to "classmates"	Included per PCA
Q18	I make an effort when on placements to be involved with my colleagues in some way.	I make an effort when in clinicals to be involved with my classmates in some way.	"on placements" to "in clinicals" "colleagues" to "classmates"	Included per PCA
Q19	I am supportive of my colleagues.	I am supportive of my classmates.	"colleagues" to "classmates"	Included per PCA
Q21	People I work with on placements accept me when I'm just being myself.	People I work with in clinicals accept me when I'm just being myself.	"on placements" to "in clinicals"	Included per PCA
Q23	When I walk up to a group on a placement I feel welcomed.	When I walk up to a group during clinical I feel welcomed.	"on a placement" to "during clinical"	Included per PCA
Q24	Feeling "a part of things" is one thing I like about going to placements.	Feeling "a part of things" is one thing I like about going to clinical.	"placements" to "clinical"	Included per PCA
Q25	There are people on placements with whom I have a strong bond.	There are people in clinicals with whom I have a strong bond.	"on placements" to "in clinicals"	Included per PCA
Q27	It seems that people I work with on placements like me.	It seems that people I work with in clinicals like me.	"on placements" to "in clinicals"	Included per PCA

Q28	I let colleagues know I care about them by asking how things are going for them and their family.	I let classmates know I care about them by asking how things are going for them and their family.	"colleagues" to "classmates"	Included per PCA
Q29	Colleagues notice when I am absent from placements or social gatherings because they ask about me.	Classmates notice when I am absent from clinicals or social gatherings because they ask about me.	"colleagues" to "classmates"	Included per PCA
Q30	One or more of my colleagues confides in me.	One or more of my classmates confides in me.	"colleagues" to "classmates"	Included per PCA
Q31	I let my colleagues know that I appreciate them.	I let my classmates know that I appreciate them.	"colleagues" to "classmates"	Included per PCA
Q32	I ask my colleagues for help when I need it.	I ask my classmates for help when I need it.	"colleagues" to "classmates"	Included per PCA
Q33	I like where I work on placements.	I like where I attend clinicals.	"on placements" to "in clinicals" "work on" to "attend"	Included per PCA
		Items Removed in U.S. Version		
Q3	Colleagues see me as a competent person.	Classmates see me as a competent person.	"colleagues" to "classmates"	Removed per PCA
Q5	I make an effort to help new students or staff feel welcome.	I make an effort to help new classmates feel welcome.	"students or staff" to "classmates"	Removed per PCA
Q6	I view my placements as a place to experience a sense of belonging.	I view my clinicals as a place to experience a sense of belonging.	"placement" to "clinical"	Removal recommended by scale developers
Q11	I offer to help my colleagues, even if they don't ask for it.	I offer to help my classmates, even if they don't ask for it.	"colleagues" to "classmates"	Removed per PCA
Q12	It is important to me that someone at my placement acknowledges my birthday in some way.	It is important to me that someone in my clinical group acknowledges my birthday in some way.	"at my placement" to "in my clinical group"	Removed per PCA & removal recommended by scale developers
Q20	I ask for my colleagues' advice.	I ask for my classmates' advice.	"colleagues" to "classmates"	Removed per PCA

Q22r	I am uncomfortable attending social functions on placements because I feel like I don't belong.	I am uncomfortable attending social functions after clinicals because I feel like I don't belong.	"placement" to "clinical" "in" to "after"	Removal recommended by scale developers
Q26r	I keep my personal life to myself when I'm on placements.	I keep my personal life to myself when I'm in clinicals.	"on placements" to "in clinicals"	Removed per PCA (also removed in Korean and Persian versions)
Q34	I feel free to share my disappointments with at least one of my colleagues.	I feel free to share my disappointments with at least one of my classmates.	"colleagues" to "classmates"	Removed per PCA

Note. Original BES-CPE developed by Levett-Jones et al. (2009a); Korean version adapted by Kim & Jung (2012), and Persian version adapted by Ashktorab et al. (2015).

BES-CPE Scores

The average age of the participants was 23.18 (± 5.03) with a range from 20 to 43 years. Participants identified themselves as female (n = 37) and male (n = 1). All but one participant identified English as their primary language. Of the respondents, 29 (76%) were enrolled in the traditional curricular track while 9 (24%) were enrolled in the accelerated curricular track. Of the respondents, 45% (n = 17) were in their first semester of their final year and 55% (n = 21) were in their second semester of their final year. One participant was part of the DEU program. At the time of the survey, 66% (n = 25) of students were employed, while 34% (n = 13) were not. Full details of demographic data are presented in Table 3.2.

Table 3.2

Demographic Characteristics of Participants

	Sample	Percent
Age (n = 38)		
20-25	33	86.8
26-30	2	5.3

31-35	1	2.6
36-40	1	2.6
41-45	1	2.6
Gender (*n* = 38)		
Female	37	97.4
Male	1	2.6
Primary language (*n* = 38)		
English	37	97.4
Spanish	1	2.6
Curricular track (*n* = 38)		
Traditional	29	76.3
Accelerated	9	23.7
Semester of final year (*n* = 38)		
First-semester	17	44.7
Second-semester	21	55.3
Facility where clinical experience completed (*n* = 38)		
Site 1	19	50
Site 2	6	15.8
Site 3	5	13.2
Site 4	4	10.5
Other	4	10.5
Participation in dedicated educational unit (DEU) program (*n* = 38)		
Yes	1	2.6
No	37	97.4
Current employment (*n* = 38)		
Yes	25	65.8
No	13	34.2
Hours worked per week (*n* = 25)		
<10	5	20

11-25	17	68
26-40	2	8
>40	0	0
Varies	1	4

Employment at same facility as clinical experience (n = 25)		
Yes	0	0
No	25	100

The mean and standard deviation were calculated for each adapted item of the BES-CPE and are presented in descending order in Table 3.3. Independent t-tests and one-way ANOVA for comparison between demographic groups and overall BES-CPE scores were completed and all determined to be nonsignificant: curricular track (traditional versus accelerated) (p = .891), semester (first semester versus second semester of the final year) (p = .785), employment (employed versus non-employed) (p = .499), age (20-25 years, 26-30 years, 31-35 years, 36-40 years, and 41-45 years) (p = .249) and facility (four specified locations or other) (p = .429). The t-tests and ANOVA were analyzed again with the final scale following psychometric evaluation and also yielded nonsignificant results.

Table 3.3

Mean and Standard Deviation for All Adapted BES-CPE Items in Descending Order

Items		M	SD
Q19	I am supportive of my classmates.	4.71	0.57
Q5	I make an effort to help new classmates feel welcome.	4.5	0.65
Q10r	I feel discriminated against in clinicals.	4.34	0.88
Q7	I get support from classmates when I need it.	4.24	0.75
Q3	Classmates see me as a competent person.	4.24	0.54
Q32	I ask my classmates for help when I need it.	4.21	0.88
Q34	I feel free to share my disappointments with at least one of my classmates.	4.18	0.93

Q18	I make an effort when in clinicals to be involved with my classmates in some way.	4.13	0.78
Q31	I let my classmates know that I appreciate them.	4.08	0.94
Q15	There are people that I work with in clinicals who share my values.	4.05	0.66
Q20	I ask for my classmates' advice.	4.03	0.89
Q9	I like the people I work with in clinicals.	4.03	0.68
Q30	One or more of my classmates confides in me.	4.03	1.00
Q27	It seems that people I work with in clinicals like me.	3.97	0.72
Q22r	I am uncomfortable attending social functions after clinicals because I feel like I don't belong.	3.97	0.97
Q11	I offer to help my classmates, even if they don't ask for it.	3.97	0.89
Q1	I feel like I fit in with others during my clinicals.	3.97	0.72
Q33	I like where I attend clinicals.	3.95	1.14
Q21	People I work with in clinicals accept me when I'm just being myself.	3.89	0.80
Q17	I feel understood by my classmates.	3.89	0.80
Q16	Classmates ask me for my ideas or opinions on different matters.	3.87	0.94
Q28	I let classmates know I care about them by asking how things are going for them and their family.	3.84	0.89
Q14r	In clinicals I feel like an outsider.	3.76	1.13
Q4	Classmates offer to help me when they sense I need it.	3.76	0.88
Q25	There are people in clinicals with whom I have a strong bond.	3.74	1.06
Q2	It is important to feel accepted by my classmates.	3.74	1.01
Q23	When I walk up to a group during clinical I feel welcomed.	3.68	1.07
Q29	Classmates notice when I am absent from clinicals or social gatherings because they ask about me.	3.68	0.99
Q6	I view my clinicals as a place to experience a sense of belonging.	3.55	1.01
Q8	I am invited to social events outside my clinicals by classmates.	3.53	1.08
Q24	Feeling "a part of things" is one thing I like about going to clinical.	3.5	1.13
Q13	I invite classmates to eat lunch/dinner with me.	3.42	1.03
Q26r	I keep my personal life to myself when I'm in clinicals.	2.55	0.92
Q12	It is important to me that someone in my clinical group acknowledges my birthday in some way.	2.13	1.12

Note. n = 38. M: Mean, SD: Standard Deviation. r notes reverse scoring of the item.

Preliminary Validation of the Adapted Scale

This section describes the preliminary validation process to reduce the scale from 34 items to 25 items.

Construct Validity

Using a similar procedure as Levett-Jones et al. (2009a), Ashktorab et al. (2015), and Kim and Jung (2012), construct validity was evaluated using PCA with varimax rotation. There were no missing data and no outliers. Initially, an eight-factor structure resulted. When adjusted to a three-factor structure to align with the scale developers' approach, a Kaiser Meyer Olkin (KMO) Measure of Sampling Adequacy of .49, cumulative loading of 53%, and five items with communalities less than 0.4 resulted: item 3 ("Classmates see me as a competent person"), item 5 ("I make an effort to help new classmates feel welcome"), item 12 ("It is important to me that someone in my clinical group acknowledges my birthday in some way"), item 20 ("I ask for my classmates' advice"), and item 34 ("I feel free to share my disappointments with at least one of my classmates"). These items were removed.

PCA with varimax rotation was repeated with those items removed. Subsequently, both the KMO (.642) and cumulative loading (58%) improved. Two items remained with communalities less than 0.4: item 11 ("I offer to help my classmates, even if they don't ask for it") and item 26r ("I keep my personal life to myself when I'm in clinical"), which were also removed.

With a total of seven items removed from the original scale, PCA with varimax rotation was again repeated. The three-factor loading revealed an acceptable KMO of greater than 0.6 at .662, cumulative loading at 60%, and all communalities > 0.4. While the sample size in this study is small, according to Guadagnoli and Velicer (1988), components with four or more loadings >.60 in absolute value are reliable, regardless of sample size.

Although item 6 (adapted to "I view my clinicals as a place to experience a sense of belonging") and 22r (adapted to "I am uncomfortable attending social functions after clinicals because I feel like I don't belong") loaded appropriately in the authors' analysis, they were removed in alignment with the original developers' recommendations. The seven items removed via PCA by the authors in addition to two from the original developers' recommendations (with item 12 meeting both criteria) resulted in a final scale of 25 items which is outlined in Table 3.4 with rotated component loadings of the three-factor structure.

Table 3.4

Rotated Component Loadings for the 25-item U.S. Version of the BES-CPE

Item		Factor 1	Factor 2	Factor 3
Q8	I am invited to social events outside my clinicals by classmates.	.835	-	-
Q13	I invite classmates to eat lunch/dinner with me.	.790	-	-
Q16	Classmates ask me for my ideas or opinions on different matters.	.463	.395	-
Q28	I let classmates know I care about them by asking how things are going for them and their family.	.718	-	-
Q29	Classmates notice when I am absent from clinicals or social gatherings because they ask about me.	.642	-	.319
Q30	One or more of my classmates confides in me.	.740	-	.351
Q31	I let me classmates know that I appreciate them.	.829	-	-
Q32	I ask my classmates for help when I need it.	.701	-	.420
Q1	I feel like I fit in with others during my clinicals	-	.696	-
Q9	I like the people I work with in clinicals.	.307	.641	
Q10r	I feel discriminated against in clinicals.	-	.745	-
Q14r	In clinicals I feel like an outsider.	.451	.683	-
Q15	There are people that I work with in clinicals who share my values.	-	.583	-

Q21	People I work with in clinicals accept me when I'm just being myself.	.390	.701	-
Q23	When I walk up to a group during clinical I feel welcomed.	-	.717	-
Q24	Feeling "a part of things" is one thing I like about going to clinical	-	.545	.484
Q25	There are people in clinicals with whom I have a strong bond.	.431	.521	-
Q27	It seems that people I work with in clinicals like me.	.457	.509	.358
Q33	I like where I attend clinicals.	-	.736	-
Q2	It is important to feel accepted by my classmates.	-	-	.867
Q4	Classmates offer to help me when they sense I need it.	-	-	.735
Q7	I get support from classmates when I need it.	.403	-	.690
Q17	I feel understood by my classmates.	.411	.326	.590
Q18	I make an effort when in clinicals to be involved with my classmates in some way.	-	.359	.648
Q19	I am supportive of my classmates.	.335	-	.491

Note. r denotes the item is reverse scored.

