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Approachability of Nursing Clinical Instructors: Psychometric Assessment of a Scale
Development

A dissertation
presented to
the faculty of the Department of Nursing
East Tennessee State University
In partial fulfillment
of the requirements for the degree
Doctor of Philosophy in Nursing

by
Angela Collier
December 2017

Dr. Sally Blowers, PhD, RN, chair
Dr. Lisa Haddad, PhD, RN
Dr. Jenny Holcombe-Curry, PhD
Dr. Sharon Loury, PhD, RN

Keywords: approachability, clinical education, clinical effectiveness, student, teacher

ABSTRACT

Approachability of Nursing Clinical Instructors: Psychometric Assessment of a Scale

Development

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Angela Collier

Approachability of nursing clinical instructors is largely unknown and misunderstood, yet critical for millennial students which currently comprise 82% of nursing students (National League for Nursing, 2014). Nursing education consists of both a didactic and a clinical component. Clinical education is dynamic and allows the student an experiential learning opportunity. Therefore, clinical nursing educators are vitally important. Approachability has been identified in many studies as a leading characteristic of an effective instructor. Although the importance of approachability of the instructor is established, currently no scale exists to measure this concept. The purpose of this study was to examine the validity and reliability of the newly developed Approachability of Nursing Clinical Instructor (ANCI) scale. Based on the results of this study, the newly developed ANCI scale meets all four aspects of validity (face, content, construct and criterion-related) and reliability is established. The confirmatory analysis indicated a one-factor scale with 56.102 of the variance explained. There are multiple future recommendations for the ANCI scale which include further psychometric testing the new scale, potential theory testing, education and screening of new clinical instructors and expanding the ANCI within nursing and to other disciplines.

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CHAPTER 1

INTRODUCTION

Approachability of nursing clinical instructors is largely unknown and misunderstood, yet critical for millennial students. Millennials currently comprise 82% of nursing students (National League for Nursing, 2014). With the current market increase and the number of retiring registered nurses (RN), it is estimated that 1.13 million new RN's will be needed by 2022 to fill the void (MeMenamin, 2014). Therefore, millennial generation will be the workforce of the future nursing profession. Effective education is crucial to the preparing the future workforce. For the millennials, the relationship between the teacher and student is a critical component to learning. Shelton (2001) concluded a positive teacher-student relationship includes development of trust and a therapeutic, working relationship. Clinical education is dynamic and allows the student an experiential learning opportunity. Therefore, clinical nursing educators are vitally important. Instructors should strive to create a constructive learning environment even in an unpredictable clinical setting. In order to accomplish this feat, the instructor must maintain many characteristics. One important characteristic is approachability.

Approachability has been identified in many studies as a leading characteristic of an effective instructor (Ernstzen, 2013; Ingrassia, 2011; Lemp & Seale, 2004, Perrine, 1998; Pierson, 2003; Viverais-Dresler & Kutscher, 2001; and Weick, 2003). Although the importance of approachability of the instructor is established, currently no scale exists to measure this concept. The purpose of this study was to examine the validity and reliability of the newly developed Approachability of Nursing Clinical Instructor (ANCI) scale.

This chapter will give a brief summary of the historical background of nursing education, provide definitions (including a conceptual definition of approachability within the context of

clinical nursing education), as well as state the current problem. Chapter one will also include the purpose and significance of the current study, provide a theoretical framework and specific aim of the this study.

Historical Background

Some consider nursing to be the oldest occupation (Cohen, 1984). Historically, nursing occurred in the home. Because the women cared for the children and family, they were the nurses of the time. Nursing skills developed from apprenticeships. Few women were paid for their services. The beginning of professional nursing is attributed to Florence Nightingale. During the Crimean War, Nightingale implemented sanitation, nutrition and psychological support for the wounded soldiers (Cohen, 1984). By keeping statistics, she was able to show that her interventions significantly reduced the mortality rate. In 1860, Florence Nightingale opened the first school of nursing in London (Cohen, 1984). This school formalized nursing education, making nursing an option for women who desired employment outside of the home. For many years, the clinical education portion of nursing was in the wards of hospitals under the supervision of a “ward sister”, which would be considered today’s nurse manager (Dunn & Burnett, 1995). Clinical education included rigid task assignments with strict hierarchical demands.

Clinical education has remained a hospital based apprenticeship but under the supervision of clinical faculty. In 2003, the National League of Nursing called for a reform for nursing education. The position statement concluded that nurse educators continue to teach in a traditional strict and rigid manner. Part of this reform is to conduct research in order to develop effective and meaningful innovations in nursing education. In addition, the recommendation states a partnership between student and teachers is essential. Benner, Sutphen, Leonard, and

Day (2010) further stress that experiential learning is directly dependent on the environment. A rich environment is one that includes feedback, articulation and reflection between student and clinical faculty. Part of Tanner's (2006) recommendation for a new model of clinical nursing education should incorporate interaction between the student and instructor that supports learning such as guiding and questioning. Despite a call for reform for over a decade, clinical nursing education has experienced little change. The concept of approachability within the context of nursing education has the potential to change clinical education.

Few valid and reliable tools exist to evaluate clinical teaching effectiveness. One of the most notable scales is the Nursing Clinical Teacher Effectiveness Inventory (NCTEI) developed by Knox and Mogan (1985). The scale is a 47-items Likert-type scale. The categories include teaching ability, nursing competence, evaluation, interpersonal relations and personality. Within the interpersonal relationship category, one of the questions used to determine the effectiveness of the clinical teacher includes "is approachable". Focus groups with Bachelor of Science in Nursing (BSN) students at one university in southern Tennessee confirmed the importance of this concept (Collier, 2013). Using the results from focus groups and the literature review, approachability was identified as a distinguishing factor between effective and ineffective clinical instructors.

The importance of approachability is consistent with other disciplines that have clinical component. Disciplines such as education, medicine and psychology have identified approachability as an important characteristic of the clinical faculty instructor (Ernstzen, 2013; Ingrassia, 2011; Lemp & Seale, 2004, Perrine, 1998; Pierson, 2003).

Definitions

Nursing Clinical Education. The Essentials of Baccalaureate Nursing Education describe the nursing clinical rotation as an immersion experience (American Association of Colleges of Nursing [AACN], 2008). During the clinical experience, the student engages in direct patient care. Gaberson and Oermann (2007) describe clinical education as direct observation of the patient. For the purpose of this study nursing clinicals is defined as a experiences where students are involved in direct patient care.

Clinical Nursing Instructor. The term clinical instructor and clinical teacher are used interchangeably in the literature. The clinical instructor is a registered nurse employed by the nursing school and is responsible for learning outcomes of the nursing students. This person should be responsible for planning, conducting and evaluating the students (Kube, 2010). Becker and Neuwirth (2002) provide a definition of a clinical instructor as one who should integrate theory from the classroom setting into practice involving direct patient care. This person should also strive to create an optimal learning environment. Both Brown (1981) and Bergman and Gaitskill (1990) define a clinical teacher as one who instructs in a practice setting. In this study, the clinical instructor is defined as a registered nurse employed by the nursing school that has oversight of the students in direct patient care settings.

Effectiveness. The definition of effectiveness is “producing a result that is wanted: having an intended effect.” (Merriam-Webster, 2015, para 1). A clear definition of effectiveness in nursing clinical education does not exist, therefore presenting a challenge for the nursing profession (Salsali, 2005). Others conclude an effective clinical instructor is one who is an expert in the art of teaching and stays involved in the profession (Wong & Wong, 1987). Gaberson and Oermann state, “effectiveness of clinical teaching can be judged on the extent to

which it produces intended learning outcomes” (2007, p. 21). Bergman and Gaitskill defined effectiveness as “producing a desired result, accomplishing goals and expectations” (1990, p. 36). For the purpose of this study, effectiveness is defined as meeting the needs of the students from their perspective.

Statement of Problem

As clinical education in nursing has a call to reform by the National League for Nurses (2003), nursing academia should further investigate the characteristics of an effective clinical instructor from the student perspective. The largest upcoming population of nursing students will consist of the millennial population were born between 1980-2004 (Coomes, 2004). Millennial students also prefer to learning from a professor they view as caring (Dunneback & Therrell, 2015). Millennials value relationships with professors who relate to them on a personal level (Bart, 2011). The focus should be on meeting the needs of this generation. The small body of knowledge regarding the characteristics of an effective nursing clinical instructor for millennial students indicates they desire interpersonal relationships with their instructors. Some characteristics within the interpersonal relationship include approachability, clear expectations and positive constructive feedback. However, according to millennial students, the key component of an effective nursing clinical instructor is approachability. Therefore, the components of approachability are vital to understand and measure. Currently, no tool exists to measure this concept. During a concept analysis (Collier, 2014), a conceptual definition of approachability within the context of clinical nursing education was developed. The Approachability of the Nursing Clinical Instructor (ANCI) scale operationalizes and measure this important concept.

Purpose of Study

The purpose of the study was to establish the validity and reliability of the newly developed ANCI scale (See Appendix A). Prior work has clarified the concept of approachability within the context of nursing clinical education. From previous literature reviews and focus groups, an instrument has been created by this author. The Approachability of the Nursing Clinical Instructor scale began with a literature review. Then focus groups with current nursing students were conducted. Using the codes from the results of the focus groups, questions were developed. A pilot study was conducted to analyze the scale using principal component analysis. From these results, the scale was revised.

Significance of Study

The National League for Nurses (NLN) (2003) developed a position statement regarding nursing education. The recommendation was to re-think clinical education in order to meet students' needs. Many educators were taught during an era when nursing education was rigid and non-personal. The NLN statement suggests current educators cannot teach the same manner in which they were taught. As the reform in nursing academia occurs, it is imperative to amplify the needs of the millennial students. This generation will be the future nursing workforce, replacing the current retiring nurses. Millennial students place more emphasis on an interpersonal relationship while learning than previous generations (Collier, 2016). Nursing education reform requires a partnership between students and teachers. This includes the concept of nursing instructors perceived as approachable by students. Historically, the concept of approachability within the context of clinical nursing education has been immature and obscure. Recently, a conceptual definition was developed (Collier, 2013). The ANCI scale operationalizes and measures the concept. This scale could ultimately enhance clinical teaching

effectiveness by assessing the characteristics of approachable instructors. In addition, this scale could assist in helping instructors develop an understanding of the characteristics of an effective clinical instructor as nursing academia moves toward reform. Because millennials will be the nursing workforce of the future, effective education is essential to prepare them to be registered nurses. Approachability is the leading characteristic of an effective clinical instructor.

Theoretical Framework

Knowledge is the process of building on past experiences and interpretation of new experiences. According to Piaget, this process requires a cognitive process of assimilation and accommodation (Wood & Bennett, 1998). Vygotsky (1978) developed a theory based on some of the principles of the cognitive process discussed by Piaget, however, he focused more on the social interaction for knowledge development. Although a great amount of overlap exists between the constructivist and the social constructivist theories, Vygotsky (1978) argues that knowledge is not only the process of assimilation and accommodation, but also all cognitive function is a result of social interaction. Learning occurs by conversation with either similar or different past experiences. Through sharing various experiences, the students advance their knowledge together. This theory is called Social Constructivist Theory (Sincero, 2011). Within this theory, motivation for learning is both intrinsic and extrinsic. Students develop their own learning intrinsic goals and receive extrinsic rewards from their peers. Instruction in this model is usually group based and the teacher acts as a facilitator and guide to the group (Sincero, 2011).

