

Exploring the Relationships among Nursing Students' Anxiety in the Clinical Setting and Select

Demographics

by

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## Abstract

The clinical learning experience is an essential part of nursing education that is often anxiety provoking. Understanding the factors associated with the anxiety levels of nursing students in clinical placements has become more complex over the years with the increasing heterogeneity of the nursing population. Associations between student demographics and their anxiety levels in the clinical setting have not yet been explored in the research literature. The questions guiding this descriptive correlational study are as follows: What is the anxiety level of students as determined by the State-Trait Anxiety Inventory (STAI)? Is there a relationship between students' age, gender, previous employment, and previous education and their self-perceived anxiety levels? The framework for this study is situated cognition theory.

The data provided through the study revealed that nursing students have a higher than average level of anxiety. The data revealed no statistical significant correlations involving age, previous education, previous employment, and self-perceived anxiety levels. There was a statistically significant difference between the anxiety scores of the female group and those of the male group, with males reporting higher levels of anxiety. The data provide an opportunity for discussion and identify the need for future research and practice.

Key Words: anxiety, nursing, students, age, gender, employment, education

## Co-Authorship Statement

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## Chapter 1

### 1.1 Background

The clinical learning experience is an essential part of the education of undergraduate nursing students. Clinical experiences prepare nursing students to transition into the professional nurse role as they integrate theoretical learning from the classroom into practice (Chesser-Smyth, 2005). During a four-year Bachelor of Science in Nursing (BScN) program, students are rotated through a variety of settings; each semester bringing a new clinical setting and sometimes two different settings. Students care for a wide variety of patients and are in constant interaction with the members of multi-disciplinary teams. Each new clinical placement brings a new clinical setting, different members of the team, often a new clinical teacher, and different patient populations (Emerson, 2007). During this time, students are also evaluated in a number of areas including skills, professionalism, critical thinking, communication, and therapeutic relationships (Melo, Williams, & Ross, 2010). While some students and educators consider clinical placements to be the most significant aspect of the educational program and are often associated with students' decisions to enter nursing (Chesser Smyth, 2005), clinical placements come with stress and anxiety.

The current global nursing shortage is predicted to worsen in the next decade (Buerhaus, Staiger, & Auerbach, 2000; Goodin, 2003; Lynn & Redman, 2005). Contributing factors to the nursing shortage include the aging nursing workforce, the increasing healthcare needs of the baby boomer generation, and the failure to increase enrolment rates in nursing programs to meet the demand (Goodin, 2003; Krail, 2005). One attempt at meeting the shortage is to increase enrolment in undergraduate nursing programs. Traditionally, nursing students have been predominantly women from non-minority backgrounds under the age of twenty-one (College of

Nurses, 2013). Between 1980 and 1984, the average age of a graduated nurse in Canada was 22.9 years. By comparison, from 2005 to 2009, the average age of a graduate nurse in Canada was 26.5 years (Canadian Institute for Health Information, 2010). Currently, non-traditional nursing students are replacing traditional nursing students in nursing programs nationwide (Bednarz, Schim, & Doorenbos, 2010; College of Nurses of Ontario, 2013).

Much of the past literature defines the non-traditional nursing student based on a general age categorization. Such definitions typically define traditional nursing students as 17 to 21 years of age and non-traditional students as over the age of 21 (Hight, 1996; Spitzer, 2000). However recent literature is beginning to recognize that other factors other than age delineates traditional students from non-traditional students. These include working full-time, having multiple roles, having previous education and employment as well as having at least one year between high school and their first year in nursing. Traditional students are identified as female individuals, who are 21 and younger, enrolled in a nursing program directly after high school and who do not have multiple roles (Jeffries, 2012). There has been inconsistency as to the specific age to which distinguishes non-traditional from traditional. The age most frequently used is 21, which is the age that will be used for this research study. Other references do use the age 22, 23, and 24 (Kim, 2003; Hight 1996). For the purpose of this study, the definitions from the recent literature were used to characterize between a non-traditional and traditional nursing student. Therefore, a traditional student will refer to a nursing student who is enrolled full-time in an entry-level undergraduate nursing program, who is female, and under the age of 21 (Jeffreys, 2012). Non-traditional students will refer to individuals who have at least one of the following characteristics: previous education and/or employment, are male, have multiple roles, or who have at least one year between secondary education and their first year in nursing.