Reliability

Internal consistency reliability of the 34-item BES-CPE was measured using Cronbach's coefficient alpha. Prior to removal of any items during PCA, the reliability coefficient for the full scale was high at 0.94. Cronbach's coefficient alpha levels were analyzed for the three subscales revealed in PCA by the authors. Factor 1 (Q8, Q13, Q16, Q28, Q29, Q30, Q31, and Q32), resulted in a Cronbach's alpha of .91; factor 2 (Q1, Q9, Q10r, Q14r, Q15, Q21, Q23, Q24, Q25, Q27, and Q33) resulted in a Cronbach's alpha of .90, and factor 3 (Q2, Q4, Q7, Q17, Q18, and Q19) resulted in a Cronbach's alpha of .84. Following removal of additional items by PCA (Q3, Q5, Q11, Q20, Q26r, and Q34), Cronbach's alpha was .93 for the final 25-item U.S. version of the BES-CPE.

Discussion

This study assessed the adaptation of the BES-CPE to language utilized by nursing students in the United States. Despite an increasing focus on the significance of belongingness and subsequent impact on nursing students' experiences in the CLE, a U.S. version of the BES-CPE had not yet been developed. Following adaptation with expert review, psychometric evaluation of the U.S. version of the BES-CPE was undertaken and the scale was deemed both reliable and valid.

The overall mean of the original 34-item BES-CPE in this study was 3.86 and the overall mean of the 25-item U.S. version BES-CPE was 3.92, which are both higher than the overall means found in the original study (3.58) (Levett-Jones et al., 2009a; Honda et al., 2016), the Korean version (3.40) (Kim & Jung, 2012), the Persian version (3.21) (Ashktorab et al., 2015), and the Japanese version (2.81) (Honda et al., 2016). Further evaluation using qualitative methodology is needed to elucidate the potential reasons for this difference and assess factors that are promoting belongingness in nursing students in the United States in comparison to those in other countries.

In this study, item 19, which was adapted to "I am supportive of my classmates" from "I am supportive of my colleagues," had the highest overall score (4.71 ± 0.57). This item was also ranked highly by the original developers (4.23 ± 0.63) (Levett-Jones et al., 2009a). Likewise, it had the fourth highest mean score (3.81 ± 0.62) in both the Korean version (Kim & Jung, 2012) and the Persian version (3.69 ± 0.94) (Ashktorab et al., 2015). Interestingly, it ranked lower in the Japanese version at 11 with a mean score of 3.38 ± 0.86 (Honda et al., 2016). Honda et al. (2016) explored cultural influences that may account for this lower ranking score, particularly around the concept of insider and outsider relationships.

Item 12, which was adapted to "It is important to me that someone in my clinical group acknowledges my birthday in some way" from "It is important to me that someone at my placement acknowledges my birthday in some way" had the lowest overall mean score (2.13 ± 1.12). This finding was consistent with low mean scores on the original version (2.13 ± 1.22) (Levett-Jones et al, 2009a), the Japanese version (1.86 ± 1.13) (Honda et al., 2016), and the Korean version (2.63 ± 0.97) (Kim & Jung, 2012). The Persian version had a moderately higher mean score on this question at 3.18 ± 1.29. As the only item that had low communality during PCA in this study as well as in the original, the authors agree with Levett-Jones et al. (2009a) recommendation to remove item 12 from the scale. We hypothesize that U.S. nursing students view birthday celebrations as something that occurs on a personal versus professional level.

Levett-Jones et al. (2009a) found a statistically significant difference in mean BES-CPE scores based on English as a primary language. Based on the small sample size, this finding was not consistent in this study nor were other differences between groups found to be statistically significant. Further research with larger sample sizes is needed to determine if levels of belongingness vary based on demographic characteristics.

Following psychometric evaluation for construct validity, developers of the original scale removed item 6 ("I view placements as a place to experience a sense of belonging") and item 22r ("I am uncomfortable attending social functions on placements because I feel like I don't belong") in addition to item 12 as previously discussed (Levett-Jones, et al., 2009a). Kim and Jung (2012) recommended removal of item 26r ("I keep my personal life to myself when I'm on placements") after psychometric evaluation of the Korean version of the BES-CPE as did Ashktorab et al. (2015) after confirmatory factor analysis of the Persian version of the scale. This was consistent with our PCA findings and we subsequently removed this item. Interestingly, Kim and Jung's (2012) psychometric evaluation also led to removal of item 10 ("I feel

discriminated against on placements") which was the third highest ranking mean in this study after undergoing reverse coding (4.34 ± 0.88) with a communality of .745 via PCA. Psychometric evaluation of the Persian version of the BES-CPE also supported removal of item 10 (Ashktorab et al, 2015). Kim and Jung (2012) noted that participants interpreted this question differently based on the use of the word "discriminated" in the Korean environment and it was therefore inappropriate for assessment. The authors did not remove this item based on favorable PCA results and plan to further explore U.S. nursing students' motivations and thought processes in answering this question.

The three subscales established by Levett-Jones et al. (2009a) are esteem or "being held in esteem by one's work colleagues" (p. 158) containing 13 items; connectedness described as interpersonal connections (10 items); and efficacy or "efficacious behaviors undertaken to enhance one's experience of belongingness" (p. 158) containing 8 items. Of the 25 items in the U.S. version of the BES-CPE, 12 items in the esteem subscale, eight items in the connectedness subscale, and five items in the efficacy subscale remained. However, three items in the esteem subscale (Q4, Q7, and Q17), two items in the connectedness subscale (Q15 and Q25), and two items in the efficacy subscale (Q31 and Q32) loaded differently than in the original scale (Table 2.4).

Following psychometric evaluation for reliability, removal of the three items (Q6, Q12, and Q22r) outlined by the scale developers resulted in a Cronbach's alpha of .94, which is consistent with previous findings: original scale: 0.92 (Levett-Jones et al., 2009a), Korean version: 0.9 (Kim & Jung, 2012), and Persian version: 0.92 (Ashktorab et al., 2015). Cronbach's coefficient alpha levels were analyzed for the three subscales as classified by the scale developers. The esteem subscale was .88 compared with 0.9 from the original developers (Levett-Jones et al., 2009a); the connectedness subscale was identical to original developers

(Levett-Jones et al., 2009a) at 0.82; and the efficacy subscale was also identical to the original developers (Levett-Jones et al., 2009a) at 0.8.

Consistent with previous studies, item reduction of the scale was warranted. While the results of reliability assessment were similar to other adaptations, further research is needed beyond this pilot study to further evaluate construct validity and subscale alignment of the U.S. version of the BES-CPE.

Limitations

The principal limitation of this study was a small sample size of mostly homogenous participants from one institution. As a pilot study, the sample was anticipated to be small and this was seen in the results. Additional research is needed to further evaluate the scale with larger sample sizes. Another limitation was the reliance on self-reporting. However, given the concept being evaluated, it is difficult to assess in an approach less subject to bias. Complete anonymity was guaranteed as a mitigation measure.

Future Research

Future research is needed with larger sample sizes including participants from multiple institutions, various degree programs and structures, and geographical variation. With demonstrated utility, this adapted scale can now be employed for much-needed intervention studies to establish evidence-based recommendations for fostering belongingness in the undergraduate nursing student population. Potential for significance of this work is high due to the need for successful clinical learning experiences contributing to program completion and licensure of graduates to address the global nursing shortage, as well as the need for nursing schools to meet accreditation requirements.

Conclusions

This study has demonstrated the feasibility and utility of the U.S. version of the BES-CPE in assessing nursing students' experiences with belongingness in the CLE. Adjusting terminology to better reflect language norms of the United States did not impact the reliability of the scale. Validity assessment using factor analysis resulted in different outcomes than the original developers and prior translations. However, the resulting 25-item scale reflects strong psychometric properties for use going forward. There is rich opportunity for future research using this adapted scale to explore interventions that promote and foster belongingness in this population, with the goal of providing positive clinical learning experiences for undergraduate nursing students as they prepare to enter professional practice.

Author Contribution

All authors participated in constructing the research topic, developing the proposal and questionnaire, analyzing the data, and critically appraising the manuscript. All authors agreed on the final manuscript for submission.

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Declaration of Competing Interest

None.

CHAPTER IV: MODIFIABLE FACTORS CONTRIBUTING TO BELONGINGNESS OF UNDERGRADUATE NURSING STUDENTS IN THE CLINICAL LEARNING ENVIRONMENT: AN EXPLORATORY STUDY

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Abstract

Background: The concept of belongingness has been tied to both positive personal and educational outcomes in undergraduate nursing students in the clinical learning environment. To date, no studies have been completed to assess factors that foster belongingness in U.S. nursing students.

Objectives: This study aimed to assess demographic characteristics, program/clinical structure factors, and modifiable clinical setting factors that may impact and predict feelings of belongingness in U.S. undergraduate nursing students in the clinical learning environment.

Design: A cross-sectional survey design was used to assess the relationship between demographics, program/clinical structure factors, and modifiable clinical setting factors and levels of belongingness using the U.S. version of the Belongingness Scale – Clinical Placement Experience (BES-CPE).

Setting: A national study was conducted via the National Student Nurses Association database from December 2022 to January 2023.

Participants: Inclusion criteria consisted of undergraduate student status, current enrollment in nursing school in the United States, and completion of at least one nursing course with a clinical component. By the end of data collection in January 2023, complete responses from 759 volunteer undergraduate nursing students were included in the analysis.

Methods: An online survey via Qualtrics was disseminated by the National Student Nurses Association to its membership base to assess demographic factors, program/clinical structure factors, students' perceptions on the frequency of occurrence and perceived value of modifiable clinical setting factors (including clinical format, clinical site, relationship and interpersonal, and miscellaneous factors), and to measure levels of belongingness experienced.

Results: Following bivariate and multivariate analyses, the findings from this study revealed one statistically significant program/clinical structure factor (p <.001) and 10 statistically significant modifiable clinical setting factors in all four categories (clinical format factors, clinical site factors, relationship and interpersonal factors, and miscellaneous factors, p <.001) that contribute to belongingness, five of which potentially predict these important feelings. The findings also support the use of the U.S. version of the BES-CPE as a reliable and valid scale to assess belongingness in undergraduate nursing students.

Conclusions: The results of this study demonstrate the importance of fostering belongingness in undergraduate nursing students in the clinical learning environment and, for the first time, extrapolate qualitative findings from the literature into the identification of factors that contribute to these critical feelings of acceptance. Consequently, there are immediate implications for nursing educators and a rich foundation for future intervention research is proposed.

Keywords: Belonging, belongingness, nursing students, clinical experience, clinical learning environment

Introduction

With the lingering effects of the COVID-19 pandemic continuing to impact the global nursing shortage (Buchan et al., 2022), the need for qualified new graduate nurses is stronger than ever. Nursing schools are under immense pressure to graduate competent nurses who are ready to face the ever-changing challenges in nursing today. While didactic components provide the infrastructure for learning, hands-on clinical experiences in which students care for patients and learn the intricacies of the clinical environment are essential for nursing students' preparation to enter practice. Among numerous different factors influencing these experiences, fostering feelings of belongingness is central to students achieving learning and personal outcomes in the clinical learning environment (CLE) (Singer et al., 2022).

The concept of belongingness, originally described by Maslow (1943) and described as the need to feel accepted, recognized, valued, and appreciated (Baumeister & Leary, 1995), is critical to nursing students feeling motivated to learn, actively participating in clinical care, attaining learning outcomes, increasing confidence, developing self-efficacy, and forming a nursing identity (Clarke et al., 2020; Ford et al., 2016; Levett-Jones et al., 2007b; Teskereci & Boz, 2019). Negative outcomes that may result when nursing students do not feel as if they belong in the CLE include confusion over the nurse role, adaptation of unprofessional or poor practices as a means of attempting to "fit in," decreased motivation to learn, and increased anxiety (Astley-Cooper, 2012; Levett-Jones & Lathlean, 2008; Levett-Jones & Lathlean, 2009b).

While there are global studies describing the concept of belongingness in nursing students in the CLE, there is a gap in the literature evaluating belongingness in nursing students in the United States and subsequent identification and establishment of effective interventions to foster these critical feelings of belongingness. Therefore, the purpose of this study was to assess demographic characteristics, program/clinical structure factors, and modifiable clinical setting

factors (MCSFs) that may impact and predict feelings of belongingness in U.S. undergraduate nursing students in the CLE.

Background

Abraham Maslow (1943) is credited with first describing the overarching concept of belongingness. In his development of a Hierarchy of Needs that contribute to both personality and human motivation, belongingness and love needs follow after physiological and safety needs and before esteem and self-actualization needs in the pyramid of importance for survival of and power to motivate individuals (Maslow, 1943). Two dimensions to belongingness were identified by Hagerty et al.'s (1992) widely referenced concept analysis: valued involvement, or "the experience of feeling valued, needed, or accepted," and fit, defined as "the person's perception that [their] characteristics articulate with or complement the system [(a relationship or organization)] or [natural or cultural] environment" (p. 173). Baumeister and Leary (1995) further clarified the concept and described the "need to belong" as a basic human requirement. Additionally, they explained that humans naturally gravitate toward belongingness and therefore it should be found in all people in every culture (Baumeister & Leary, 1995).