Concepts

Within the Social Constructivist theory, there are three concepts: Zone of Proximal Development (ZPD), Role of Social Interaction in Cognitive Development and the More Knowledgeable Other (MKO) (Sincero, 2011). The ZPD is the progression of actual

development levels to higher levels. Vygotsky (1978) distinguishes between the two levels. The actual level of development is the knowledge the learner has already achieved. The higher potential development is the level the student is actually capable of reaching. The higher level of development is achieved with guidance of instructors and collaboration with peers (See Figure 1). The potential development zone is where learning occurs. However, this cognitive process can only mature by guidance. Intersubjectivity is defined as mutual understanding that is achieved by effective communication through people. Enculturation is the process of learning the accepted norms and values of society. In the Social Constructivist Learning Theory, learning occurs by the intersubjectivity of an enculturated Zone of Proximal Development. Therefore, knowledge of a particular subject matter is developed by communication with experts in a context that is linked to real life.

The More Knowledgeable Other (MKO) concept refers to any person with a higher understanding or ability than the learner (Sincero, 2011). Usually, the MKO is referring to an older person, a teacher or an expert. However, with new technology it may be referring to a teenager with more experience with electronic devices.

Within this theory, the interaction with the instructor can be very influential to the learning process. Social Constructivism implies both a proactive and responsive role of the instructor (Wood & Bennet, 1997). The epistemology of the social learning theory is knowledge is discovered by collaborative process of the students and instructor (Wu, 2003). Learning occurs by social negotiation and joint knowledge construction. Instructor guidance provides a scaffold in the learning process. Teachers must incorporate appropriate material, tasks, questioning, explanation and feedback during the process (Wood & Bennet, 1997; Wu, 2003). The student then reconstructs meaning to existing prior knowledge and experiences.

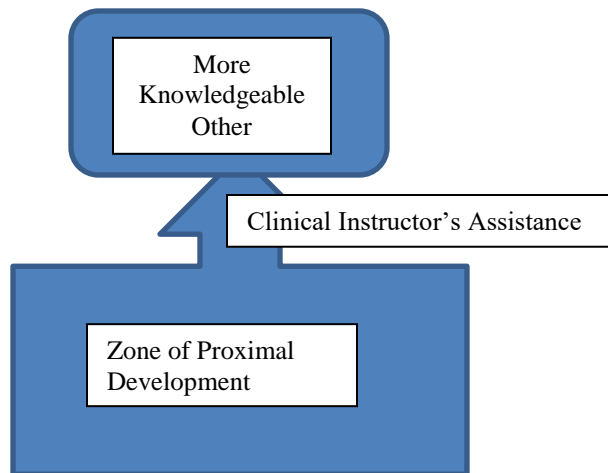


Figure 1: Social Constructivist Theory Diagram

Relational Statements

Within the Social Constructivist Learning theory, the relational statement is regarding the Zone of Proximal Development. The concern is getting the student from the actual learning to the level of higher learning. Therefore, the relationship is a unilateral line between the two concepts showing an increase towards the higher level. Between the two types of learning are the concepts of the More Knowledgeable Other and the Social Interaction in Cognitive Development. These two concepts can enhance or increase the higher level of learning in an individual. Figure one shows a diagram of the how the clinical instructor can assist a student move from the Zone of Proximal Development to the More Knowledgeable Other. The more the assistance the individual received, the more learning could be achieved within the Zone of Proximal Development.

This theory assisted in guiding the dissertation by identifying the clinical instructor as the facilitator (Sincero, 2011). The goal of the instructor is to assist in maneuvering the student from the Zone of Proximal Development to the More Knowledgeable Other (See Figure 1). If the student perceives the clinical instructor as approachable, then he or she will be more likely to ask

questions, understand expectations and receive feedback during the learning process. The scale will measure how approachable the student perceives the instructor. The more approachable the instructor scores, the better the “scaffolding” to assist the transitioning from one level of learning to another. Using this theory the instructor could assist the student in the transition from the Zone of Proximal Develop to the More Knowledgeable Other.

Conceptual Definitions

The dictionary definition of approachability is “capable of being approachable, accessible, easy to talk to or deal with, ability to be reached” (Merriam-Webster Dictionary, 2011, para 1). However, this dictionary definition does not address all the necessary elements for an instructor in a clinical setting to be considered approachable. The process of approachability of the instructor within nursing clinical setting is dynamic and unpredictable. The evolutionary concept analysis yielded a theoretical definition as the process of implementing active and subtle behaviors of approachability. The active behavior includes encouraging questions, answering questions without belittling the students, showing an interest in students and being flexible. The subtle behaviors involve being aware of non-verbal communication and being available. These behaviors require the instructor to have a student centered teaching philosophy. The results of implementing approachable behaviors include building an interpersonal relationship with the students and creating a positive clinical experience.

Specific Aim

The specific aim of the study was to address all four aspects of validity. Validity and reliability are keys to the establishment of any new scale. Validity measures the usefulness of the scale. The results should have meaningful inferences. Validity is the degree to which the

scale measures what it was designed to measure (DeVellis, 2012). Four different aspects of validity were measured. Those include: (1) Face validity, (2) Content validity, (3) Criterion-related validity and (4) Construct validity (Polit, 2010).

Face validity is an assessment of how the scale looks. One way this aspect of validity is established is by having the scale reviewed to examine if the scale appears to measure the concept in question. Face validity is less formal than the other types of validity. The participants were to view the overall scale and determine if they perceive the scale is measuring the intended phenomena of interest. This group of participants also identifies the readability of the scale.

Content validity addresses each item in the scale. This aspect of validity establishes how the items were developed and if they adequately reflect the conceptual definition. A panel of experts is needed to evaluate if the scale supports the conceptual definition. Content validity is dependent of the participants' perception, therefore, experts in the field of interest is vital to this aspect of validity.

Criterion-related validity is the process of establishing the instrument as a predictor of other experiences or behaviors (Spector, 1992). This aspect of validity analyzes the degree to which the newly developed instrument correlates to an external criterion. To evaluate this aspect of validity, the scale developer should compare the new scale to an existing "gold-standard" scale (DeVellis, 2012). Criterion-related validity is most appropriate with a concretely defined criterion.

Construct validity addresses the aspect of the appropriateness of the scale (DeVellis, 2012). This aspect of validity analyzes each item and evaluates the relationship of the variables. Construct validity evaluates the relevancy of the items and if the sum of the items measures all

the dimensions of the concept. Different methods exist to determine construct validity: (1) Known-group-testing groups differ on the attributes (2) Hypothesized relationships-testing hypothesized relationships (3) Convergent and discriminant validity-uses the multitrait-multimethod matrix method (MTMM) to establish correlation and (4) Factor analysis-method of clustering related variables (DeVellis, 2012).

Reliability is consistency, stability or dependability to which the instrument measures the concept. The reliability of a scale can be measured by several different statistical assessments. One way is a test-retest reliability. The researcher performs the test to the same sample at different time periods (Polit, 2010). The scores are compared using reliability coefficient. The most widely used reliability test called a coefficient alpha or Cronbach's alpha score which measures internal consistency. This particular statistical measure is used to measure the homogeneity of the scale. To measure for interrater reliability, the researcher would use correlation coefficient (Polit, 2012). The test examines the extent to when different observers reach a consensus and share a common interpretation.

Face validity was assessed using volunteers during a previous quantitative study. Content validity was established by subject matter experts. To establish criterion-related validity, the ANCI was compared to the established NCTEI scale and a modification of the Observations of Nursing Teachers in Clinical Setting (ONTICS) scale. Factor analysis was used to evaluate construct validity. Internal reliability was evaluated using the statistical Cronbach's alpha score and a test-retest procedure.

Research Questions

These specific research questions were centered around validity and reliability of the ANCI scale. They included:

1-Is the ANCI a valid scale?

2-Is the ANCI a reliable scale?

3- Does the ANCI measure approachability of the nursing clinical instructor?

Summary

Approachability of the nursing clinical instructor is vital to nursing education especially to millennial students. In the past, this concept has only been conceptually defined. The ANCI scale operationalizes and measures this concept. The validity and reliability must be examined before the scale is used in future research studies. In the future, this scale can assist in the reform efforts of nursing academia as requested by the NLN.

CHAPTER 2

INTRODUCTION

This chapter will discuss the literature review and development of the instrument. The literature begins with a focus on the current generations represented in academia including Baby Boomers, Generation X'ers and Millennials and how these generations may differ. This chapter continues the literature review and establishes the current role of the nursing clinical instructor and provides characteristics of an effective instructor. Following the literature review, this chapter gives an overview of instrument development. The development of the Approachability of the Nursing Clinical Instructor scale included a multidisciplinary concept analysis of approachability. This larger concept was followed by a narrower focus on the concept of approachability with the context of nursing clinical education. The results of the literature and concept analysis led to a focus group. The results of the focus group assisted in developing the original questions for the ANCI scale. A pilot study has been conducted and the results of the exploratory factor analysis are also discussed in this chapter. This chapter also includes an overview of other instruments which have approachability as an independent variable is given.

Generations in Academia

Currently three different generations are in academia. Those include Baby Boomers, Generation X and Millennials. Baby Boomers were born between 1943-1960 (Leiter, Jackson, & Shaughnessy, 2009). This generation value loyalty and respect for authority (Lipsomb, 2010). They value creativity but adapt slowly to new technology. In general, nurses from this generation want autonomy and professionalism in the workplace (Lipscomb, 2010). They are often called workaholics. Generation X'ers were born between 1961-1980 (Leiter et al., 2009). The children from this generation were called latchkey kids because they were raised in dual

income or single parent homes and were home alone often (Lipscomb, 2010). This population is considered independent and confident. They value a balanced home and work life.

Professionally, this generation seeks acknowledgement for their expertise and achievements (Leiter et al., 2009).

Millennial Generation

The millennial generation was born between 1980-2004 (Coomes & DeBard, 2004). The current age of this group is between 12-36. According to the 2014 NLN report, 82% of nursing students are under the age of 30 (National League for Nursing, 2014). Therefore, the majority of the current nursing students are from the millennial generation. In general, millennials are described to be present oriented, self-centered, multi-taskers and optimistic (Coomes & DeBard, 2004). They have short attention spans and expect immediacy and speed (Coomes & DeBard, 2004). In regards to education, this generation views personable instructors with respect (Dunneback & Therrell, 2015). Students are more “willing to work *with* a professor rather than *for* a professor” (Dunneback & Therrell, 2015, p 60). Students prefer to learning from a professor they view as caring (Dunneback & Therrell, 2015). Millennials value relationships from professors who relate to them on a personal level (Bart, 2011).