Allen et al. (2021) published a literature review assessing belongingness across disciplines and noted it as a critical concept for evaluation within the social sciences as the "need to belong" has been observed across neural, biological, behavioral, and social contexts. While belongingness has been described in numerous social sciences since the mid-1900s, the concept and its associated implications specific to nursing education were not critiqued until 2007 by Levett-Jones et al. Through their extensive work on the concept, Levett-Jones and Lathlean (2008) developed the following definition which was utilized for this study:

> Belongingness is a deeply personal and contextually mediated experience that evolves in response to the degree to which an individual feels

(a) secure, accepted, included, valued and respected by a defined group,

(b) connected with or integral to the group, and

(c) that their professional and/or personal values are in harmony with those of the group.

The experience of belongingness may evolve passively in response to the actions of the group to which one aspires to belong and/or actively through the actions initiated by the individual. (p. 104)

A scoping review was previously conducted by the author and colleagues and mapped the current literature on belongingness of undergraduate nursing students in the CLE (Singer et al., 2022). Contributing factors to belongingness were categorized into three areas: 1) CLE factors (flexible, welcoming clinical environments and strong, welcoming clinical leadership), 2) relationships and interpersonal factors (collaboration between clinical unit, schools, students themselves; staff-student relationships; attitudes and behaviors of nursing staff; and attitudes of the interprofessional team); and 3) student experience factors (values dissonance, legitimization of the student role, and shared expectations by role) (Singer et al., 2022). Interventions and recommendations for practice identified in the scoping review included four areas: 1) preceptor role development (mentorship, feedback, and role modeling); 2) orientation (preceptor orientation and student orientation); 3) proactive student education (complexity and inherent challenges and preparation by senior students/peer support); and 4) clinical format optimization (duration/length of rotations and consistency to include that of clinical sites, preceptors/mentors, and clinical groups) (Singer et al., 2022).

With a paucity of literature describing belongingness amongst U.S. nursing students, the authors aimed to evaluate the current state of the phenomenon and provide a foundation for future intervention research. As such, the research questions this study aimed to answer were:

1. What demographic factors impact levels of belongingness in American undergraduate nursing students in the CLE?
2. What program/clinical structure factors impact levels of belongingness in American undergraduate nursing students in the CLE?
3. What MCSFs predict higher levels of belongingness in American undergraduate nursing students in the CLE?

Methods

For this cross-sectional study, an online survey via Qualtrics was disseminated and collected data in four areas: demographic factors, program/clinical structure factors, students' perceptions on the frequency of occurrence and perceived value of modifiable clinical setting factors (including clinical format, clinical site, relationship and interpersonal, and miscellaneous factors), and levels of belongingness experienced.

Sample/Participants

The target population for this study was undergraduate nursing students currently enrolled in an accredited school of nursing and participating in clinical experiences in the United States. The National Student Nurses' Association (NSNA) database was used to reach students across the United States. Inclusion criteria for study participation were 1) identification as an undergraduate nursing student, 2) current attendance in a nursing school in the United States, and 3) completion of at least one nursing course with a clinical component.

Ethical Considerations

Institutional review board approval was obtained prior to the initiation of research (IRB #2022-201 – Appendix A). There was minimal risk to this study. Participation was voluntary and informed consent was obtained via Qualtrics prior to the start of survey questions. To ensure anonymity, the NSNA sent recruitment emails directly to potential participants without releasing

email addresses or any identifying information to the investigator. In addition, IP address collection was turned off in Qualtrics. Students were able to opt out of the study at any point during the consent and data collection phases by exiting Qualtrics.

Measurement Instruments

The participant survey included a researcher-developed tool designed to assess for demographics, program/clinical structure factors, and students' experiences with and perceived value of MCSFs and the U.S. version of the Belongingness Scale – Clinical Placement Experience (BES-CPE), which is used to assess levels of belongingness with demonstrated reliability and validity (Singer et al., 2023).

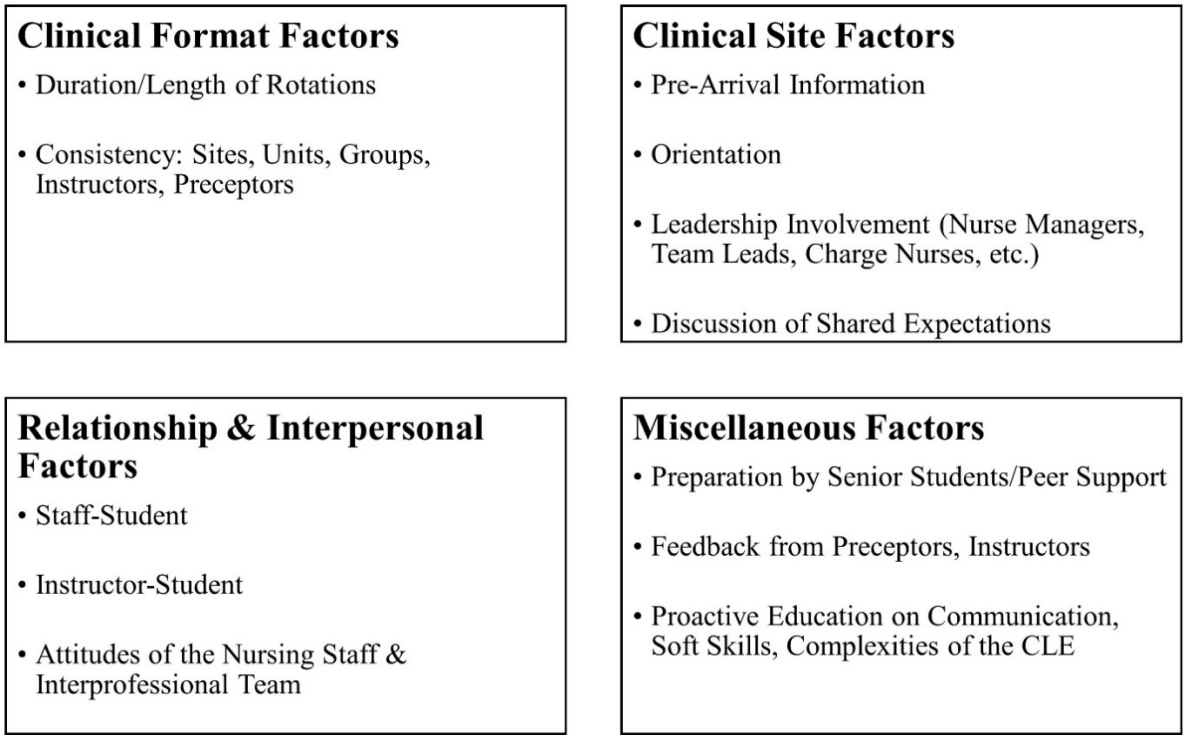
Demographic survey items included age, gender, geographic location, primary language, prior experience in healthcare, family members in healthcare, and current employment. Program/clinical structure factors were assessed with questions regarding type of degree program, length of program, progress in program, number of clinical rotations completed, specialized tracks (accelerated program, dedicated educational unit), and type of facility for clinical rotations.

Students' experiences with and perceived value of MCSFs: the findings from the author and colleagues' aforementioned scoping review were subsequently reviewed and 12 factors that can potentially increase nursing students' feelings of belongingness and can be influenced by nursing schools were identified. These factors were grouped into four categories based on their perceived impact on belongingness: clinical format, clinical site, relationship and interpersonal factors, and miscellaneous (Figure 4.1). Clinical format factors include duration/length of rotations and consistency of sites, units, groups, instructors, and preceptors. Clinical site factors include pre-arrival information, orientation, leadership involvement, and discussion of shared expectations. Relationship and interpersonal factors include staff-student, instructor-student, and

attitudes of the nursing staff and interprofessional team. Miscellaneous factors include preparation by senior students/peer support; feedback from preceptors and instructors; and proactive education on communication, soft skills, and complexities of the CLE. Survey items were developed to assess both frequency of occurrence of MCSFs as well as perceived value by students. Participants received the following instructions prior to answering the MCSF items: "As you answer the following questions, reflect on your nursing program as a whole."

Figure 4.1

Categories of Modifiable Clinical Setting Factors (MCSFs)



Prior to use, the tool was assessed via detailed review by three content experts with varied educational backgrounds (MSN, DNP, and PhD) and expertise in nursing pedagogy, clinical education, and instrumentation/measurement. The primary author interviewed the reviewers to assess both content and construct validity, as well as perspective on utility. After this review process and subsequent revisions, the survey items were piloted by 16 students (8

junior-level, 8 senior-level) at the authors' home institution who met the inclusion criteria for the study. These pilot participants were interviewed via focus group for their perspectives on utility, navigation, and clarity of the tool and survey interface. Feedback from the pilot participants was compiled and used to amend and finalize the survey in Qualtrics (Appendix B).

The U.S. version of the Belongingness Scale – Clinical Placement Experience (BES-CPE) is a scale designed to assess feelings, cognition, and behaviors surrounding the major components of belongingness (esteem, efficacy, and connectedness). The original BES-CPE is a valid and reliable 34-item instrument that has previously been primarily utilized in Australia and Europe (Levett-Jones et al., 2009a). Respondents answer items assessing their experiences with belongingness on a five-point Likert scale (1 = never true, 2 = rarely true, 3 = sometimes true, 4 = often true, and 5 = always true) and a grand mean of all items is calculated. After obtaining permission from the creator, Dr. Tracy Levett-Jones, the author conducted a pilot study in the fall of 2021 to adapt the BES-CPE to language and terminology used in the United States followed by psychometric analysis and evaluation of utility of the tool (Singer et al., 2023). Following reliability assessment, principal components analysis, and review of the creators' recommendations, the scale was adapted to 25 items and deemed valid and reliable for use in the United States with a final Cronbach's alpha of 0.93 (Singer et al., 2023). In alignment with the pilot study and to promote clarity and consistency, students were provided the following instructions prior to answering the BES-CPE items: "As you answer the following questions, reflect back on your clinical experiences as a whole. Use the following terms as you answer these questions: Classmates: Your cohort of students (those that are graduating at the same time as you and are in your classes and clinical groups); Clinical: Your clinical coursework or practicum that takes place in a healthcare setting; Staff: The nursing staff you worked with during your clinical experiences."

Data Collection Procedures

Throughout December 2022 and January 2023, emails were sent (Appendix C) by the NSNA with a link to the Qualtrics survey which included the researcher-developed scale assessing demographics, program/clinical structure factors, and MCSFs and the U.S. version of the BES-CPE. Emails were successfully delivered to 38,527 NSNA members and three duplicative email broadcasts were sent approximately every 2-3 weeks during the survey period. The survey was closed on January 28, 2023.

Results

Data was exported from Qualtrics into the IBM Statistical Package for the Social Sciences (SPSS) version 29 for Windows. A total of 1,067 responses were collected. Of those, 14 were removed due to no responses to questions assessing inclusion criteria and an additional 139 were removed for not meeting inclusion criteria. From there, an additional 155 responses were removed for missing data (i.e., had not completed the BES-CPE). This led to a final analysis of 759 which was 71% of the responding sample. Demographics of the participants are presented in Table 4.1.

Table 4.1

Demographic Characteristics of Participants (N = 759)

	Frequency	Percent	BES-CPE Mean ± SD[a]	p-value
Age				.714
18-22 years	261	34.4	3.85 ± 0.59	
23-25 years	107	14.1	3.87 ± 0.57	
26-30 years	104	13.7	3.93 ± 0.64	
31-35 years	92	12.1	3.90 ± 0.61	
36-40 years	79	10.4	3.84 ± 0.54	
41 years and above	116	15.3	3.81 ± 0.55	
Gender				.821[b]
Female	700	92.2	3.87 ± 0.58	

Male	53	7.0	3.88 ± 0.52	
Non-binary/non-conforming	5	0.7	3.21 ± 0.93	
Prefer not to answer	1	0.1	3.00	
Geographical location				.746[c]
Central region	148	19.5	3.91 ± 0.57	
Northeastern region	160	21.1	3.84 ± 0.62	
Western region	168	22.1	3.86 ± 0.56	
Southern region	283	37.3	3.86 ± 0.59	
Primary language				.030[d]
English	709	93.4	3.86 ± 0.59	
Spanish	29	3.8	4.03 ± 0.53	
Other	21	2.8	3.59 ± 0.54	
Worked in healthcare prior to nursing school				.457
Yes	424	55.9	3.88 ± 0.60	
No	335	44.1	3.84 ± 0.56	
Family members work (or previously worked) in healthcare				.893
Yes	442	58.2	3.86 ± 0.57	
No	317	41.8	3.87 ± 0.61	
Currently employed in a healthcare setting				.164
Yes	402	53.0	3.83 ± 0.59	
No	357	47.0	3.89 ± 0.58	

[a]BES-CPE mean refers to the grand mean of the 25-item scale.

[b]Significance tests performed only on male/female respondents due to extremely small frequencies in other categories equaling less than 1% of total sample.

[c]For geographical locations, participants selected home state and the Association of American Medical Colleges region categories were utilized.

[d]When responses are grouped as English speaking and non-English speaking, independent t-test revealed no significant findings ($p = .136$).

Mean scores of each item of the U.S. version of the BES-CPE are presented in Table 4.2. The overall mean BES-CPE score for the entire sample was 3.86 ± 0.58. Internal consistency reliability, measured by Cronbach's alpha, was 0.93 for the U.S. version of the BES-CPE scale.