Generational Differences

Many of the clinical faculty members are from either the Baby Boomer or Generation X era and most of the students are millennials. Therefore, a generation gap may exists between the faculty and students. On the other hand, building a relationship with millennial nursing students is essential to the students. Baby Boomer value a respect for authority and the Generation X seek acknowledgment for their expertise. Even with the knowledge that the majority of nursing students are from the millennial generation, few studies relate to the specific needs of this

generation regarding nursing education. Much of the research on clinical nursing education dates to 1980's-1990's. Little research regarding this topic has been completed in the last decade. A key component of the relationship is the students' perception of how approachable the clinical instructor appears. Jowett and McMullan's (2007) study concluded credible educators were seen as approachable and accessible. Croxon and Maginnis (2008) revealed the support offered by the clinical facilitator was the most significant aspect of learning.

Role of Clinical Instructors

While the didactic component covers facts, theory, and research, the clinical component prepares students for real-life nursing practice by giving them experiential learning opportunities. The clinical learning environment enables students to combine nursing theory, practice, and research while being immersed in nursing culture. The term *clinical instructor* and *clinical teacher* are used interchangeably in the literature. For this study, the term clinical instructor will be used. The clinical instructor is a registered nurse employed by the nursing school whose responsibilities should include helping nursing students achieve their learning outcomes. This person is responsible for planning and conducting instruction as well as evaluating student performance (Kube, 2010). Becker and Neuwirth (2002) defined an instructor as one who integrates theory into practice and creates an optimal learning environment. Both Brown (1981) and Bergman and Gaitskill (1990) defined a clinical instructor as one who instructs in a practice setting. In the clinical setting, the student is considered an apprentice who is led by the clinical instructor. The instructor has a vital role: teaching students to prioritize clinical tasks while fostering the flexibility and problem-solving skills they need to feel confident working in a fast-paced environment. While the clinical instructor role is well defined, the characteristics these instructors need to effectively do their jobs are not.

Effective Characteristics of Clinical Instructors

An integrative review of characteristics of an effective clinical nursing instructor was conducted. The databases used were the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and Education Resources Information Center (ERIC) from 1985 to present using four key terms: nursing, clinical, teaching, and effectiveness. The year 1985 was chosen as it was the year that Mogan and Knox (1987) developed the Nursing Clinical Teaching Effectiveness Inventory (NCTEI). This instrument has a seven-point Likert-type scale with five categories: teaching ability, nursing competence, evaluation, interpersonal relationship and personality. Thirty-three articles met the inclusion criteria. In reviewing the available literature regarding clinical teaching effectiveness, many characteristics were discussed including being a role model, leader (Adelman-Mullally et al., 2013), evaluator (Salsali, 2005), or mentor. However, three overriding characteristics were noted. Of the 33 studies reviewed, 21 identified competency, the ability to develop interpersonal relationships, or certain personality traits as the most important characteristic of an effective nursing clinical instructor.

From a student perspective, approachability was the consistently discussed in studies. In an early study by Nehring (1990) using the NCTEI, students perceived the best instructors as being approachable (M=6.64). Confirming Nehring's (1990) findings, a later study by Viverais-Dresler and Kuschke using the NCTEI (2001) identified the most desired instructor characteristics: approachability, fairness, openness, honesty, and mutual respect. Among the students in this study, approachability was the highest rated characteristic (M=6.70). Using the NCTEI, Beitz and Wieland (2005) indicated that an effective instructor is supportive, helpful, approachable, respectful, caring, enthusiastic, encouraging, open to suggestions, a good communicator, and able to make students feel confident.

Instrument Development

Five steps are involved in any newly developed scale (Spector, 1992). Those include: 1) Define Construct 2) Design Scale 3) Pilot Test 4) Administration and Item Analysis 5) Validate and Norm. The first step of defining the construct is the most crucial. A researcher must define the phenomena that is believed to exist before being able to measure it directly (DeVellis, 2012). This process is especially challenging if the phenomena of interest is abstract or complex. Many researchers do not spend enough time and energy developing an operational definition. The first step for defining a construct is a literature review. Developing a solid and conceptual definition in the beginning will increase validity of the scale in the end. The second step, designing the scale, includes selecting a format and response choices. The more defined the construct is, the easier the items are to create a pool of questions. The initial item pool will be statistically analyzed for validity later in the process. The pilot test is the third part of the process. This involves a small number of participants. These participants are asked to critique the initial scale and to assess each item for readability. After the initial pilot test, the scale should be given to a larger population of 100-200 for the fourth step (Spector, 1992). This step involves item analysis. Statistical tests such as factor analysis and coefficient alpha are used to examine if the scale needs revision. The fifth step is validation and norms. This process is identifying if the scale actually measures the defined construct. A larger sample size (depending on the number of items in scale) will establish the norms. Polit (2010) recommends at least 10 participants per item. DeVellis (2012) states five to ten participants per item up to 300 participants. Norms analyze any distributional changes based on population.

Multidisciplinary Concept of Approachability

Step one of an instrument development is defining the concept. The process of approachability of the instructor within the nursing clinical setting is dynamic. The evolutionary concept analysis yielded a theoretical definition as the process of implementing active and subtle behaviors of approachability. The active behaviors include encouraging questions, answering questions without belittling the students, showing an interest in students and being flexible. The subtle behaviors include being aware of non-verbal communication and being available. These behaviors require the instructor to have a student centered teaching philosophy. The results of implementing approachable behaviors include building an interpersonal relationship with the students and creating a positive clinical experience.

A multidisciplinary integrative review was conducted to synthesize and evaluate the state of the science with regards to the concept of approachability of the instructor within the context of clinical education (Collier, 2013). Many disciplines discuss the importance of approachability within the context of clinical education. The disciplines of interest included nursing, education, medicine, and psychology. Few studies have developed a conceptual definition and or describe approachability. A total of 18 studies met the inclusion criteria. Overall, nine studies used a quantitative method, eight used qualitative methods and one used a mixed method approach. Eight studies were in the nursing field, one was in psychology, two were in education, four were from medicine and three studies were from other disciplines. The sample sizes ranged from 12-2845 participants. The samples were students, faculty, mentors, residents and attending physicians. The years ranged from 1985-2013.

Psychology. Within psychology, a conceptual definition of an approachable instructor is one who is warm, has a kind personality and a sense of humor (Perrine, 1998). Personality of the

instructor was a determining factor in dentistry as well (Janhangiri et al., 2013). The instructor with a warm and friendly personality was considered more approachable than an instructor with a closed personality. In addition, this study conceptually defined approachability as an instructor who was receptive to comments, allows for questions, allows students to express opinions and open to suggestions. Additional characteristics of approachability within psychology include showing respect for students, going beyond the call of duty and not belittling the students when asking questions (Perrine, 1998).

Medicine and Education. In medicine, trainees consider their clinical supervisor approachable according to the ease of asking for support (Kennedy et al., 2009). In education, research by Cox et al. (2010) and Faranda and Clarke (2004) indicated the importance of inviting the students to ask questions and the students' comfort in asking. Other indicators of approachability include showing an interest in student learning, amendable to helping the student, willing to meet outside of class and having an open door policy (Cox et al., 2010; Faranda & Clarke, 2004). Approachability was also expressed in more subtle signs such as instructors' tone of voice, facial expressions, preparation for class and maintaining office hours (Cox et al., 2010).

Nursing. The characteristics of approachability of an instructor in a clinical setting in nursing are similar to other disciplines. Viverais-Dresler and Kutschke (2001) discuss the importance of the student feeling comfortable asking questions. Nursing students considered more approachable as being supportive, willing to listen to their opinions and receptive to ideas (Viveralis-Dresler & Kutschke, 2001; Rosalynd & McMullan, 2007; Wieck, 2003). Other characteristics identified by nursing were receptive to people and taking a personal interest in the student (Wieck, 2003; Viveralis-Dresler & Kutschke, 2001). Rosalynd and McMullan's (2007)

conceptually defined approachability of an instructor as responsive to the needs of the student and having an educational presence. Nursing students also wanted to get advice and wanted the instructor to help them grow (Viveralis-Dresler & Kutschke, 2001). One difference between nursing and other disciplines was personality was not considered an attribute to approachability in nursing.

Concept of Approachability within the Context of Clinical Nursing Education

Based on the integrative review, the concept of approachability within the context of clinical nursing education was discovered to be an immature and obscure concept. Rodger's Evolutionary Method was used to conduct a concept analysis of this concept (Rodgers & Knafl, 2000). The concept analysis identified the antecedents, attributes and consequences of approachability of the clinical nursing instructor. The antecedent was a student centered teaching philosophy. Based on the analysis, the attributes were divided between active and subtle behaviors of approachability. The consequences include building an interpersonal relationship and creating a positive clinical experience. Using the antecedents, attributes and consequences, a theoretical definition was developed.

Definition. The process of approachability of the instructor within the nursing clinical setting is dynamic. The evolutionary concept analysis yielded a theoretical definition as the process of implementing active and subtle behaviors of approachability. The active behaviors include encouraging questions, answering questions without belittling the students, showing an interest in students and being flexible. The subtle behaviors include being aware of non-verbal communication and being available. These behaviors require the instructor to have a student centered teaching philosophy. The results of implementing approachable behaviors include

building an interpersonal relationship with the students and creating a positive clinical experience.

Focus Groups

Based on findings from the literature review, step two of the instrument design process was implemented. Following the appropriate protocol for protection of human subjects, 3 semi-structured focus groups were established to explore approachability of the nursing clinical instructor. Two focus groups consisted of Bachelor of Science in Nursing (BSN) students, the other focus group members were clinical instructors. The first focus group contained 10 fifth level students. These students had completed 4 semesters of clinical instruction in multiple settings. The second group contained 11 fourth semester BSN students. These participants had completed three semesters of clinicals. The faculty group contained six faculty members. All faculty included were currently teaching clinicals. The semi-structured interviews contained five guiding questions. Those included:

1- When someone says the word approachable what do you think of, what does that mean to you?

2-What were some of the actions, some of the behaviors or some of the characteristics that made you think that instructor was more approachable than other instructors?

3- What are some nonverbal behaviors that make you perceive they are approachable?

4- What are some behaviors that make you perceive a clinical instructor is not approachable?

5- What advice would you give new or old clinical instructors to help them be more approachable?

Results. During the focus groups, the students appeared passionate regarding the topic of approachability. They were eager to contribute answers to the proposed questions. After the sessions, the results were transcribed. The transcripts were read by one student of each student group for a member check. The results were divided into themes and later coded. The themes and codes were then read by a subject matter expert to verify the codes. The student themes were read by a BSN student in the same program. The faculty group transcript was read by a current clinical faculty member. Six themes arose from the groups. Those included: 1- Accommodating 2-Verbal communication 3-Perception of helpfulness 4- Feedback (Evaluation process) 5-Body language 6-Creating learning environment.