Table 4.2

Mean and Standard Deviation for All U.S. Version of the BES-CPE Items in Descending Order

Item		M	SD
Q19	I am supportive of my classmates.	4.56	0.60
Q10r	I feel discriminated against in clinicals.	4.30	1.03
Q31	I let my classmates know that I appreciate them.	4.17	0.86
Q32	I ask my classmates for help when I need it.	4.13	0.93
Q18	I make an effort when in clinicals to be involved with my classmates in some way.	4.05	0.82
Q30	One or more of my classmates confides in me.	4.05	0.96
Q28	I let classmates know I care about them by asking how things are going for them and their family.	3.98	0.93
Q7	I get support from classmates when I need it.	3.97	0.97
Q21	People I work with in clinicals accept me when I'm just being myself.	3.94	0.87
Q27	It seems that people I work with in clinicals like me.	3.92	0.76
Q9	I like the people I work with in clinicals.	3.90	0.77
Q33	I like where I attend clinicals.	3.84	0.94
Q1	I feel like I fit in with others during my clinicals.	3.82	0.84
Q15	There are people that I work with in clinicals who share my values.	3.80	0.77
Q29	Classmates notice when I am absent from clinicals or social gatherings because they ask about me.	3.78	1.14
Q4	Classmates offer to help me when they sense I need it.	3.76	1.01
Q16	Classmates ask me for my ideas or opinions on different matters.	3.76	0.95
Q24	Feeling "a part of things" is one thing I like about going to clinical.	3.75	1.00
Q23	When I walk up to a group during clinical I feel welcomed.	3.74	0.97
Q25	There are people in clinicals with whom I have a strong bond.	3.74	1.03
Q17	I feel understood by my classmates.	3.67	0.94
Q2	It is important to feel accepted by my classmates.	3.66	0.98
Q14r	In clinicals I feel like an outsider.	3.66	1.05
Q13	I invite classmates to eat lunch/dinner with me.	3.46	1.22
Q8	I am invited to social events outside my clinicals by classmates.	3.16	1.29

Note. $N = 759$. r notes reverse scoring of the item.

T-tests and one-way analysis of variances (ANOVAs) were completed to compare the overall mean BES-CPE scores among demographics (Table 4.1), program/clinical structure factors (Table 4.3), MCSF frequency variables (Table 4.4), and MCSF value variables (Table 4.5). Initial assessment yielded 31 items with statistically significant findings (p <.05). To adjust for multiple tests and avoid type I error, Bonferroni adjustment was made to set the significance level at 0.00078 (.05 divided by 65). This adjustment revealed 26 items that remained significant at p <.001. These included one item that assessed program/clinical structure (having repeated a clinical course) and 10 MCSFs assessed by 25 items (one clinical format, 11 clinical site, two relationship, and 12 miscellaneous as outlined in Tables 4.4 and 4.5). No demographic factors significantly affected belongingness. However, it is notable that the mean belongingness scores of students identifying their gender as non-binary or non-conforming (3.21 ± 0.93) are markedly lower than those identifying as female (3.87 ± 0.58, n = 700) or male (3.88 ± 0.52, n = 53) (Table 4.1). Primary language spoken at home was initially the only statistically significant demographic factor identified (p = .030), with differences between English speaking students (3.86 ± 0.59), Spanish speaking students (4.03 ± 0.5), and students who stated they speak another language at home (3.59 ± 0.54). However, when responses were dichotomously grouped as English and non-English speaking to account for the small frequency of respondents indicating "other," the findings were no longer significant (p = .136).

Table 4.3

Program/Clinical Structure Factors of Participants (N = 759)

	Frequency	Percent	BES-CPE Mean & SD	p-value
Degree program				.616
ADN (Associate's Degree)	245	32.3	3.87 ± 0.59	
BSN (Bachelor's Degree)	465	61.3	3.85 ± 0.58	
Other	49	6.5	3.94 ± 0.56	
Semesters with a clinical component completed				.039
1 semester or less	237	31.2	3.94 ± 0.57	
2-3 semesters	314	41.4	3.83 ± 0.58	
4-5 semesters	168	22.1	3.80 ± 0.59	
6 or more semesters	40	5.3	3.90 ± 0.60	
Repeated a nursing course with a clinical component				<.001
Yes	58	7.6	3.59 ± 0.65	
No	701	92.4	3.88 ± 0.57	
Enrollment status				.250
Full-time	711	93.7	3.87 ± 0.59	
Part-time	48	6.3	3.77 ± 0.56	
Curricular track				.328
Accelerated (condensed)	246	32.4	3.89 ± 0.57	
Traditional	513	67.6	3.85 ± 0.59	
Class location				.830
Campus-based	711	93.7	3.86 ± 0.58	
Non-campus-based (online or self-paced learning)	48	6.3	3.84 ± 0.61	
Clinical sites: hospital type				.451
Teaching hospitals	528	69.6	3.88 ± 0.59	
Not teaching hospitals	118	15.5	3.85 ± 0.55	
Unsure	113	14.9	3.80 ± 0.57	
Clinical group: student selection or assigned				.930
Student selection	48	6.3	3.87 ± 0.55	
Assigned	646	85.1	3.86 ± 0.59	
Varies	65	8.6	3.89 ± 0.54	
Clinical instructor: student selection or assigned				.790
Student selection	22	2.9	3.86 ± 0.47	
Assigned	713	93.9	3.87 ± 0.59	
Varies	24	3.2	3.78 ± 0.62	

Note. BES-CPE mean refers to the grand mean of the 25-item scale.

Table 4.4

Frequency of Occurrence of Modifiable Clinical Setting Factors (N = 759)

	Frequency	Percent	BES-CPE Mean & SD	p-value
CLINICAL FORMAT FACTORS				
On average, how many days per week do you go to clinical?				
1 day	380	50.1	3.89 ± 0.56	.126
2 days	341	44.9	3.84 ± 0.60	
3-5 days	38	5.0	3.71 ± 0.72	
On average, how many days per week do you go to clinical for EACH clinical course?				.678
1 day	539	71.0	3.86 ± 0.57	
2 days	195	25.7	3.85 ± 0.61	
3-5 days	25	3.3	3.96 ± 0.60	
On average, how many hours do you spend providing patient care during a clinical day?				.369
4-5 hours	122	16.1	3.80 ± 0.55	
6-7 hours	208	27.4	3.85 ± 0.56	
8-9 hours	216	28.5	3.86 ± 0.64	
10-11 hours	109	14.4	3.95 ± 0.52	
12 or more hours	104	13.7	3.88 ± 0.61	
Do you complete most of your hospital clinicals at the same clinical site?				.413
Yes	359	47.3	3.88 ± 0.58	
No	400	52.7	3.85 ± 0.59	
During a single course, do you stay on the same unit for all of your clinical days?				.321
Yes	408	53.8	3.89 ± 0.58	
No	149	19.6	3.87 ± 0.59	
Varies	202	26.6	3.81 ± 0.59	
Do the peers in your clinical group stay the same or change throughout your program?				.212
Stay the same	276	36.4	3.90 ± 0.59	
Change	483	63.6	3.84 ± 0.58	
Do you have the same clinical instructor for more than one course?				.023
Yes	182	24.0	3.95 ± 0.57	
No	577	76.0	3.84 ± 0.59	
Is the nurse you are assigned to work with the same or different each clinical day?				.420
Same	51	6.7	3.96 ± 0.58	
Different	471	62.1	3.86 ± 0.60	

Varies	237	31.2	3.84 ± 0.56	
CLINICAL SITE FACTORS				
I receive information about the hospital/units I will be placed on prior to the start of clinical.				<.001
Never	51	6.7	3.62 ± 0.72	
Sometimes	220	29.0	3.74 ± 0.56	
Almost always	195	25.7	3.78 ± 0.53	
Always	293	38.6	4.05 ± 0.56	
My program provides orientation to each of my clinical sites prior to the first day of clinical.				<.001
Never	150	19.8	3.80 ± 0.62	
Sometimes	216	28.5	3.74 ± 0.56	
Almost always	113	14.9	3.84 ± 0.52	
Always	280	36.9	4.00 ± 0.59	
The clinical site provides orientation prior to or when I arrive at the hospital/ unit for the first day of clinical.				<.001
Never	173	22.8	3.72 ± 0.57	
Sometimes	212	27.9	3.77 ± 0.58	
Almost always	132	17.4	3.83 ± 0.55	
Always	242	31.9	4.06 ± 0.56	
On my clinical unit(s), the members of the leadership team (nurse managers, team leads, charge nurses) are involved in my clinical experience.				<.001
Never	153	20.2	3.67 ± 0.56	
Sometimes	342	45.1	3.81 ± 0.56	
Almost always	145	19.1	3.87 ± 0.55	
Always	119	15.7	4.24 ± 0.52	
The nurse I am assigned to work with asks about my expectations and learning needs at the start of each clinical day.				<.001
Never	182	24.0	3.67 ± 0.62	
Sometimes	360	47.0	3.81 ± 0.54	
Almost always	114	15.0	3.99 ± 0.55	
Always	103	13.6	4.23 ± 0.53	
MISCELLANEOUS FACTORS				
I receive formal preparation on what to expect in the clinical environment from students who are further along in my program.				<.001
Never	285	37.5	3.77 ± 0.57	
Sometimes	235	31.0	3.76 ± 0.56	
Almost always	118	15.5	3.85 ± 0.57	
Always	121	15.9	4.28 ± 0.51	
I receive constructive feedback from the nurse I am assigned to work with each clinical day.				<.001
Never	164	21.6	3.67 ± 0.64	

Sometimes	337	44.4	3.80 ± 0.52	
Almost always	141	18.6	3.94 ± 0.54	
Always	117	15.4	4.23 ± 0.55	
I receive constructive feedback from my clinical instructor during the clinical day.				<.001
Never	24	3.2	3.53 ± 0.56	
Sometimes	158	20.8	3.59 ± 0.57	
Almost always	252	33.2	3.81 ± 0.52	
Always	325	42.8	4.07 ± 0.57	
I receive formal education from my nursing program about how to communicate verbally in the clinical setting.				<.001
Never	44	5.8	3.55 ± 0.63	
Sometimes	197	26.0	3.62 ± 0.55	
Almost always	210	27.7	3.81 ± 0.53	
Always	308	40.6	4.10 ± 0.54	
I receive formal education from my nursing program about how to communicate non-verbally (attitude, behavior, body language) in the clinical setting.				<.001
Never	49	6.5	3.61 ± 0.57	
Sometimes	168	22.1	3.58 ± 0.57	
Almost always	221	29.1	3.81 ± 0.53	
Always	321	42.3	4.09 ± 0.54	
I receive formal education from my nursing program about how to remain flexible during my clinical rotations.				<.001
Never	110	14.5	3.61 ± 0.61	
Sometimes	206	27.1	3.70 ± 0.57	
Almost always	194	25.6	3.86 ± 0.50	
Always	249	32.8	4.12 ± 0.56	

Note. BES-CPE mean refers to the grand mean of the 25-item scale.

Table 4.5

Perceived Value of Modifiable Clinical Setting Factors (N = 759)

	Frequency	Percent	BES-CPE Mean & SD	p-value
CLINICAL FORMAT FACTORS				
Throughout my program, I spend enough hours in clinical that I feel like I am part of a team caring for patients.				<.001
Strongly disagree	48	6.3	3.54 ± 0.63	
Disagree	109	14.4	3.71 ± 0.50	
Neutral	190	25.0	3.68 ± 0.58	

Agree	284	37.4	3.93 ± 0.53	
Strongly agree	128	16.9	4.25 ± 0.53	
It would be best to be assigned to the same clinical site throughout my nursing program.				.182
Strongly disagree	190	25.0	3.86 ± 0.61	
Disagree	271	35.7	3.86 ± 0.53	
Neutral	138	18.2	3.87 ± 0.60	
Agree	87	11.5	3.76 ± 0.58	
Strongly agree	73	9.6	3.99 ± 0.67	
It would be best to be assigned to the same unit each clinical day for an entire course.				.323
Strongly disagree	108	14.2	3.92 ± 0.58	
Disagree	205	27.0	3.84 ± 0.57	
Neutral	140	18.4	3.81 ± 0.53	
Agree	183	24.1	3.84 ± 0.57	
Strongly agree	123	16.2	3.94 ± 0.68	
It would be best to be assigned to the same clinical group with the same peers throughout my nursing program.				.420
Strongly disagree	115	15.2	3.81 ± 0.68	
Disagree	206	27.1	3.86 ± 0.52	
Neutral	175	23.1	3.83 ± 0.56	
Agree	137	18.1	3.88 ± 0.53	
Strongly agree	126	16.6	3.94 ± 0.67	
It would be best to have the same clinical instructor for as many courses throughout my nursing program as the instructor is clinically competent to teach.				.989
Strongly disagree	115	15.2	3.85 ± 0.61	
Disagree	227	29.9	3.86 ± 0.55	
Neutral	166	21.9	3.87 ± 0.54	
Agree	128	16.9	3.85 ± 0.57	
Strongly agree	123	16.2	3.89 ± 0.69	
It would be best to be assigned to work with the same nurse for as many clinical experiences as possible.				.564
Strongly disagree	112	14.8	3.88 ± 0.60	
Disagree	263	34.7	3.87 ± 0.52	
Neutral	171	22.5	3.81 ± 0.59	
Agree	127	16.7	3.84 ± 0.62	
Strongly agree	86	11.3	3.94 ± 0.68	
CLINICAL SITE FACTORS[a]				
The information I receive before I start my clinical about the hospital/units I will be placed on is enough to help me feel prepared to start.				<.001
Strongly disagree/disagree	236	31.1	3.70 ± 0.58	
Neutral	204	26.9	3.78 ± 0.54	