The theme of a clinical instructor being accommodating was constant throughout the sessions. The comment by a student explaining how one instructor was accommodating by stating “when we had to do chest compressions and had a code blue, after everything she took the time and talked to us...and talk it through and just not hold it in and have to deal with what we just went through” Verbal communication was also a common theme. Both students and faculty felt that establishing clear expectations was important. Comments included “Things were clearly defined. You felt like you knew what your expectations were and knew what you could do.” The concept of a perception of helpfulness was also mentioned consistently during all three focus groups. One student stated “They care about how much you learned. They wanted you to learn. They wanted you to experience.” During the sessions, many students commented on how the feedback/evaluation process should or should not be handled. This theme was demonstrated by the statement “Clinical instructors can be tough but they do not have to be cruel, and there is a lot more tearing down than there is building up that goes on.” Body language was viewed as very important by the students. Non-verbal communication such as rolling eyes, gritting teeth,

crossing arms were viewed as attributes of a non-approachable instructor. Creating a learning environment was a common theme. One of the faculty commented “I think in the clinical setting students need to feel safe with you just as patients need to feel safe with nurses.” One student stated “They find you and grab you and put you into something interesting to watch or be a part of.”

During the focus group sessions, the students began discussing the consequences of having an approachable instructor. Students stated that if an instructor was approachable, then they would be more willing to talk to the instructor. Also, the more approachable the instructor is the more the students would be willing to increase the difficulty level during a clinical setting without fear, which would increase the students’ motivation. This concept was demonstrated by one of the students talking about the results of an approachable instructor “You want to do better for them because they want the best for you.” On the other hand, when an instructor is not approachable, the students stated that they tend to hide from the instructor during clinical. This will not give the instructor an honest assessment of the students’ abilities. One student summarized the consequences of having an instructor that is not approachable by commenting “I know that there are things that have happened that I did not tell my professor about because I was afraid of punitive results and I know some of my peers in every clinical situation that things have happened that we should really tell our professor about that we did not because they are not approachable.”

Pilot Study

Step three of the instrument design was to conduct a pilot study. Based on the themes that emerged from the focus group sessions a scale was developed and named. Approachability of a Nursing Clinical Instructor (ANCI). The original scale contained 45 items with five-point

Likert-type questions. Following appropriate protocols for human subjects protection, 29 BSN students analyzed the scale for readability which established face validity by identifying any questions that were confusing or ambiguous. Then, a pilot study was conducted consisting of 108 BSN students. None of the 29 students who completed the initial analysis were included in the pilot study. A principal components analysis (PCA) was run using Statistical Package for the Social Sciences (SPSS). Visual inspection of the scree plot indicated one overarching factor with six possible components. An exploratory Varimax rotated factor analysis (EFA) revealed 11 total factors each with an Eigenvalue greater than one which explained 72.95% of the variance. However, on initial interpretation, three of the factors had only one question loading per factor. In addition, the negatively worded items were loading within one factor even though they were not designed to correlate. Therefore, the six negatively worded questions were deleted, leaving 39 questions. The exploratory Varimax factor analysis was re-analyzed with the 39 questions. The results revealed nine factors with an Eigenvalue greater than one that explained 69.99% of the variance. Two questions (discusses personal experiences and allows to make mistakes) loaded equally on three different factors. Those two questions were eliminated. The rotated Varimax factor was run a third time. This time the results revealed six factors. During this analysis, 11 questions had equal loadings across multiple factors. During the exploratory process, it was determined that these items did not properly discriminate between the different facets of the construct. Therefore, those questions were eliminated. After elimination of the 11 items, the EFA was run again and one overarching factor was identified with 40.944% of the variance explained. However, six factors had an Eigenvalue greater than one that together explained 67.63% of the variance. Each factor had three to five questions loading. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.896. Bartlett's Test of

Sphericity was statistically significant (.000) indicating that the data was likely factoralized. These six factors were consistent with the focus group results previously conducted.

Therefore, the final ANCI scale contained 26 items within six domains. The questions are as follows:

Factor 1-Instructor Attributes

My instructor is willing to listen to students
My instructor appears to enjoy his/her job
My instructor has a positive reputation with the staff nurses of the unit
My instructor has a friendly personality
My instructor has a positive reputation among former students

Factor 2-Direct Interaction

My instructor is willing to demonstrate technical skills
My instructor is willing to discuss with students without being defensive
My instructor is willing to explain situations or procedures
I do not feel shamed by my instructor
My instructor smiles

Factor 3-Indirect (Non-Verbal) interaction

My instructor is flexible in response to my individual learning needs
I do not feel intimidated by my instructor
My instructor provides encouragement during clinicals
My instructor has an open body posture during discussions (i.e. not crossing arms, facing me, etc.)
My instructor uses an appropriate tone of voice

Factor 4-Expectations and Feedback

I receive one-on-one (personal) instruction in the clinical setting when possible
I receive positive reinforcement
My instructor provides constructive feedback
My instructor gives clear instructions prior to the beginning of the clinical day

Factor 5-Student/Learner Centered

My instructor knows my name
My instructor admits when he/she does not know the answer to a question or situation
My instructor is available during office hours if needed
My instructor answers e-mails in a timely manner

Factor 6-Creating a Learning Environment

My instructor creates a team feeling

My instructor is clinically competent
My instructor gives undivided attention when responding to questions

The first factor, instructor attributes, describes the teachers' personal contributions such as reputation and personality. The second factor, direct interaction, discusses how the interaction is perceived between the instructor and student. This factor mainly focuses on explanations and demonstrations. The indirect factor is the third factor and is used to explain certain non-verbal cues such as tone of voice and body posture. The fourth factor, expectation and feedback factor is used to describe how well the instructor explains expectation and provides feedback during or after clinicals. Student-centered factor is the fifth factor, which discusses the instructors' accessibility and focus on the students. This includes answering e-mails, knowing the students by name and being available during office hours. The sixth factor of creating a learning environment is the aspect of students feeling safe with the instructor during clinical learning. Items in this factor include the instructor's competence and team approach.

Other Instruments Containing Approachability as an Independent Variable

The newly developed ANCI is the only scale created that has approachability as the dependent variable. In the quantitative studies, approachability is one of the many independent variables listed. After reviewing the literature, many instruments contain the concept of approachability within their tool. Mogan and Knox (1985) developed the Nursing Clinical Teacher Effectiveness Inventory (NCTEI) in 1985. This tool has approachability as one of the characteristics of an effective clinical instructor. Other quantitative tools exist that contain approachability as a part of the evaluation such as the Emerging Workforce Preference Survey, the ER scale and the NCTEI. In nursing, the Emerging Workforce Preference Survey contained approachability as a part of the evaluation. In medicine, the ER scale used in Steiner et al.'s (2003) research assessed approachability within the context of the tool. Cox et al. (2010) also

developed a survey with approachability embedded within the instrument. Many other qualitative studies focusing on characteristics of a clinical teacher have identified approachability as a recurring theme (Ernstzen, 2013; Ingrassia, 2011; Lemp & Seale, 2004; Perrine, 1998; Pierson, 2003). Only one qualitative study in the field of psychology addressed the specific qualities of approachability (Perrine, 1998).

Summary

This chapter provides a literature and gives a background of the development of the ANCI scale. The scale began with a literature review which was followed by a concept analysis. The concept analysis led to focus group questions. The results of the focus group contributed to the formation of the questions. These questions were tested in a pilot study. The results of the focus group and the exploratory factor analysis revealed six subscales within a 26 item instrument.

CHAPTER 3

INTRODUCTION

This chapter will discuss the methodology of the study. In addition, an explanation of epistemology and population including sampling plan, inclusion/exclusion criteria, and sample size determination will be included. Chapter three will also discuss human subject protection, research design, procedure and data analysis. This quantitative study will test the reliability and validity of newly developed Approachability of Nursing Clinical Instructor scale.

Epistemology

Social Constructivist theory is the guiding framework. This theory considers knowledge to be developed through collaborative process between students and instructor (Wu, 2003). In order for the student to collaborate with the instructor, he or she must perceive the teacher as approachable. The theory further indicates that the instructor's guidance provides a scaffold in the learning process that allows the student to reconstruct meaning for existing prior knowledge and experiences. Approachability is crucial to this knowledge reconstruction as well. The ANCI scale measures the student's perception of the approachability of the nursing clinical instructor.

Population

Sampling Plan

A convenience sample was used for this research. A convenience sample is appropriate in an initial study. Future studies may use random samples. Undergraduate nursing students participated from four different nursing schools, two Bachelor of Science in Nursing (BSN) and two Associate degree programs (ADN). All schools were located in southeast United States. One of the BSN schools was in southeast Tennessee; the other BSN program was located in

northeast Tennessee. One ADN program was in west Tennessee and the other in northwest Georgia. These schools were chosen because of contact with nursing faculty at each school. Before the study, IRB approval was obtained. Permission was granted from the dean or director of the nursing department. The contact faculty completed IRB training. Once training was completed, the principal investigator forwarded the survey link to the contact faculty of each school. That instructor then forwarded the link via email to all undergraduate nursing students who had completed at least one semester of nursing clinical education. The survey link was open for one week. The students who were willing to participate were asked to think of an instructor that he or she considers to be the most approachable. Without naming that instructor, the students were then asked to answer the questions to the survey.

Demographics that were collected included year of birth, degree program (BSN or ADN), gender, number of clinical semesters completed in nursing school, and types of clinical experience (i.e. fundamental, critical care, obstetrics, etc.). Another question asked was if the student had experienced a clinical and/or practicum in another discipline. This captured second-degree students or students who changed majors which included a clinical component. However, the survey only addressed the clinical experience from nursing school.

Inclusion/Exclusion Criteria

Inclusion criteria included all undergraduate nursing students who had completed at least one nursing clinical rotation. Participation was strictly voluntary. Second-degree seeking students were eligible for the study, but the questions will address the experience from their nursing school only. Exclusion criteria included first semester nursing students who have not had at least one semester in a clinical setting. RN-BSN students were also excluded in this study. Although they have had many past clinical experiences, the curriculum for RN-BSN

degree has limited clinical experiences. Graduate nursing students were not included in the initial study. However, they may be included in future studies. The sample will not include any students who participated in the development of this scale because those nursing students have graduated.

Sample Size Determination

For a scale development sample, Polit (2010) recommend at least 10 participants per item. DeVellis (2012) states five to ten participates per item up to 300 participants. Because this scale contains 26 items, a sample size of 130-260 is appropriate. Another statement in Polit (2010) advises at least 300 participants for any factor analysis. Comrey (1988) concludes that a sample size of 200 is adequate for scales consisting of no more than 40 items. Based on these recommendations from Polit, DeVellis and Comrey, the goal for the sample size of this study was 200-300 participants.

A test-retest will also be analyzed as part of the reliability of the scale. According to Wright (2009), a sample size of at least 30 participants is needed for a test-retest reliability study. The re-test contained a convenience sample of 30 participants selected from one school of nursing. These 30 students completed the survey during the initial sample. Two weeks after the initial survey was concluded, all undergraduate students from one nursing school received the link again and were asked to complete it a second time. A test-retest examines the stability of the instrument over time by correlating the scores (Polit, 2010).

Human Subjects Protection

Institutional Review Boards (IRB) approval was obtained from East Tennessee State University (ETSU) (See Appendix B). The other university deferred to ETSU. The two community colleges do accepted the ETSU IRB approval. The survey was given through

Qualtrics which is an on-line surveying tool. On the first page of the survey, the students were informed of the purpose of this study. A question at the end of the first page gave students the option of completing the survey by stating “Selecting ‘yes’ indicates your willingness to participate in the survey”. Another statement clearly advised the student he or she may withdraw from the study at any time. The results of the data were collected and analyzed by the principal investigator and the dissertation committee. The results of the surveys were analyzed using Statistical Package for the Social Sciences (SPSS).

This study had minimal risk to students. The risk included possible retaliation from the school or individual faculty to students. Several steps had been carefully implemented to reduce this risk. The survey results were not divided by school. The only dividing demographic for school attending is BSN or ADN. Since four schools participated, two with an associate degree and two with a bachelor degree, the individual school was not identified. Demographic data did not include names of the students, name of faculty chosen for survey or school attending. The principal investigator or contact faculty person did not know which students chose to participate in the study. Another step to minimize the possibility of retaliation is no one knew how many students participated from a particular school. The principal investigator only had access to the results as an aggregate unit. Not knowing the identities of the students and aggregate data ensured confidentiality of the individual students therefore decreasing the risk of retaliation to the student by any instructor or school.

Research Design

The design of the study was a descriptive correlation for instrument development. Five steps are involved in any newly developed scale (Spector, 1992). Those include: 1) Define Construct 2) Design Scale 3) Pilot Test 4) Administration and Item Analysis 5) Validate and

Norm. The researcher completed the first four steps involved in instrument development in prior work. The purpose of this study was to complete the fifth step of development which is validation and norms.

Procedures

The principal investigator forwarded the survey link to the instructor within the school giving the survey. That instructor then forwarded the Qualtrics link via email to all undergraduate nursing students who had completed at least one semester in a nursing clinical setting. The first page of the survey contained an explanation of the survey and an informed consent. Students who were willing to participate had one week to complete the survey after receiving the e-mail link. Students were instructed to think of the instructor they consider to be the most approachable. Without naming the instructor, they were to complete the survey with the characteristics of the identified instructor in mind. The instructors at the different schools did not have access to the individual results. The principal investigator did not have the names of the students taking the survey to ensure anonymity.

Data Analysis Plan

The purpose of the study was to establish validity and reliability of the ANCI scale. Each of the four types of validity was analyzed. Those included: Face validity, Content validity, Criterion-related validity and Construct validity (Polit, 2010).

Face Validity

Face validity is measurement of how the scale looks. Face validity was established during a previous quantitative study. Within Qualtrics, each question contained a space below the question. The students were instructed to comment on each question for readability and

understandability. The questions were revised after the pilot study to ensure face validity. Therefore, face validity from the previous study will be used for the scale.

Content Validity

Content validity addresses the items in the scale. This aspect of validity establishes how the items were developed and if they adequately reflect the conceptual definition. Content validity evaluates the relevancy of the items and if the sum of the items measures all the dimensions of the concept. This type of validity requires subject matter experts. However, because this concept is new, no subject matter experts exist. Since the scale is addressing approachability from the student perspective, the expert panel consisted of mostly nursing students. Clinical instructors who have taught nursing clinicals for more than five years were asked for their expertise. Six nursing students and four clinical faculty members were invited to review the scale for content validity. Students and instructors were selected using a convenience sample from one BSN school.

Construct Validity

Construct validity addresses the aspect of the appropriateness of the scale (DeVellis, 2012). This aspect of validity establishes the extent to which the scale is measuring what it was designed to measure. Two different methods exist for statistical analysis of content validity: Factor analysis and Rasch analysis. The Rasch model uses the results for both item analysis as well as characterizing the total person. The model summarizes a person's belief on a certain variable (Rasch Analysis, n.d.). An exploratory factor analysis was completed on the pilot study. In order to remain consistent in the methodology used for content validity, confirmatory factor analysis was used for content validity from this sample.

Criterion-related Validity

Criterion-related validity establishes the developed instrument is a predictor of experiences or behaviors (Spector, 1992). This aspect of validity analyzes the degree to which the newly developed instrument correlates to an external criterion. Criterion-related validity is most appropriate with a concrete defined criterion. Concurrent validity is simultaneously collecting data from a sample at the same time. On the other hand, predictive criterion-related validity is collecting data before the variables are developed. This type of validity is used to predict future variables under a time interval. This study will use concurrent validity. Convergent validity measures how two constructs correlate (Spector, 1992). Since approachability is a new concept, the closest comparison is interpersonal relationships. The external criterion that was used to measure convergent validity in this study is the Interpersonal aspect of the Nursing Clinical Teacher Effectiveness Inventory (NCETI) scale developed by Knox and Mogan. Discriminant validity is used to measure low correlations between unrelated constructs (Spector, 1992). For discriminant validity, this study used a modification of the Observations of Nursing Teachers in Clinical Setting (ONTICS). This scale was designed by Mogan and Warbinek (1994) to observe desirable and undesirable teaching behaviors. There are two categories of undesirable behaviors that have been modified into five point (always-never) Likert-type scale questions.

Reliability

Reliability is consistency, stability or dependability to which the instrument measures the concept. The reliability of a scale can be measured by several different statistical assessments. The most widely used reliability test is called a coefficient alpha or Cronbach's alpha score. This measures for internal consistency. This particular statistical measure is used to measure the

homogeneity of the scale. Another measure of reliability is a test-retest. The researcher performs the test to the same sample at different time periods. This test measures reliability over time. Generally, the retest should occur within a 1-2 week period after the initial test (Spector, 1992). A correlation coefficient calculation would be calculated between the two administrations of the test to determine the degree of instrument is reliable over the selected time period (Polit, 2012). An alternate form of a reliability test is a split-half test. This is a test that randomly selects half of the questions within the survey and compares them to the other half of the questions (DeVellis, 2012). Using split-half reliability would not be feasible with the scale because there are an unequal number of questions with the six domains. With randomly selected questions, each factor would not be equally represented. This scale analyzed reliability using Cronbach's alpha and test-retest reliability.

Summary

This chapter revealed the plan for the study. Undergraduate nursing students who have completed at least one semester of clinicals completed the Qualtrics survey. These participants were asked to think of the clinical instructor he or she considered to be the most approachable to answer the questions. The results of this study were used to examine the validity and reliability of the newly development ANCI scale.

CHAPTER 4

INTRODUCTION

This chapter will offer a report of the analyses and statistical results. The demographics of the study will be discussed as well as an in depth explanation of the results including content validity, construct validity and criterion-related validity of the scale. Chapter four will also include the analysis of the reliability of the ACNI scale.

Interpretation of Analysis and Results

After obtaining IRB approval from East Tennessee State University, the Qualtrics survey link was sent via e-mail to the designated contact person at each of the four participating nursing schools (See Appendix E). Each contact person forwarded the link to the undergraduate nursing students within their prospective schools via e-mail. The link was open one week for responses. The first question of the survey included the informed consent, verified that the student had read the informed consent, and the participant was over the age of 18 and was willing to volunteer to participate in the study (See Appendix C). The student was forced to answer “yes” or “no” before proceeding to the next question. If the student answered “no” to the question, the survey was blocked from viewing. Once the student answered “yes”, the questions within the survey became available. The informed consent stated that the participant could quit the survey at any time by exiting out of the program. From the four nursing schools, 755 students qualified for the survey. Of those, 221 students attempted the survey for a return rate of 29%. Of the 221, nine surveys were not complete and therefore were eliminated from the study leaving 212 completed surveys.

The demographics of the study were analyzed. Following the demographic analysis, the data addressing the three research questions were analyzed. Those included:

- 1) Is the ANCI a valid scale?
- 2) Is the ANCI a reliable scale?
- 3) Does the ANCI measure approachability of the nursing clinical instructor?

Demographic Data

The 212 respondents were from four different nursing schools in the southeast United States. The individual nursing schools were not identified by the demographics. However, a distinction was made between BSN and ADN programs. There were a total of six demographic questions. Those included:

- 1) Year of birth
- 2) Program of Study (BSN or ADN)
- 3) Gender (Male or Female)
- 4) Do you have any past experiences with clinical education other than nursing school (i.e. education, Health and Human Performance, etc.)?
- 5) Number of semesters completed in nursing school?
- 6) What nursing clinicals have you experienced during nursing school? (Check all that apply).

Of the 212 respondents, 163 responded to the question “What year were you born?” The age ranges were 19-51 with a mean age of 24.39 (SD=5.388) (See Figure 2). Fifty percent of the sample was born after 1993 (24 years old or younger). When comparing this finding to generational dates, 95% of the respondents were born between 1980 and 2004 placing them in the millennial generation. The other five percent in the sample were in the Generation X

population.

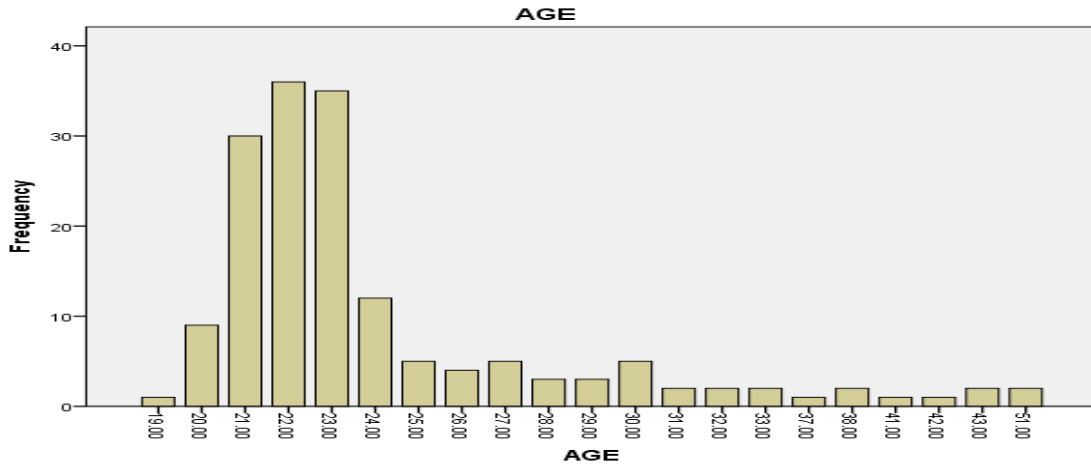


Figure 2: Age of Participants

A majority of the respondents, 160 (75.47%) were from the two Bachelor of Science in Nursing programs and 52 (24.53%) were from the two Associate of Science in Nursing programs (See Figure 3).