Agree	235	31.0	3.96 ± 0.56	
Strongly agree	84	11.1	4.25 ± 0.54	
The orientation to my clinical sites that my program provides is thorough and I feel prepared to care for patients on my first day of clinical.				<.001
Strongly disagree/disagree	244	32.1	3.69 ± 0.56	
Neutral	225	29.6	3.80 ± 0.59	
Agree	203	26.7	3.97 ± 0.52	
Strongly agree	87	11.5	4.27 ± 0.54	
The orientation my clinical site provides is thorough and I feel prepared to care for patients on my first day of clinical.				<.001
Strongly disagree/disagree	250	32.9	3.69 ± 0.58	
Neutral	207	27.3	3.78 ± 0.55	
Agree	217	28.6	3.97 ± 0.55	
Strongly agree	85	11.2	4.28 ± 0.52	
On the units I am placed on, I value the leadership team (nurse managers, team leads, charge nurses) being involved in my clinicals.				<.001
Strongly disagree/disagree	70	9.2	3.74 ± 0.56	
Neutral	192	25.3	3.65 ± 0.61	
Agree	317	41.8	3.84 ± 0.52	
Strongly agree	180	23.7	4.17 ± 0.55	
In clinical, I feel comfortable sharing my expectations of what I need to learn/experience with the nurse(s) I'm assigned to work with.				<.001
Strongly disagree/disagree	122	16.1	3.60 ± 0.60	
Neutral	153	20.2	3.66 ± 0.54	
Agree	325	42.8	3.88 ± 0.54	
Strongly agree	159	20.9	4.22 ± 0.52	
RELATIONSHIP FACTORS[a]				
The relationship I build with the nurse I'm assigned to work with each day impacts how much I feel like I belong on that unit.				<.001
Strongly disagree/disagree/ neutral	114	15.0	3.72 ± 0.63	
Agree	323	42.6	3.81 ± 0.56	
Strongly agree	322	42.4	3.96 ± 0.58	
The relationship I build with my clinical instructor affects how much I feel like I belong in the hospital/clinical site.				<.001
Strongly disagree/disagree/ neutral	131	17.3	3.72 ± 0.59	
Agree	288	37.9	3.79 ± 0.54	
Strongly agree	340	44.8	3.98 ± 0.60	
The attitudes of the nursing staff affect how much I feel like I belong on that unit.				.006
Strongly disagree/disagree/ neutral	48	6.3	3.74 ± 0.62	
Agree	210	27.7	3.78 ± 0.54	
Strongly agree	501	66.0	3.91 ± 0.59	

The attitudes of the entire interprofessional care team affect how much I feel like I belong on that unit.				.004
Strongly disagree/disagree/ neutral	72	9.5	3.73 ± 0.55	
Agree	258	34.0	3.80 ± 0.54	
Strongly agree	429	56.5	3.92 ± 0.61	
MISCELLANEOUS FACTORS[a]				
I value (or would value) formal preparation on how to navigate the clinical environment from students who are further along in my program.				<.001
Strongly disagree/disagree/ neutral	111	14.6	3.73 ± 0.59	
Agree	319	42.0	3.79 ± 0.52	
Strongly agree	329	43.0	3.97 ± 0.62	
I value (or would value) receiving constructive feedback from the nurses I am assigned to work with each day.				<.001
Strongly disagree/disagree/ neutral	43	5.7	3.63 ± 0.57	
Agree	314	41.4	3.78 ± 0.53	
Strongly agree	402	53.0	3.95 ± 0.61	
I value (or would value) receiving constructive feedback from my clinical instructor each day.				<.001
Strongly disagree/disagree/ neutral	40	5.3	3.58 ± 0.53	
Agree	255	33.6	3.75 ± 0.52	
Strongly agree	464	61.1	3.95 ± 0.61	
I value (or would value) receiving formal education from my nursing program about how to communicate verbally in the clinical setting.				<.001
Strongly disagree/disagree/ neutral	59	7.8	3.59 ± 0.54	
Agree	294	38.7	3.80 ± 0.51	
Strongly agree	406	53.5	3.95 ± 0.62	
I value (or would value) receiving formal education from my nursing program about how to communicate non-verbally (attitude, behavior, body language) in the clinical setting.				<.001
Strongly disagree/disagree/ neutral	75	9.9	3.69 ± 0.52	
Agree	293	38.6	3.80 ± 0.52	
Strongly agree	391	51.5	3.95 ± 0.63	
I value (or would value) receiving formal education from my nursing program about how to remain flexible during my clinical rotations.				<.001
Strongly disagree/disagree/ neutral	108	14.2	3.69 ± 0.56	
Agree	276	36.4	3.79 ± 0.50	
Strongly agree	375	49.4	3.97 ± 0.63	

Note. BES-CPE mean refers to the grand mean of the 25-item scale.

[a]All items were answered on a 5-point Likert scale (strongly disagree, disagree, neutral, agree, strongly agree). For Clinical Site, Relationship, and Miscellaneous factors, groups were collapsed for statistical analyses due to small frequencies.

A hierarchical multiple regression was then run to determine if the addition of MSCFs improved the prediction of belongingness (via mean BES-CPE score) over and above demographic and program/clinical structure factors. The assumptions of linearity, independence of errors, homoscedasticity, multicollinearity, highly influential points, and normality were assessed and no violations were found. Factors included in the model were selected from those with statistically significant (p <.05) bivariate analysis findings. See Table 4.6 for details on the models summary and predictors in the final regression model. The final model (model 5) of demographics and program/clinical structure factors and four categories of MCSFs (clinical format, clinical site, relationships, miscellaneous factors) to predict BES-CPE (Model 5) was statistically significant, R^2 = .266, F(26, 732) = 10.216, p <.001, adjusted R^2 = .240, indicating program/clinical structure factors and four categories of MCSFs explained about 24% of the variance of belongingness (program/clinical structure factors 2.2%, clinical format factors 10.6%, clinical site factors 8.8%, and relationships explained 0.6% and miscellaneous factors 4.4%). Five significant factors were identified in the regression analysis including one program/clinical structure factor (past or current repetition of a nursing course with a clinical component) and four MCSFs: one clinical format factor (perceived value of duration and length of rotations), one clinical site factor (the perceived value of discussion of shared expectations), and two miscellaneous factors (the frequency of feedback received from the clinical instructor and the frequency of students receiving proactive education on communication). No demographic factors or factors in the relationship category of MCSFs were significant. Of the

five factors, instructor feedback is shown as the strongest predictor with {B = .087, adjusted B = .129). All factors are shown as having a positive prediction of belongingness.

Table 4.6

Preliminary Significant Predictors of Belongingness

			Model 5		
	B	SE of B	ß	p-value	95% CI of B
Constant	2.060	.228			
Repeated courses	.258	.071	.117	<.001	.118-.397
Hours in clinical (CF value)	.051	.021	.098	.014	.011-.092
Shared expectations (CS value)	.047	.018	.102	.010	.011-.082
Instructor feedback (misc. frequency)	.087	.027	.129	.001	.035-.140
Education on verbal communication (misc. frequency)	.065	.027	.106	.016	.012-.119
Models Summary[a]	Model 1	Model 2	Model 3	Model 4	Model 5
R^2	.022	.129	.217	.223	.266
F	5.768	22.278	14.695	13.288	10.216
ΔR^2	.022	.106	.088	.006	.044
ΔF	5.768	46.011	9.261	2.907	4.344

Note. B = Unstandardized Regression Coefficient; SE of B = Standard Error of the Coefficient; ß = Standardized Coefficient; CI of B = Confidence Interval for B; R^2 = Coefficient of Determination; ΔR^2 = Change of R^2. CF = clinical format, CS = clinical setting.

[a]Model 1: Constant + significant program/clinical structure factors (language, program progress, repeated courses).

Model 2: Constant + significant program/clinical structure factors + significant clinical format factors (consistency of instructors, hours in clinical).

Model 3: Constant + significant program/clinical structure factors + significant clinical format factors + significant clinical site factors (pre-arrival information, program orientation, site orientation, leadership involvement, shared expectations).

Model 4: Constant + significant program/clinical structure factors + significant clinical structure factors + significant clinical site factors + significant relationship factors (staff-student relationships, instructor-student relationships).

Model 5: Constant + significant program/clinical structure factors + significant clinical format factors + significant clinical site factors + significant relationship factors + significant miscellaneous factors (preceptor feedback, instructor feedback, peer preparation, verbal communication education, flexibility education).

Discussion

This study described undergraduate nursing students' experiences with belongingness in the CLE. Following a scoping review previously conducted by the primary author and colleagues (Singer et al., 2022), twelve factors were identified as potentially modifiable to increase feelings to belongingness (Figure 4.1). Items were developed to assess both frequency of occurrence of these MCSFs as well as their perceived value by undergraduate nursing students. In addition to demographic and program/clinical structure questions, these items were distributed with the U.S. version of the BES-CPE. The survey was taken by a large number of undergraduate nursing students across the United States and revealed 11 factors that significantly impact and five that potentially predict feelings of belongingness in this population.

The overall mean U.S. version of the BES-CPE score for the entire sample was 3.86, which was lower than the pilot study at 3.92 (Singer et al., 2023). However, this was higher than in studies using the original BES-CPE which ranged from 2.81 (Honda et al., 2016) to 3.58 (Levett-Jones et al., 2009a) and indicates that U.S. nursing students often feel as if they belong in

the CLE. The highest-ranking item ("I am supportive of my classmates") was the same between this study and the pilot study (Singer et al., 2023). Reliability analysis via Cronbach's alpha was high and identical to findings in the pilot study (Singer et al., 2023). The high number (25) of significant items related to MCSFs supports the validity of the author-developed scale in accurately reflecting the current literature.

Demographic findings were largely insignificant in their impact on belongingness scores. There are some notable indicators such as students who identified as non-binary and non-English speaking that are worth future investigation. Neither were identified as a significant factor statistically; however, their lower rating of belongingness warrants future inquiry as these students likely represent minority or underrepresented groups who may require more and/or different attention and additional support to experience higher levels of belongingness (Sedgwick et al., 2014).

One program/clinical structure factor was identified as statistically significant (p <.001): repetition of a clinical course. Students who were actively or had previously repeated a clinical course (n = 58) had statistically significant lower mean BES-CPE scores (3.59 ± 0.65) than those who had not (3.88 ± 0.57). This demonstrates the need for additional support for students who face academic and progression challenges. While outside the limits of statistical significance for this study, the program/clinical structure of semesters with a clinical component completed (p <.05) is notable. Interestingly, students who had completed one semester with a clinical component or were currently enrolled in their first clinical course had higher belongingness scores (3.94 ± 0.57) than those that had completed two to three semesters (3.83 ± 0.58), four to five semesters (3.80 ± 0.59), and 6 or more semesters (3.90 ± 06.60). Further exploration is needed to determine causes of this variation, particularly why scores seem to decrease as students progress in their programs. While not statistically significant, the authors note that the

great majority of students are assigned to their clinical groups (85.1%) and their clinical instructor (93.95%). Implications of these programmatic attributes also warrant further study.

In the author-developed instrument assessing MCSFs, 12 factors falling into four categories (clinical format, clinical site, relationships and interpersonal factors, and miscellaneous) were assessed via 42 items for students' frequencies of experiences and perceived value of the factors. Only one clinical format factor, the value attributed to duration/length of rotations, was statistically significant after Bonferroni adjustment. Students who strongly disagreed they spend enough hours in clinical had significantly lower BES-CPE scores (3.54 ± 0.63) than those that disagreed (3.71 ± 0.5), were neutral (3.68 ± 0.58), agreed (3.93 ± 0.5), and strongly agreed (4.25 ± 0.5) with the statement. Thus, programs should evaluate their curricula to ensure students spend meaningful time in the CLE.

While one-on-one relationships between students and both nursing staff and clinical instructors were statistically significant in impacting belongingness scores, no relationship factor was significant in predicting BES-CPE scores. Students who reported they strongly disagreed, disagreed, or were neutral about the relationship they build with the nurse they are assigned to each day had lower belongingness scores (3.72 ± 0.63) than those who agreed (3.81 ± 0.5) or strongly agreed (3.96 ± 0.58). Likewise, students who responded they strongly disagreed, disagreed, or were neutral that the relationship they build with their clinical instructor affected how much they felt like they belonged in the hospital/clinical site were lower (3.72 ± 0.59) than those who agreed (3.79 ± 0.54), or strongly agreed (3.98 ± 0.60). Interestingly, students' reports of the attitudes of both the nursing staff and the entire interprofessional team were statistically significant before Bonferroni adjustment. So, while not statistically significant post adjustment, they may be clinically significant and should not be eliminated as factors potentially contributing

to belongingness. These results illustrate the critical importance of empowering students to build strong one-on-one relationships between assigned nurse preceptors and clinical instructors.