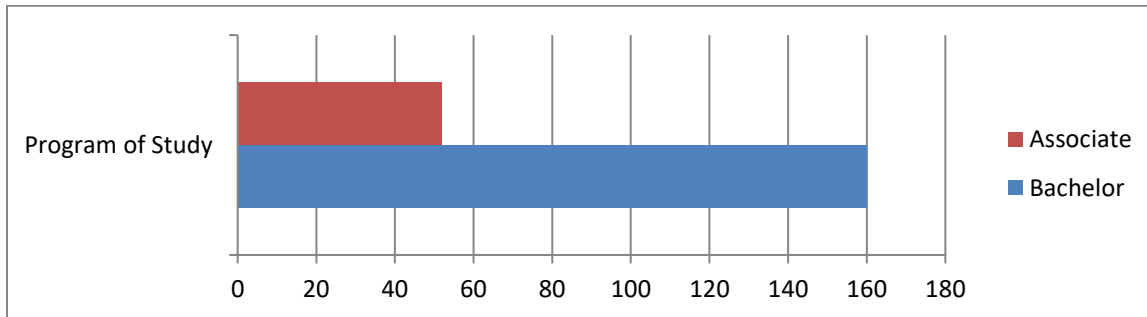


Figure 3: Program of Study of Participants

Thirty-eight respondents (17.92%) were male and 174 (82.08%) were female (See Figure 4). According to 2014 National League for Nursing census, overall 15% of nursing students are male. Therefore, the study sample is consistent with the national average.

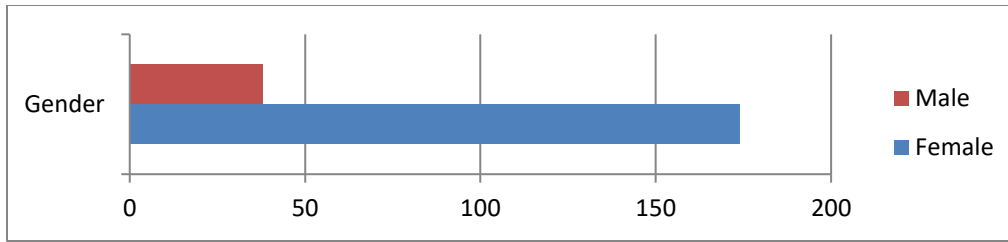


Figure 4: Gender of Participants

Fifty five (25.94%) of the students stated they had past experiences with clinical education other than nursing school. There was a wide range of the number of semesters completed in nursing school. Thirteen percent had completed one semester; 20% had completed two semesters, 22% had completed three semesters, 27% had completed four semesters and 18% had completed five semesters of nursing school (See Figure 5). A majority (67%) of the study sample had three or more semesters of contact with faculty providing clinical instruction.

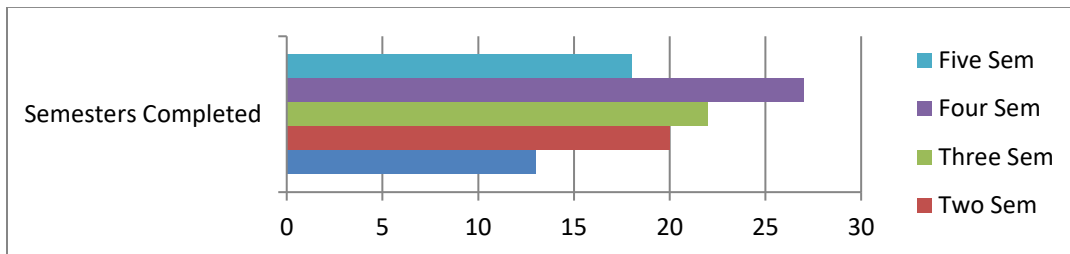


Figure 5: Number of Semesters Completed by Participants

The students in the study had experienced a variety of clinical experiences during nursing school. Ninety-eight percent had completed fundamentals (initial clinical experience), 77% had completed medical-surgical experiences, 75% had completed obstetrics, 67% had completed pediatrics, 75% had completed a psychiatric experience, 40% had experienced clinical experience in the community setting, and 12% selected “Other” as part of their clinical experience (See Figure 6).



Figure 6: Number of Semesters Completed by Participants

Scale Distribution

With a 26 item scale and possible answers ranging from one through five, the total scores for the scale ranged from 26-130. The minimum score for this study was 46 and the maximum score was 130. The mean score was 112.73, median 115.5 with a mode of 130. There was a standard deviation of 16.313. The scale was negatively skewed (-1.376) with a kurtosis of 2.247 (See Figure 7).

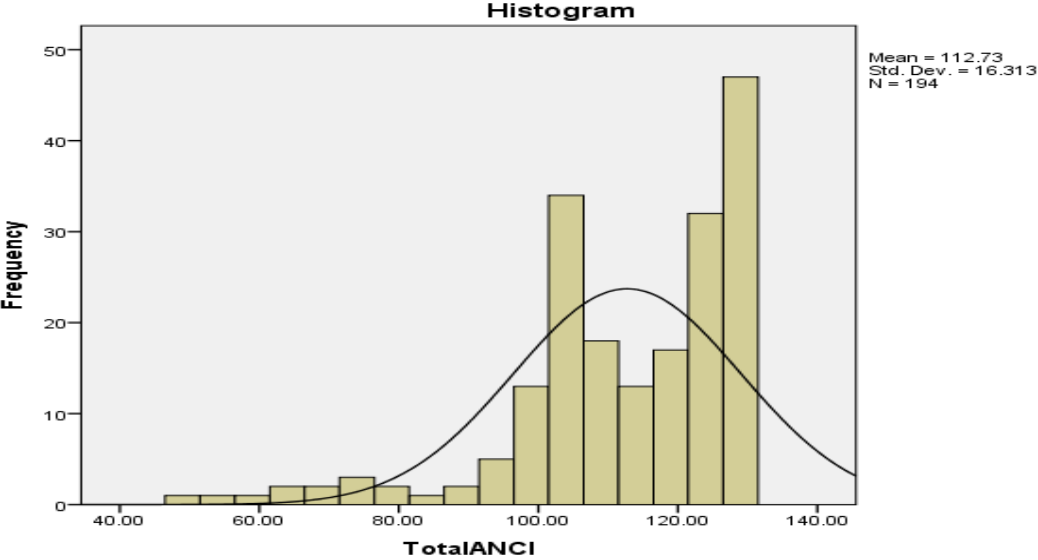


Figure 7: Scale Distribution

Question One: Validity

The first question of this study addresses the validity of the newly developed Approachability of the Nursing Clinical Instructor (ANCI) scale. Four types of validity were explored including face validity, content validity, construct validity and criterion-related validity.

Face Validity. As previously mentioned in Chapter 3, face validity was established during a prior pilot study which consisted of 29 nursing students. These students were given a survey in Qualtrics and were asked to read each question for readability. Following each question, there was a space for suggestions to reword the question. After the survey was completed and suggested changes were made, three additional senior nursing students reviewed the edited survey. These students served as subject matter experts. They all agreed the items in the survey appropriately measured the approachability of the clinical instructor. They also agreed the scale was readable and understandable.

Content Validity. Content validity involves subject matter experts. These experts are to review the scale to determine if the items adequately reflect whether the sum of the items measures the conceptual definition. However, since approachability of clinical instructors within the context of clinical education is a relatively new concept, there are no subject matter experts on this topic. Therefore, senior nursing students and experienced clinical faculty were considered the subject matter experts for this scale. These students and faculty were given and signed an informed consent (See Appendix D). Six senior nursing students were given the scale for review. After reviewing the scale, the students were given an opportunity to make written comments and discuss the scale individually with the principal investigator. Independently, all six students agreed that this scale contains all aspects of the characteristics of an approachable clinical instructor. Four faculty members with at least five years of experience in clinical nursing

education were given the same opportunity. Unanimously, these faculty members also confirmed that the sum of the items in the scale measure the concept of approachability and made no further suggestions for change to the scale.

Construct Validity. A principal components analysis (PCA) was run using Statistical Package for the Social Sciences (SPSS v. 23). Visual inspection of the scree plot indicated one overarching factor with three possible underlying factors (See Figure 8). A confirmatory varimax rotated factor analysis also conducted. The results revealed that three factors had an Eigenvalue greater than one. However, upon further analysis, these items were not designed to load together. For example, items addressing non-verbal communication were in the same category as office hours. This confirmatory analysis indicated a one-factor scale with 56.102 of the variance explained. To further confirm the findings, the overarching one-factor scale was revealed in both of the scree plots of the exploratory and confirmatory analysis. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.955. Bartlett's Test of Sphericity was statistically significant (.000) indicating that the data was likely factoralized. Further analysis involved using AMOS v. 24 to evaluate the goodness of fit of this model. The AMOS program is a computer designed analysis to evaluate proposed models. The possible factors can be analyzed for correlations. In this program, the closer to 1.00, the higher the correlation between factors. A Chi-square is also evaluated in using AMOS. Chi-square measures the differences between the observed covariances and the covariances of the model (Kenny, 2015). A non-significant chi-square indicates an adequate fit. However, with a larger sample size (greater than 200), a small deviation will result in a significant chi-square; therefore, this significant statistical reading is a poor overall measure of fit. Another indicator of goodness of fit is comparative fit index (CFI). This statistical measurement is used to compare goodness of fit of proposed model to a null

model. The equation is: $d(\text{Null Model}) - d(\text{Proposed Model}) / d(\text{Null Model})$. These results adjust for sample size. The recommended value close to .9. Another statistical indicator used to measure goodness of fit is the root mean square error of approximation (RMSEA). This measure evaluates discrepancies between the hypothesized model and covariance matrix. The number must be less than 1, the lower the number the better the fit (Kenny, 2015).

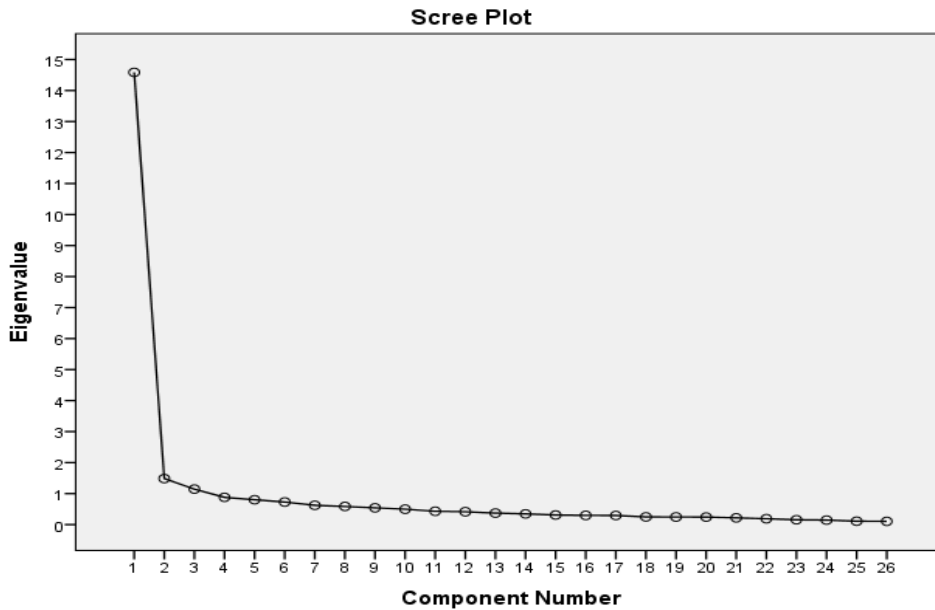


Figure 8: Scree Plot of Confirmatory Analysis

The first analysis using the AMOS program involved the six factors revealed from the pilot study. Of the 15 possible inter-correlations, 13 were measuring 0.90 or greater meaning that the factors were very inter-correlating (See Figure 9). The range of inter-correlations was 0.67-1.02. Using these results, the six factors were too highly inter-correlated to be identified as separate and distinct factors. The goodness-of-fit revealed a Chi-square of 790.937 which was significant, CFI=0.880. From this model, the CFI was .880 which is close to .9 to indicate a fit of the model.

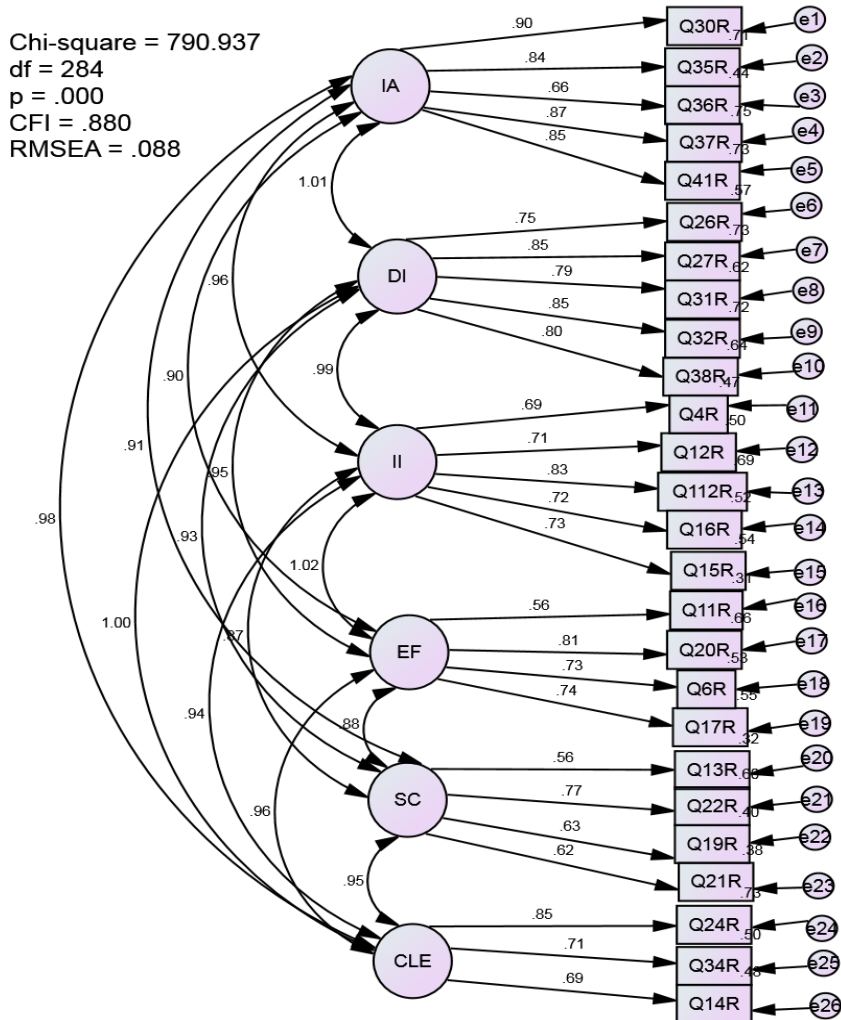


Figure 9: AMOS Goodness-of-Fit Model with Six Factors

The AMOS program was used to again to evaluate the fit of a one factor model following the initial results. The one-factor results revealed each individual item highly identified with the overarching factor of approachability. Of the 26 items all but one had a relationship of .50 or higher (See Figure 10). The range was .58-.94. The chi-square was 892.356 and was again significant (p=.000). Because of the large sample size, a significant finding is not concerning. The RMSEA is .93 indicating a mediocre goodness of fit. The CFI was .86 which could be used to indicate a fit because it close to .9. Therefore, one overarching factor of approachability will be used for this scale.

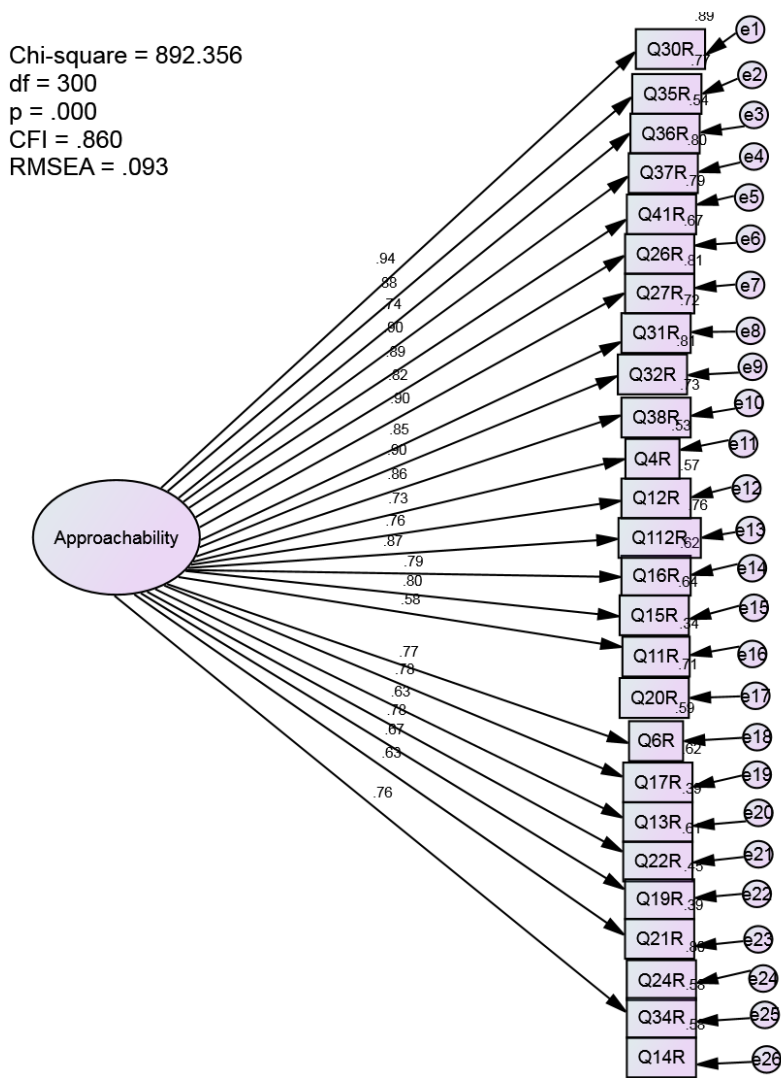


Figure 10: AMOS Goodness-of-Fit Model Using One Factor

Criterion-related Validity. Criterion-related validity compares the newly developed scale to an external scale. There are two types of criterion-related validity. Convergent validity compares an established scale that purports to measure a similar construct as the new scale. In contrast, discriminant validity compares the new scale to an established scale purports to measure a construct that is different or opposite of the new scale construct. Both convergent and discriminant types of criterion-related validity were examined during this study. The similar scale used for convergent comparison was the Interpersonal subscale of the Nursing Clinical

Teacher Effectiveness Inventory (NCETI). After computing the variables of each scale and getting a total score, the two studies were analyzed using a Pearson r . Using SPSS v, 24, the resulting correlation was $r=.895$ which is statistically significant ($p=.000$). Pearson r ranges from -1.00 to $+1.00$. The closer to 1.00 , the stronger the correlation (Polit, 2010). Numbers above represent a strong positive correlation. Therefore, these two scales are strongly positive correlated. Following this comparison, a modified portion of the Observations of Nursing Teachers in Clinical Setting (ONTICS) was used for discriminant validity analysis. These questions were chosen because they are negatively worded. When compared to the ANCI, the resulting comparison was $r=-.738$ which was statistically significant ($p=.000$). These results were strongly negative correlated. Therefore, the conclusion is the ANCI scale has convergent and discriminant validity when compared to previously established scales.

Question Two: Reliability

Reliability measures the consistency and stability of a scale. The most widely used reliability test is a Cronbach's alpha. According to Polit (2010), a result greater than $.80$ is desirable. SPSS v. 24 was used for analyzing the reliability of the ANCI. The results revealed a high Cronbach's alpha ($\alpha=.967$). Based on these results, the internal consistency of the ANCI can be considered reliable.

Another test that can be used to measure the reliability of a scale is a test-retest. This reliability test was proposed for this study in the Institutional Review Board application. However, in order to perform a test-retest, the students for the re-test must be identified. Because the IRB approval did not allow for identification of the students in order to perform a test-retest, in order to be compliant with IRB, a test-retest was not performed.

Question Three: Approachability

The final question of the study was “Does the ANCI measure approachability of the nursing clinical instructor?” The results of the validity analysis confirm this scale measures approachability of the nursing clinical instructor. The subject matter experts in the content validity portion of the study unanimously agreed the scale measured approachability. In addition, the construct validity also had confirmatory evidence of a one-factor scale with the overarching theme of approachability. These results were confirmed during the criterion-related validity with the positive correlation to the existing NCETI scale. Therefore, the conclusion is that this scale does measure the approachability of the nursing clinical instructor.

Summary

The psychometric measurement results of the newly developed ANCI scale reveals a scale that is valid and reliable. The analyses show that all four components of validity have been established. In addition, the reliability of the scale using Cronbach’s alpha reveal high reliability of the scale.

CHAPTER 5

INTRODUCTION

The purpose of this chapter is to discuss the findings and related conclusions of the study. The limitations will be discussed as well. In addition, multiple recommendations for future studies are addressed in this chapter.

Discussion

Scale development is a rigorous and time-intensive process. This study is a culmination of years of preparation and evaluation of the newly developed Approachability of the Nursing Clinical Instructor scale. However, the end product is a scale that is valid and reliable.

According to Spector (1992), the development of a scale consists of five steps:

- 1) Define Construct
- 2) Design Scale
- 3) Pilot Test
- 4) Administration and Item Analysis
- 5) Validate and Norm.

The first step of the process began approximately three years ago during a concept analysis of approachability as it related to nursing clinical instructors. Following the concept analysis, a literature review was conducted with a focus on the needs of the millennial nursing students.

The results of the literature review overwhelming revealed that the millennial generation prefers an approachable clinical instructor (Viveralis-Dresler & Kutschke, 2001; Rosalynd & McMullan, 2007; Wieck, 2003). The next step was a series of focus groups which confirmed the results of the literature review. Step two of the scale development consisted of combining the results of

the concept analysis, literature and focus groups to develop the questions of the survey. The third step was the administration of a pilot study. The pilot study was conducted two years ago with 108 senior undergraduate nursing students. The scale was refined based on the item analysis which is step four of the scale development process.