All items assessing the frequency of experience and perceived value of clinical site factors were statistically significant ($p = <.001$) including pre-arrival information, orientation (both by the program and the site), leadership involvement in the CLE, and comfort in sharing expectations of what the student needs to learn/experience with the nurse(s) to whom they are assigned (Tables 4.4 and 4.5). This demonstrates the critical importance of optimizing relationships between nursing programs and clinical sites, as well as empowering students to assert their learning needs each day they are in the CLE. Likewise, these findings are very actionable and represent proverbial 'low hanging fruit' to improve feelings of belongingness in students.

Similarly, all items assessing the frequency and perceived value of miscellaneous factors were statistically significant at $p = <.001$ and included preparation by senior students and peer support, feedback from both preceptors and instructors, and proactive education on communication, soft skills, and the complexities of the CLE (Tables 4.4 and 4.5). These actionable items are an impetus to a wealth of interventions aimed at fostering belongingness from multiple different directions. Students may benefit from a pre-clinical 'bootcamp' aimed at communication strategies and from educational content provided by senior students on how to thrive in the CLE. As with the clinical site factors, there are numerous highly actionable opportunities to capitalize on these findings.

The multivariate analysis provided a preliminary assessment of predictors of belongingness in this population. Of the five factors that significantly predicted belongingness in this population (repeated courses, duration/length of rotations, discussion of shared expectations, feedback from instructors, and proactive education on communication), instructor feedback was

the strongest predictor. While the overarching model was conservative in its prediction of belongingness, this demonstrates that it is critical for programs to prioritize faculty development, specifically around how to give effective feedback. The remaining four potential predictors involved academic progress, curriculum structure, and communication; therefore, these factors should be further evaluated for their role in fostering belongingness.

Limitations

There are few limitations to this study. The cross-sectional design limits understanding of the concept to a single point in time, indicating no causality can be established for the relationships assessed in this study. A national database was used to gather a broad, diverse sampling of participants, although the final sample was a small percentage of the NSNA membership base and the results may not be widely generalizable. In addition, there may have been selection bias in that students who are NSNA members may have more extracurricular involvement in the nursing profession as well as are able to pay membership fees. Their views may not represent those of the entire nursing student body in the United States. However, there are few, if any, alternative ways to access a random, geographically diverse population of nursing students across the country. Furthermore, of the database recipients, those with strong feelings (either positive or negative) regarding clinical experiences may have been more likely to respond thereby contributing to a self-selection bias. Lastly, while anonymity was explicitly stated, students may have answered questions in the way they thought was socially acceptable or may have experienced recall bias when asked to reflect on their nursing program as a whole as they answered various items. Despite these limitations, demographic data indicates the sample was widely distributed across all four regions of the United States, lending generalizability of results.

Implications for Nurse Educators

In examining the 11 impactful factors and five potential predictors of belongingness, it is clear the findings from this study have numerous implications for nurse educators. Programs should provide additional support to both students whose primary language is not English and to those who have repeated or are repeating a clinical course. In looking at programmatic evaluation, leaders should constantly evaluate their curriculum to ensure students are having robust, meaningful clinical experiences of substantial length. In addition, nursing schools should collaborate with clinical sites to ensure students receive useful information, thorough orientations, and preparation on what to expect and how to communicate prior to the beginning of their clinical experiences.

This study also underscores the importance of the relationship between students and clinical instructors. As the nursing faculty shortage continues (AACN, 2022a), schools must empower adjunct and community faculty members as much as full-time educators to ensure they are prepared for the complexities of teaching and are empowered to build strong, reciprocatively beneficial relationships with their clinical groups. Finally, this study emphasizes the importance of feedback for learners, particularly from clinical instructors. Feedback is critical to performance improvement and movement toward a learner-driven, competency-based educational model (AACN, 2021a). Faculty should therefore receive explicit training on how to give meaningful feedback and students should receive education on how to receive this feedback and appropriately reflect to further improve their performance.

Future Research

This study provides a strong foundation for future research, particularly rigorous intervention studies that assess the impact of MCSFs on levels of belongingness in undergraduate nursing students. Future research should focus on the operationalization of

MCFSs and assess merit of the correlation between students' behaviors and values as demonstrated in the results of MCSF items examining frequency and perceived value of the same factor. There is also rich opportunity to assess belongingness in subsets of this study's population and other groups. For example, due to the small number of respondents indicating enrollment in primarily online programs, more research is needed to explore the specific needs and impact of belongingness in this undergraduate nursing student population. Future research should also include other disciplines that comprise the interprofessional healthcare team as well as other roles in nursing including graduate students and nursing residents as they transition to practice. There is also great opportunity to gain a broader understanding of belongingness via faculty members' perspectives and assess additional factors such as staff-instructor relationships. Lastly, studies should be undertaken to compare belongingness to academic outcomes such as grades and licensure exam performance, as well as to compare the concept to others critical to nursing pedagogy and learner success such as perceived stress (Grobecker, 2016), self-efficacy (Pourteimour et al., 2020), readiness to learn, workplace violence, and workplace satisfaction (Borrott et al., 2016).

Conclusions

The current literature on belongingness in undergraduate nursing students in the CLE is rich with qualitative findings of potential factors that promote these important feelings of acceptance. This study extrapolated those findings and identified 11 key program/clinical structure and modifiable clinical setting factors that contribute to belongingness. Likewise, the U.S. version of the BES-CPE effectively measures the concept in a large sample with demonstrated reliability and validity. These findings provide a rich foundation for future research aimed at interventions that promote the positive personal and learning outcomes that result when belongingness is fostered, both in undergraduate nursing students as well as other populations

including different disciplines and positions within the educational continuum. Future studies are planned to further inquire what interventions are most effective in cultivating and sustaining feelings of belongingness in learners in the health sciences.

Author Contribution

All authors participated in constructing the research topic, developing the proposal and questionnaire, analyzing the data, and critically appraising the manuscript. All authors agreed on the final manuscript for submission.

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Declaration of Competing Interest

None.

CHAPTER V: DISCUSSION

Summary and Principal Findings

The current literature demonstrates numerous approaches to fostering belongingness in undergraduate nursing students, but findings arise mostly from qualitative inquiry or limited quantitative studies. The design of this dissertation therefore included three articles to 1) capture the current findings in the extant literature, 2) pilot a scale to measure levels of belongingness specifically in U.S. undergraduate nursing students, and 3) adapt findings from the literature into a validated scale to assess the impact of demographic, program/clinical, and modifiable clinical setting factors on levels of belongingness in this population.

The hypothesis for this dissertation study was that undergraduate nursing students whose programs and clinical courses promote positive student experiences would have higher levels of belongingness. Specifically, this directional hypothesis predicted that students who are enrolled in programs structured to encourage positive student experiences in the CLE and undergo clinical experiences with integrated MCSFs that foster belongingness would have higher scores on the U.S. version of the BES-CPE instrument. The findings of this dissertation support that this hypothesis was correct, particularly with respect to the impact of clinical site and miscellaneous modifiable clinical setting factors (Figure 4.1) on levels of belongingness.

Common Threads Between Manuscripts

While each is unique in design and intent, the three manuscripts of this dissertation provide a seamless progression from a literature review, to a pilot study, and ultimately to a large-scale national exploratory study examining belongingness in undergraduate nursing students in the CLE. The extensive time and attention spent on the literature review and instrument development resulted in robust findings in the final study. This body of work provides a strong foundation for future work on this topic and numerous related concepts critical to nursing pedagogy.

In the initial explorations of belongingness in this population, it was evident this topic was of critical importance to both personal and learning outcomes in undergraduate nursing students. However, the literature was highly anecdotal in nature, explaining potential influential and impacting factors without rigorous quantitative studies to measure the impact of the phenomenon. Therefore, a three-part approach was implemented. The scoping review provided the foundation to the rest of the inquiry, identifying educational and personal outcomes of belongingness and alienation, contributing factors to belongingness, interventions to foster belongingness, and measurement of belongingness. From this initial work, the author and colleagues identified a gap in the literature related to U.S. nursing students' experiences with belongingness. Subsequently, the primary measurement tool, the BES-CPE, was adapted to the U.S. population in the second article. The findings from the scoping review were then extracted and categorized into four key areas of modifiable clinical setting factors: clinical format factors, clinical site factors, relationship and interpersonal factors, and miscellaneous factors (Figure 4.1). A rigorous item development process ensued to develop a tool that assessed students experiences with and perceived value of these modifiable factors. The third study combined the findings from the first two studies and paired the author-developed instrument assessing factors that originated from findings from the scoping review and the U.S. version of the BES-CPE that was piloted in the second article. This survey was then nationally distributed to best capture the phenomenon across undergraduate nursing students in the United States and to give a robust perspective on the current state of the concept. The result of these studies is a wealth of data on the current state of belongingness in this population, but also of the broader state of nursing education in the United States today. Together, the three studies culminated in the identification of 11 factors that impact belongingness and five that may predict levels of the phenomenon in

undergraduate nursing students, thus making a meaningful contribution to the literature on this topic.

Knowledge Gaps and Implications for Future Research and Practice

There are remaining salient gaps throughout the literature aimed at understanding undergraduate nursing students' experiences with belongingness in the CLE, notably in the implementation of interventions to foster belongingness and/or prevent alienation and diversity of settings and populations studied. There is also an overarching paucity of recent literature on the concept, particularly within the last decade. Therefore, there is great potential for future inquiry into this phenomenon to bridge these significant gaps and to subsequently implement significant findings into practice.

On a global level, there is need for continued research on belongingness in nursing students both within and beyond the CLE. Specific recommendations include further studies utilizing the BES-CPE across varying schools and countries so a robust systematic review can be undertaken to compare the impact of program/clinical structure factors and interventions that support belongingness. In addition, attrition rates in undergraduate nursing students can be excessive, therefore longitudinal multi-site studies should be completed to assess relationships between belongingness and other student experience factors with attrition and graduation rates of nursing students.

There is also a large gap in the literature describing belongingness through a diversity, equity, and inclusion (DEI) lens. As the predominant accrediting body in the United States, the AACN (2021a) has prioritized DEI in its latest iteration of regulatory requirements. Sedgwick et al. (2014) explored the experiences of racial/ethnic/gender minority and nontraditional nursing students in the CLE and determined these learners are at increased risk for experiencing feelings of alienation. The results of this study support these findings, with notable findings related to

students' primary language and gender identity. Broader research is needed to examine the unique experiences of belonging in students of diverse backgrounds and establish interventions to foster feelings of belongingness in this population. To this end, social constructs around systemic racism and other '-isms' have changed immensely since the majority of research around belongingness in undergraduate nursing students was published in the early 21st century. Therefore, there is great need to close this gap with new studies that prioritize DEI while assessing belongingness in undergraduate nursing students.

A measurement scale specific to this population and context, the BES-CPE, has established reliability and validity but has yet to have been used to assess belongingness in either between- or within-subjects intervention research. Now that key areas for intervention research have been identified via this dissertation, there is opportunity to use the BES-CPE to compare experiences with belongingness across different program formats and clinical structures with the goal of optimizing these experiences. Based on the findings of this dissertation, specific attention should be paid to clinical site factors (pre-arrival information, orientation, leadership involvement, and discussion of shared expectations) and miscellaneous factors (preparation by senior students/peer support, feedback from preceptors and instructors, and proactive education on communication, soft skills, and complexities of the CLE).

While intervention studies are the gold standard for establishing effectiveness, there are implications arising from this work that nursing educators can implement immediately. From a high level view, leaders of nursing programs should assess their current curricula to ensure students are spending enough time in the CLE to feel they are part of the team providing care. Future research is needed to quantify how much time is required and to assess how simulation and other learning activities contribute or deter from the personal and learning outcomes obtained through in-person experiences in the CLE.

There is also a wealth of opportunity arising from this work related to the AACN *Essentials* (2021a) requirement that nursing programs take responsibility for ensuring students' clinical experiences are safe, supportive, and conducive to learning. Educators can immediately assess their pre-clinical onboarding and orientation processes to ensure students are receiving appropriate information on the units in which they will be working. In addition, there is great opportunity for schools to develop pre-clinical "bootcamps" for students to learn communication and other "soft" skills from both nursing educators as well as students ahead of them in their program. In addition, many of the MCSFs that significantly impacted belongingness scores in this work relate to efforts that involve clinical instructors. Nursing faculty members should receive training on how to give effective feedback and foster positive relationships with students. This is especially important as more practicing clinicians are becoming clinical instructors; they should receive formal education on pedagogical techniques and strategies to complement their clinical expertise.

From a utility standpoint, opportunity exists to adapt the U.S. version of the BES-CPE to a scale with fewer items that results in a composite score versus a grand mean to aid in intervention studies. In addition, the findings from this dissertation can be utilized to develop a checklist and/or toolkit which would serve as a resource for both programs and clinical sites to promote belongingness. This would operationalize the findings of this study to aid front-line staff members and instructors in fostering these important feelings of connectedness in their learners.

There is also further opportunity to psychometrically analyze the U.S. version of the BES-CPE, specifically related to the subscales of esteem, connectedness, and efficacy identified by Levett-Jones et al. (2009a). Likewise, future inquiry should assess the impact of belongingness on both personal and educational outcomes. The latter should compare belongingness and academic success, potentially comparing BES-CPE scores and grade point

average, graduation rates, and performance on licensure examinations. Additional inquiry into remediation support for students repeating clinical courses should also be undertaken.

Looking at the broader implications of this work, there is great need to pair the BES-CPE with other psychometrically sound scales to assess the themes and motivations identified in each level of Levett-Jones and Lathlean's (2009a) Ascent to Competence framework to promote successful graduation of competent nurses prepared to enter professional practice. These include concepts such as perceived stress, self-efficacy, readiness to learn, workplace violence, and workplace satisfaction. These concepts also need to be evaluated in fields beyond nursing; there is great opportunity to assess belongingness in interprofessional health sciences disciplines. Finally, belongingness and associated interventions should be assessed in both graduate nursing students and in nurse residents as they enter and transition into practice, as high attrition rates in this population are costly and disruptive to the nursing workforce (Kovner et al., 2016).

In conclusion, belongingness provides the foundation for students' development of self-concept, learning, and competence via the Ascent to Competence framework and should therefore be a key priority for undergraduate nursing programs. Without intentional efforts to foster belongingness in the CLE and beyond, nursing students may face numerous personal and educational challenges that could contribute to them leaving the profession prior to entry into professional practice. Therefore, attention should be directed to the promotion of inclusive research focused on the robust measurement of actionable interventions and the development and implementation of pedagogical strategies for both learners and instructors that foster belongingness of health sciences students in all learning environments.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD APPROVAL

IRB#2022-201 - Initial: Exempt Approval

do-not-reply@cayuse.com <do-not-reply@cayuse.com>

Fri 8/19/2022 2:56 PM

To: Walker, Danielle <d.k.walker@tcu.edu>;Singer, Diana <D.SINGER@tcu.edu>

[EXTERNAL EMAIL WARNING] DO NOT CLICK LINKS or open attachments unless you recognize the sender and know the content is safe.

TCU OFFICE OF RESEARCH COMPLIANCE & INSTITUTIONAL REVIEW BOARD

Date: August 19, 2022

Study Number: IRB#2022-201
Study Title: Modifiable Factors Contributing to Belongingness of Undergraduate Nursing Students in the Clinical Learning Environment: An Exploratory Study
Principal Investigator: Danielle
Walker Co-Principal Investigator:
Diana Singer Primary Contact:
Diana Singer Determination:
Exempt
Determination Date: August 19, 2022

Dear Danielle Walker:

The above-referenced human subjects research study was reviewed by the TCU Institutional Review Board (IRB) Chair and/or IRB Chair's designee(s). It was determined that the study meets the criteria for the exemption described in 45 CFR 46.104 and/or the TCU Policy on Exempt Human Subject Research. The study was determined to meet the criteria for exemption under:

CATEGORY 2.(I). RESEARCH THAT ONLY INCLUDES INTERACTIONS INVOLVING EDUCATIONAL TESTS (COGNITIVE, DIAGNOSTIC, APTITUDE, ACHIEVEMENT), SURVEY PROCEDURES, INTERVIEW PROCEDURES, OR OBSERVATION OF PUBLIC BEHAVIOR (INCLUDING VISUAL OR AUDITORY RECORDING).

The information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

This determination is limited to the activities described in the Cayuse Human Ethics study and extends to the performance of these activities at each respective site identified in the study. The research must be conducted in accordance with the exempt certified study.

This determination does not constitute funding or other institutional required approvals. Should this study involve other review committees such as the Institutional Biosafety Committee (IBC), it is the Principal Investigator's responsibility to ensure that all required approvals are in place prior to conducting research involving human subjects or their related specimens.

Please note the following Principal Investigator responsibilities:

- It is the Principal Investigator's responsibility to submit any proposed changes to the study activities, via a Modification Submission in Cayuse Human Ethics, to ORC prior to implementation so that ORC may determine whether the study continues to meet the criteria for exemption from IRB review.

- It is the Principal Investigator's responsibility to promptly notify the IRB of any reportable events (adverse events/ protocol deviations/ unanticipated problems/ subject complaints/ other) that occur during the research, including any breach in confidentiality or data security that places participants or others at a greater risk of harm. Notify the IRB via an Incident Submission in Cayuse Human Ethics.

Cayuse Human Ethics studies must be closed when all activities involving human subjects are completed, including interaction/intervention with participants or analysis of identifiable data. If the principal investigator leaves the University prior to the expiration of the study, the study must be closed or transferred to another eligible TCU PI. Student-led studies must be closed before graduation. Closure of student-led studies which remain open after graduation are the responsibility of the faculty PI.

THE TCU INSTITUTIONAL REVIEW BOARD OPERATES UNDER A FEDERALWIDE ASSURANCE APPROVED BY THE DHHS OFFICE FOR HUMAN RESEARCH PROTECTIONS, FWA000022286. OUR DHHS IRB REGISTRATION NUMBER IS IRB000002653.

Please note that the ORC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of research and the consent process, if applicable. We wish you the best as you conduct your research.

Should you have any questions, please do not hesitate to contact us.

Please contact Research Compliance at IRBSubmit@tcu.edu or (817) 257-5070, if you need any additional information.

Best regards,

Office of Research Compliance
(ORC) Texas Christian University

RBSubmit@tcu.edu | TCU ORC

Nursing Students' Clinical Experiences Survey

Start of Block: Informed Consent

Informed_Consent You are being asked to voluntarily participate in a research study. We are doing this study to better understand nursing students' experiences in the clinical environment. If you agree, we will ask questions regarding yourself, your nursing program, and your preferences and previous experiences as a nursing student. The survey is expected to take 10-20 minutes.

You will not be paid for being in this study. After completing the survey, you may enter a drawing to win a $50 Amazon gift card for participating. You will not be contacted again in the future for additional surveys.

If you have any questions, please contact Diana Singer at d.singer@tcu.edu.

Consent_Agree
By selecting "Agree to participate" below, you are agreeing to be in this study. Make sure you understand what the study is about before you agree. You will be given a copy of this document for your records upon request. If you have any questions about the study after you agree to participate, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study.

If you do not agree to participate in this study, please exit Qualtrics now.

○ Agree to participate (3)

End of Block: Informed Consent

Start of Block: Screening Questions

Screening_Block The following questions will be asked to ensure you meet the requirements to participate in this study. If you answer "no" to any of the following three questions you will not be able to participate and the survey will end.

Screening_Undergrad Are you an undergraduate nursing student?

○ Yes (1)

○ No (2)

Skip To: End of Survey If Are you an undergraduate nursing student? = No

Screening_US Are you currently attending nursing school in the United States?

○ Yes (1)

○ No (2)

Skip To: End of Survey If Are you currently attending nursing school in the United States? = No

Screening_Clinical Have you completed (or are you currently enrolled in) at least one nursing course with a clinical component?

○ Yes (1)

○ No (2)

Skip To: End of Survey If Have you completed (or are you currently enrolled in) at least one nursing course with a clinical... = No

End of Block: Screening Questions

Start of Block: Demographics

Age How old (in years) were you on September 1, 2022?

_____

Geog_Loc What state is your nursing school located in?

▼ Alabama (1) ... Wyoming (52)

Gender To which gender identity do you most identify?

- ○ Male (1)
- ○ Female (2)
- ○ Non-binary / non-conforming (3)
- ○ Prefer not to answer (4)
- ○ Other (please specify below) (5)

_____

Language What is your primary language you speak at home?

- ○ English (1)
- ○ Spanish (2)
- ○ Other (please specify below) (4)

_____

Prior_Experience Did you work in healthcare prior to starting nursing school?

- ○ Yes (1)
- ○ No (Including work outside of healthcare) (5)

Family_Healthcare Do you have any family members that work (or previously worked) in healthcare?

- ○ Yes (1)
- ○ No (2)

Display This Question:

If Do you have any family members that work (or previously worked) in healthcare? = Yes

Family_Which Which of your family members work (or previously worked) in healthcare? Select all that apply.

- ☐ Parent (1)
- ☐ Grandparent (2)
- ☐ Aunt/Uncle (3)
- ☐ Sibling (4)
- ☐ Other (please specify below) (5)

_____

Employment Are you currently employed in a healthcare setting?

- ○ Yes (1)
- ○ No (2)

Skip To: End of Block If Are you currently employed in a healthcare setting? = No

Display This Question:

If Are you currently employed in a healthcare setting? = Yes

Employment_Hours How many hours per week do you work in healthcare?

Do not include clinical hours that are part of your nursing program; only count hours that are part of your employment in a healthcare setting.

- ○ Less than 10 hours (4)
- ○ 11-25 hours (5)
- ○ 26-40 hours (6)
- ○ More than 40 hours (7)

Display This Question:

If Are you currently employed in a healthcare setting? = Yes

Employment_Location Do you work at the same healthcare setting where you completed (or are completing) at least one of your clinicals?

- ○ Yes (1)
- ○ No (2)

End of Block: Demographics

Start of Block: Program/Clinical Structure Factors

Program_Degree What type of degree program are you enrolled in?

- ○ BSN (Bachelor's Degree) (3)
- ○ ADN (Associate's Degree) (2)
- ○ ADN to BSN Bridge Program (4)
- ○ ADN to MSN Bridge Program (5)
- ○ LPN/LVN (Practical/Vocational) (1)
- ○ Other (Please Describe) (6) _____

Semester_Length On average, how long are the semesters in your nursing program?
Example: If your semester starts in August and ends in December, it is approximately 15 weeks and you would select "12 weeks or more."

- ○ 5 weeks or less (1)
- ○ 6-11 weeks (2)
- ○ 12 weeks or more (3)

Program_Semesters In your entire nursing program (from your first nursing class until your graduation), how many semesters include a clinical component?

- ○ 3 or fewer semesters (1)
- ○ 4-5 semesters (2)
- ○ 6 or more semesters (3)

Program_Progress As of December 31, 2022, how many semesters with a clinical component will you have completed of your nursing program?

- ○ 1 semester or less (1)
- ○ 2-3 semesters (2)
- ○ 4-5 semesters (3)
- ○ 6 or more semesters (4)

Rotations_Number As of December 31, 2022, how many different courses with a clinical component will you have you completed of your entire nursing program? Do not include lab or simulation courses.

- ○ 1 course or fewer (currently in progress) (1)
- ○ 2 courses (2)
- ○ 3 or more courses (3)

Repeated_Courses Have you repeated (or are you currently repeating) any nursing course with a clinical component?

- ○ Yes (1)
- ○ No (2)

Full_Part_Time Are you a full-time or part-time student?

- ○ Full-time (1)
- ○ Part-time (2)

Tracks_Accelerated Are you in an accelerated (condensed) or traditional length nursing program?

- ○ Accelerated (condensed) (1)
- ○ Traditional (2)

Tracks_Campus Are your classes primarily campus-based or non-campus-based (online or self-paced learning)?

- ○ Campus-based (1)
- ○ Non-campus-based (online or self-paced learning) (2)

Tracks_DEU Have you participated in a dedicated educational unit (DEU) program?

- ○ Yes (participated in DEU) (1)
- ○ No (did not participate in DEU) (2)
- ○ Unsure (3)

Teaching_Hospital In general, are your clinical sites considered teaching hospitals (those that have medical interns, residents, fellows)?

- ○ Yes (teaching hospitals) (1)
- ○ No (not teaching hospitals) (2)
- ○ Unsure (3)

Group_Selection Do you select your clinical group or are you assigned?

- ○ Select (1)
- ○ Assigned (2)
- ○ Varies (4)

Instructor_Selection Do you select your clinical instructor or are you assigned?

- ○ Select (1)
- ○ Assigned (2)
- ○ Varies (4)

End of Block: Program/Clinical Structure Factors

Start of Block: MCSF Frequency

Instructions_Freq As you answer the following questions, reflect on your nursing program as a whole.

CF_Freq_1 On average, how many days per week do you go to clinical?

- ○ 1 day (2)
- ○ 2 days (4)
- ○ 3 days (5)
- ○ 4 days (7)
- ○ 5 days (8)
- ○ Other (Please Describe) (9) _____

CF_Freq_2 On average, how many days per week do you go to clinical for EACH clinical course?

- ○ 1 day (1)
- ○ 2 days (2)
- ○ 3 days (3)
- ○ 4 days (9)
- ○ 5 days (10)
- ○ Other (Please Describe) (6) _____

CF_Freq_3 On average, how many hours do you spend providing patient care during a clinical day?

- ○ 4-5 hours (1)
- ○ 6-7 hours (2)
- ○ 8-9 hours (3)
- ○ 10-11 hours (4)
- ○ 12 or more hours (5)

CF_Freq_4 Do you complete most of your hospital clinicals at the same clinical site?

- ○ Yes (1)
- ○ No (2)

CF_Freq_5 During a single course, do you stay on the same unit for all of your clinical days?

- ○ Yes (1)
- ○ No (2)
- ○ Varies (4)

CF_Freq_6 Do the peers in your clinical group stay the same or change throughout your program?

- ○ Stay the same (1)
- ○ Change (2)

CF_Freq_7 Do you have the same clinical instructor for more than one course?

- ○ Yes (1)
- ○ No (2)

CF_Freq_8 Is the nurse you are assigned to work with the same or different each clinical day?