The final step was the validity and norming process of this study. Based on the results of this study, the newly developed ANCI scale meets all four aspects of validity and reliability is established. Face validity was confirmed during the pilot study. Content validity was confirmed by 10 subject matter experts who unanimously agreed the items in the scale adequately measured approachability of a nursing clinical instructor. Construct validity identified a one factor scale. During the exploratory analysis, one overarching factor with six sub-factors were identified. However, upon further analysis with the confirmatory results, the six factors were too closely inter-correlated to stand alone. Therefore, it was concluded the ANCI is a one-factor scale. Criterion-related validity of this new scale was also confirmed. Convergent validity was demonstrated by a high positive correlation to the similar NCETI scale. Discriminant validity was demonstrated by the negative correlation was shown with a modified portion of the Observations of Nursing Teachers in Clinical Setting (ONTICS). Reliability of the scale was analyzed by a Cronbach's Alpha. The results revealed a high reliability score. Therefore, the conclusion is that the Approachability of the Nursing Clinical Instructor (ANCI) is a valid and reliable scale.

Differences Based on Number of Clinical Experiences

During the analysis, a slight difference was noticed between scores of students who had one clinical experience compared to those who had five clinical experiences. Students with only

one clinical experience scored their instructor as more approachable than students who had five clinical experiences. (See Table 1).

Table 1

Median scores of ANCI by Number of Clinical Semesters

Number of Clinical Semesters	Mean ANCI score
One Semester	117.64
Two Semesters	112.30
Three Semesters	115.36
Four Semesters	112.55
Five Semesters	106.88

There are several speculative explanations for the decline in approachability scores for students who have completed five semesters of nursing school. One possible explanation is that because this survey was given at the end of the semester, the more experienced students who were nearing graduation may have been disengaged at this point. Knowing graduation was weeks away, they may not have been as motivated as younger students. Another possible explanation is that the clinical experiences during the last semester of nursing school is generally a preceptor experience. During this type of clinical experience, the student will experience more of an apprenticeship and is under direct supervision of a practicing nurse in the clinical setting. The faculty instructor is not immediately available in the hospital. Therefore, these students may have given lower scores based on the lack of availability of the nursing instructor.

Social Constructivist Theory

The concepts of Social Constructivist Theory, which is the theoretical framework for this study, are demonstrated through the key concepts of the ANCI. Using the model of the approachable instructor as the scaffolding in the “ladder” of the theory, the characteristics of the

instructor can either assist or hinder the student in achieving the More Knowledgeable Other level of learning (See Figure 1 on page 16).

An approachable instructor can more readily assist with the collaborative process of learning by engaging in the social negotiation and joint knowledge construction without belittling a student. This process of joint knowledge construction allows the student to use his or her past individual experiences to reconstruct meaning for new experiences. This collaborative process by the student and instructor can help the student achieve the next level of learning.

Limitations

The limitations of this study are centered on the sample. The sample was a convenience sample of four nursing schools in the Southeast portion of the United States. Therefore, the first limitation was the type of sampling. The other limitation of the study was the limited location of the sample which included only the southeast region of the United States. Because of the convenience sample and the location of the sample, these results may not be generalizable throughout the nursing student population across the country or internationally.

Another limitation was the fact that the test-retest was not performed. Due to the restricted IRB approval, the students could not be identified, therefore, the test-retest could not be analyzed.

Recommendations for Future Research

There are multiple future recommendations for the ANCI scale. Those recommendations included but not limited to: further psychometric testing the new scale, potential theory testing, education and screening of new clinical instructors and expanding the ANCI within nursing and to other disciplines.

Further Psychometric Testing

With any new valid and reliable scale, further psychometric testing will assist in increasing the validity and reliability. Because the IRB approval did not allow for identification of the students, test-retest reliability was not explored. Future studies should include this procedure in order to enhance the reliability of the scale. Sampling should also be expanded. Future studies could include randomized sample of nursing students across the country instead of just the southeast. Factor analyses could be re-evaluated with a larger sample size. Additional studies may result in scale revisions if the results reveal that items need to be deleted or even added. Therefore, psychometric testing of the current scale should continue.

Potential Theory Testing

One of the potential theories is a more approachable instructor will increase student learning with millennial. Testing this theory will include the ANCI scale. A study could involve two groups of students studying the same content area. Each group would complete the ANCI scale for their respected clinical instructor at the end of the semester. Then each group would be required to complete the same type of benchmark testing scores for the content area. The researcher could analyze the results using multiple Pearson r 's and multiple regressions to explore the relationship between instructor approachability and student academic performance, possibly leading to the prediction of student academic performance using the ANCI.

Education and Screening New Clinical Instructors

Armed with the knowledge from the literature review and the concepts of the Social Learning Theory, millennial students prefer an approachable instructor. This information needs to be disseminated among current nursing faculty. The clinical instructor should strive to create an optimal clinical learning environment by attempting to become the "ladder" to a higher level

of learning. Another possible future use of the ANCI scale is for possible screening of new clinical nursing faculty. Since approachability is important to the nursing students, it should be an important quality to evaluate for on-boarding purposes. The potential hire could be asked to self-evaluate their approachability using the ANCI scale. Although self-evaluation may not be the best evaluation method, it would at least set a precedent for the importance of the concept within the department. The self-evaluations could then be compared to the students' evaluations of the instructor for any areas of improvement.

Expanding ANCI Within Nursing

Another future study would include expanding the validity and reliability of the scale. Currently, the ANCI has only been tested in a traditional undergraduate program. This scale should be evaluated in RN to BSN programs. Although, these students may have similar courses, the RN to BSN students are experienced nurses who may have differing opinions regarding factors related to an approachable clinical instructor. In addition, to RN to BSN nursing students, graduate students should be evaluated as well. Graduate clinical experiences differ from undergraduate clinicals. The graduate students are mainly apprenticeship based models. Therefore, the factors of an approachable of the clinical instructor may be different that traditional undergraduate. Future studies could include a sample of RN to BSN students with another student including graduate nursing students. The same factor analyses could be evaluated and compared to the current findings. In addition, a Pearson r could be run for correlation. If there was no correlation, then the scale would not be appropriate for use in those populations, just traditional undergraduate nursing students.

Expanding ANCI to Other Disciplines

In addition to expanding the ANCI to different programs within nursing, this scale may be appropriate for other disciplines with a clinical component such as education, medicine and physical therapy. Just as with the different nursing programs, a sample of these students within each discipline could be obtained and the ANCI survey could be completed. The results of the responses could then be compared to the current findings. Factor analyses could be re-evaluated and a correlation study including a Pearson r could be analyzed. These results would demonstrate whether the ANCI would be a valid and reliable tool not only in nursing, but in other disciplines with a clinical component.

Summary

This study evaluated the psychometric properties of the approachability of the Nursing Clinical Instructor scale and concluded that it is a valid and reliable tool for measurement of the characteristics of approachability in nursing clinical instructors. There are multiple future recommendations for additional research involving this scale. The ANCI can result in a research trajectory and lifetime of continued studies for this author.

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APPENDIX

Approachability of Nursing Clinical Instructors Scale

What year were you born?

Program of Study

- Bachelor of Science in Nursing
- Associate of Science in Nursing

Gender:

- Male
- Female

Do you have any past experiences with clinical education other than nursing school (i.e. education, Health and Human Performance, etc.)?

- No
- Yes

Number of semester completed in nursing school:

- 1
- 2
- 3
- 4
- 5

What nursing clinicals have you experienced during nursing school? (CHECK ALL THAT APPLY)

- Fundamentals
- MedSurg
- Obstetrics
- Pediatrics
- Psychology
- Community
- Other

Think of your clinical experiences and identify the instructor you considered most approachable. Keeping that instructor in mind, answer the following questions:

My instructor is flexible in response to my individual learning needs.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor provides constructive feedback.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I receive one-on-one (personal) instruction in the clinical setting when possible.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I do not feel intimidated by my instructor.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor knows my name.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor gives undivided attention when responding to questions.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor uses an appropriate tone of voice.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor has an open body posture during discussions (i.e. not crossing arms, facing me, etc.).

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor gives clear instructions prior to the beginning of the clinical day.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor is available during office hours if needed.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

I receive positive reinforcement from my instructor.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor answers e-mails in a timely manner.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor admits when he/she does not know the answer to a question or situation.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor creates a team feeling.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor is willing to demonstrate technical skills.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor is willing to discuss with students without being defensive.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor is willing to explain situations or procedures.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor is willing to listen to students.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

I do not feel shamed by my instructor.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor is clinically competent.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor appears to enjoy his/her job.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor has a good reputation with the staff nurses of the unit.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor has a friendly personality.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor smiles.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor has a positive reputation among former students.

- Strongly Disagree
- Disagree
- Neither Agree nor Disagree
- Agree
- Strongly Agree

My instructor provides encouragement during clinicals.

- Never
- Rarely
- Sometimes
- Most of the Time
- Always

My instructor provides support and encouragement to students (1=not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor is approachable (1=not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor encourages a climate of mutual respect (1=not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor listens attentively (1=Not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor shows a personal interest in students (1=Not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor demonstrates empathy (1=Not at all descriptive-7=Very descriptive)

- 1
- 2
- 3
- 4
- 5
- 6
- 7

My instructor gives needless directions/explanations.

- Always

- Most of the time
- About half the time
- Sometimes
- Never

My instructor corrects student in front of others.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor gives incorrect information.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor misses teachable moments.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor gives unclear cues.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor uses sarcasm/inappropriate humor.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor responds to questions at levels too low for knowledge.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructor responds to questions at levels too high for knowledge.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

My instructors questions students at inappropriate times.

- Always

- Most of the time
- About half the time
- Sometimes
- Never

My instructor answers his/her own questions.

- Always
- Most of the time
- About half the time
- Sometimes
- Never

VITA

ANGELA COLLIER

- Education: Ph.D. Nursing, East Tennessee State University, Johnson City, Tennessee, 2017
M.A. Nursing Education, University of Phoenix, Phoenix, Arizona, 2009
B.A. Nursing, Kennesaw State University, Kennesaw, Georgia, 1995
- Professional Experience: Undergraduate Coordinator, University of Tennessee at Chattanooga; Chattanooga, Tennessee, 2010-present
Staff Nurse, Erlanger Medical Center; Chattanooga, Tennessee; 1999-present
Adjunct Faculty, Dalton State College; Dalton, Georgia, Spring 2010
Cardiovascular Circulating Nurse, Memorial Hospital; Chattanooga, Tennessee, 1997-2002
Charge Nurse, Parkridge East Hospital, East Ridge, Tennessee, 1996-1997
Charge Nurse, Kennestone Hospital; Kennesaw, Georgia, 1994-1996
- Publications: Collier, Angela, (2017). "Characteristics of an Effective Nursing Clinical Instructor: The State of the Science." *Journal of Clinical Nursing*, p 1-12.