- ○ Same (1)
- ○ Different (2)
- ○ Varies (3)

Instructions_Freq As you answer the following questions, reflect on your nursing program as a whole.
CS_Freq_9-14 How often do the following occur?

	Never (1)	Sometimes (2)	Almost Always (3)	Always (4)
I receive information about the hospital/units I will be placed on prior to the start of clinical. (1)	○	○	○	○
My program provides orientation to each of my clinical sites prior to the first day of clinical. (2)	○	○	○	○
The clinical site provides orientation prior to or when I arrive at the hospital/unit for the first day of clinical. (13)	○	○	○	○
On my clinical unit(s), the members of the leadership team (nurse managers, team leads, charge nurses) are involved in my clinical experience. (3)	○	○	○	○
The nurse I am assigned to work with asks about my expectations and learning needs at the start of each clinical day. (4)	○	○	○	○

I receive constructive feedback from the nurse I am assigned to work with each clinical day. (11)	○	○	○	○
I receive constructive feedback from my clinical instructor during the clinical day. (12)	○	○	○	○

Instructions_Freq As you answer the following questions, reflect on your nursing program as a whole.
CS_Freq_15-18 How often do the following occur?

	Never (1)	Sometimes (2)	Almost Always (3)	Always (4)
I receive formal preparation on what to expect in the clinical environment from students who are further along in my program. (1)	○	○	○	○
I receive formal education from my nursing program about how to communicate verbally in the clinical setting. (4)	○	○	○	○
I receive formal education from my nursing program about how to communicate non-verbally (attitude, behavior, body language) in the clinical setting. (5)	○	○	○	○
I receive formal education from my nursing program about how to remain flexible during my clinical rotations. (6)	○	○	○	○

CF_Value_1-6 Please indicate how you feel about the following statements:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
Throughout my program, I spend enough hours in clinical that I feel like I am part of a team caring for patients. (1)	○	○	○	○	○
It would be best to be assigned to the same clinical site throughout my nursing program. (2)	○	○	○	○	○
It would be best to be assigned to the same unit each clinical day for an entire course. (3)	○	○	○	○	○
It would be best to be assigned to the same clinical group with the same peers throughout my nursing program. (4)	○	○	○	○	○
It would be best to have the same clinical instructor for as many courses throughout my nursing program as the instructor is clinically competent to teach. (5)	○	○	○	○	○

It would be best to be assigned to work with the same nurse for as many clinical experiences as possible. (6)	○	○	○	○	○

CS_Value_7-10 Please indicate how you feel about the following statements:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
The information I receive before I start my clinical about the hospital/units I will be placed on is enough to help me feel prepared to start. (1)	○	○	○	○	○
The orientation to my clinical sites that my program provides is thorough and I feel prepared to care for patients on my first day of clinical. (2)	○	○	○	○	○
The orientation my clinical site provides is thorough and I feel prepared to care for patients on my first day of clinical. (7)	○	○	○	○	○
On the units I am placed on, I value the leadership team (nurse managers, team leads, charge nurses) being involved in my clinicals. (3)	○	○	○	○	○

In clinical, I feel comfortable sharing my expectations of what I need to learn/experience with the nurse(s) I'm assigned to work with. (4)	○	○	○	○	○

R_Value_11-14 Please indicate how you feel about the following statements:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
The relationship I build with the nurse I'm assigned to work with each day impacts how much I feel like I belong on that unit. (1)	○	○	○	○	○
The relationship I build with my clinical instructor affects how much I feel like I belong in the hospital/clinical site. (2)	○	○	○	○	○
The attitudes of the nursing staff affect how much I feel like I belong on that unit. (3)	○	○	○	○	○
The attitudes of the entire interprofessional care team affect how much I feel like I belong on that unit. (7)	○	○	○	○	○

M_Value_15-20 Please indicate how you feel about the following statements:

	Strongly Disagree (1)	Disagree (2)	Neutral (3)	Agree (4)	Strongly Agree (5)
I value (or would value) formal preparation on how to navigate the clinical environment from students who are further along in my program. (1)	○	○	○	○	○
I value (or would value) receiving constructive feedback from the nurses I am assigned to work with each day. (2)	○	○	○	○	○
I value (or would value) receiving constructive feedback from my clinical instructor each day. (3)	○	○	○	○	○
I value (or would value) receiving formal education from my nursing program about how to communicate verbally in the clinical setting. (7)	○	○	○	○	○

I value (or would value) receiving formal education from my nursing program about how to communicate non-verbally (attitude, behavior, body language) in the clinical setting. (8)	○	○	○	○	○
I value (or would value) receiving formal education from my nursing program about how to remain flexible during my clinical rotations. (9)	○	○	○	○	○

End of Block: MCSF Value

Start of Block: BES-CPE

BES-CPE_Block_1 As you answer the following questions, reflect on your clinical experiences as a whole.

Use the following terms as you answer these questions:

• **Classmates:** Your cohort of students (those that are graduating at the same time as you and are in your classes and clinical groups)

• **Clinical:** Your clinical coursework or practicum that takes place in a healthcare setting

• **Staff:** The nursing staff you worked with during your clinical experiences

BES_CPE_1-13 For each of the statements below, indicate how true you find the statement.

	Never true (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	Always true (5)
I feel like I fit in with others during my clinicals. (1)	○	○	○	○	○
It is important to feel accepted by my classmates. (2)	○	○	○	○	○
Classmates offer to help me when they sense I need it. (4)	○	○	○	○	○
I get support from classmates when I need it. (7)	○	○	○	○	○
I am invited to social events outside my clinicals by classmates. (8)	○	○	○	○	○
I like the people I work with in clinicals. (9)	○	○	○	○	○
I feel discriminated against in clinicals. (10)	○	○	○	○	○
I invite classmates to eat lunch/dinner with me. (12)	○	○	○	○	○

BES-CPE_Block_2 As you answer the following questions, reflect on your clinical experiences as a whole.

Use the following terms as you answer these questions:

• **Classmates:** Your cohort of students (those that are graduating at the same time as you and are in your classes and clinical groups)

• **Clinical:** Your clinical coursework or practicum that takes place in a healthcare setting

• **Staff:** The nursing staff you worked with during your clinical experiences

BES_CPE_14r-23 For each of the statements below, indicate how true you find the statement.

	Never true (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	Always true (5)
In clinicals I feel like an outsider. (3)	○	○	○	○	○
There are people that I work with in clinicals who share my values. (4)	○	○	○	○	○
Classmates ask me for my ideas or opinions on different matters. (5)	○	○	○	○	○
I feel understood by my classmates. (6)	○	○	○	○	○
I make an effort when in clinicals to be involved with my classmates in some way. (7)	○	○	○	○	○
I am supportive of my classmates. (8)	○	○	○	○	○
People I work with in clinicals accept me when I'm just being myself. (10)	○	○	○	○	○

When I walk up to a group during clinical I feel welcomed. (12)	○	○	○	○	○

BES-CPE_Block_3 As you answer the following questions, reflect back on your clinical experiences as a whole.

Use the following terms as you answer these questions:

• **Classmates:** Your cohort of students (those that are graduating at the same time as you and are in your classes and clinical groups)

• **Clinical:** Your clinical coursework or practicum that takes place in a healthcare setting

• **Staff:** The nursing staff you worked with during your clinical experiences

BES_CPE_24-33 For each of the statements below, indicate how true you find the statement.

	Never true (1)	Rarely true (2)	Sometimes true (3)	Often true (4)	Always true (5)
Feeling "a part of things" is one thing I like about going to clinical. (1)	○	○	○	○	○
There are people in clinicals with whom I have a strong bond. (2)	○	○	○	○	○
It seems that people I work with in clinicals like me. (4)	○	○	○	○	○
I let classmates know I care about them by asking how things are going for them and their family. (5)	○	○	○	○	○
Classmates notice when I am absent from clinicals or social gatherings because they ask about me. (6)	○	○	○	○	○
One or more of my classmates confides in me. (7)	○	○	○	○	○

I let my classmates know that I appreciate them. (8)	○	○	○	○	○
I ask my classmates for help when I need it. (9)	○	○	○	○	○
I like where I attend clinicals. (10)	○	○	○	○	○

End of Block: BES-CPE

Start of Block: Open Ended Questions

OE_1 Think of your best clinical day in nursing school thus far. What made it a positive experience?

_____

_____

_____

OE_2 What could have helped you feel more confident, prepared, and like you belonged on the unit(s) you were assigned for clinicals?

_____

_____

OE_3 What are other things you want to share about your experiences with belonging in the clinical environment that weren't previously discussed or you want to expand on?

_____

_____

End of Block: Open Ended Questions

Start of Block: Incentive

Incentive Thank you for completing this survey. If you would like to be entered into a drawing for a $50 Amazon gift card, please enter your email at the link below. Your email will not be connected with any of your survey responses.

https://tcu.co1.qualtrics.com/jfe/form/SV_e5lSQV9iqvpxVd4

End of Block: Incentive

APPENDIX C: RECRUITMENT EMAIL

RECRUITMENT EMAIL

Hello!

My name is Diana Singer and I am a nurse and PhD student working on my dissertation at Texas Christian University.

You are being asked to voluntarily participate in a research study. We are doing this study to better understand nursing students' experiences in the clinical environment. If you agree, we will ask questions regarding yourself, your nursing program, and your preferences and previous experiences as a nursing student. The survey is expected to take 15-20 minutes and all responses are entirely anonymous.

To access the survey, please click here: https://tcu.co1.qualtrics.com/jfe/form/SV_b27QmQ5im8tV6XY

You will not be paid for being in this study. After completing the survey, you may enter a drawing to win a **$50 Amazon gift card** for participating. You will not be contacted again in the future for additional surveys.

If you have any questions, please contact Diana Singer at d.singer@tcu.edu.

Thank you!
Diana Singer, MSN, RN, CCRN-K, CNE, C-TAGME
PhD in Health Sciences Candidate
Texas Christian University

APPENDIX D: GRANT AWARD LETTER

Sigma Theta Tau International
Honor Society of Nursing
Beta Alpha Chapter

April 13, 2022

Danielle Walker, PhD, RN, CNE
Diana Singer, MSN, RN
Texas Christian University
Harris College of Nursing
2800 W. Bowie Street
Fort Worth, TX 76109

Dear Dr. Walker and Ms. Singer,

As the Research Co-Chairs of the Beta Alpha Chapter of Sigma Theta Tau International (STTI), we are happy to inform you that you and your colleagues have been awarded the Beta Alpha Chapter Research Award for 2022-2023 for your study titled-Modifiable Factors Contributing to Belongingness of Undergraduate Nursing Students in the Clinical Learning Environment: An Exploratory Study. The award confers an amount of $3,000.

Your study addresses factors that contribute to belongingness of undergraduate nursing students in the clinical learning environment. The reviewers unanimously agreed that your study is very significant and provides valuable insight to improve nursing student belongingness and retention. Please contact Oteka Jackson-Cenales and Ann Johnson at oteka.jacksoncenales@tcu.edu ann.h.johnson@tcu.edu if you have questions related to this award and funding. Based on reviewer feedback, it was also suggested that you consider updating references within the last 5 years.

We hope you will attend the Beta Alpha end of year reception planned on April 19, 2022, from 4:00pm-8:00 pm (this is a come and go event) at the Classic Wine Storage: 2915 River Glen Dr. Fort Worth, TX 76109. Please let us know if you plan to attend this event so you can be recognized.

Thank you and congratulations on this significant achievement!

Sincerely,
Oteka Jackson-Cenales, DNP, MSN, RN
Ann Johnson, PhD, APRN, CPNP-PC
Beta Alpha Research Co-Chairs

VITA

Diana Leigh Singer was born in Plano, Texas in 1988 to Richard and Wanda Singer. She has one older brother, Gregg Singer, who resides in England with his wife and Diana's two beloved nieces, Poppy and Beatrice Singer. Diana spent her childhood and formative years in Coppell, Texas where she attended kindergarten through high school. She graduated with honors from Texas Christian University in 2010 with a Bachelor of Science Degree in Nursing. She began her career at JPS Health Network, a level 1 trauma center and safety net hospital in Fort Worth, Texas, as a registered nurse in the intensive care unit. After two years of bedside nursing, Diana embraced a unique opportunity and changed paths entirely. As the Senior Medical Education Coordinator at JPS, Diana ran the largest Family Medicine Residency in the country and discovered a passion for higher education. In 2015, Diana began her Master of Science in Nursing with an emphasis in Nursing Education at Texas Christian University. While working on her advanced degree, she was promoted to Director, Academic Affairs at JPS Health Network, expanding her reach across the Network and community. She completed her MSN in 2018 and joined the faculty of Texas Christian University as an adjunct professor, where she continues to teach today. In 2019, Diana was promoted to Executive Director, Academic Affairs at JPS. She remains in this position, leading a large team and overseeing all educational endeavors at JPS including Graduate Medical Education, Undergraduate Medical Education, Nursing and Allied Health Students, Continuing Education, and the Medical Library. She holds three national certifications: Acute/Critical Care Knowledge Professional (CCRN-K), Certified Nurse Educator (CNE), and Certified Training Administrator of Graduate Medical Education (C-TAGME). In 2023, Diana completed her Doctor of Philosophy in Health Sciences degree from Texas Christian University. She currently resides in Fort Worth, Texas.