Although increasing numbers of non-traditional nursing students are entering nursing, retention rates are substantially lower than for traditional students (Jeffries, 2012; Levin & Levin, 1991; Oermann & Heinrich, 2004; Salamonson & Andrew, 2006). Literature on retention is extensive in nursing literature, but has targeted predominantly traditional nursing students. Factors examined include voluntary attrition, involuntary attrition such as academic failure (Oermann & Heinrich, 2004). While many of these factors influence non-traditional students, there are some distinguishing characteristics of the non-traditional nursing student. It is suggested that environmental variables, such as financial status, family support, family responsibilities, childcare arrangements, employment hours, and encouragement by outside friends, are more important for non-traditional nursing students than academic variables. Academic variables include academic services, such as library services, and counselling, study hours, attendance, and class schedules (Oermann & Heinrich, 2004). Environmental variables have the power to affect student persistence and retention (Oermann & Heinrich, 2004). In summary, a student's environmental variables, external to the academic process appear to be crucial factors in the retention of non-traditional nursing students.

Nursing students often experience high levels of stress and anxiety throughout their nursing education. Anxiety can impact how nursing students think and provide care in the clinical setting (Cook, 2005). Mild anxiety may enhance learning but, as anxiety increases, learning decreases (Audet, 1995; Jeffries, 2012; Moscaritolo, 2009). In fact, high levels of anxiety may negatively affect students' clinical performance and present a threat to success in a clinical rotation (Moscaritolo, 2009). The changing demographics of nursing students and the increased enrolment of non-traditional nursing students points to a need to establish knowledge about the similarities and differences between traditional and non-traditional nursing students in

relation to stress and anxiety. Issues of anxiety may be much different for the non-traditional student than for the traditional student. In the clinical setting, traditional students may be adjusting to a more autonomous environment, navigating the social transition from high-school to college, and dealing with pressure from parents to do well (Stagman, 2011). While, non-traditional nursing students in clinical may be facing anxiety from time taken away from responsibilities at home including caring for spouse, children and/or aging parents; work responsibilities, financial obligations, and feelings of not being academically prepared due to separation from formal education for a number of years (Spellman, 2007).

Groups may differ in their anxiety levels, and such differences need to be identified in order for their needs to be met. While both traditional and non-traditional students may perceive the clinical setting as a stressful and anxiety provoking event, there are significant differences in the way they perceive these stressors (Dill & Henley, 1998). It is yet to be determined why they differ in the way they perceive stressors, which supports the need for this research study. The literature offers some suggestions such as differences in developmental stages, life demands, previous life experience, time-management skills, and life backgrounds (Landow, 2006; Oermann & Heinrich, 2004). Increases in immigration, globalization, and minority population growth have the possibility to enrich the diversity of the nursing profession and to help meet the needs of an expanding culturally diverse society (Oermann & Heinrich, 2004). This emphasizes the potential of the non-traditional student population and demands a focused attention on promoting non-traditional student success (Oermann & Heinrich, 2004). This knowledge will help ensure that academic support services and faculty address the needs of all students. While this study does not aim to explore the perceived stressors of traditional and non-traditional students, it does aim at investigating the differences in anxiety levels between the two groups.

## 1.2 Problem Statement

While it is evident in the literature that the clinical experience can be challenging, unpredictable, and anxiety provoking, little is known regarding the levels of anxiety among non-traditional nursing students (Beck & Srivastava, 1991; Emerson, 2007; Timmins & Kalizer, 2002). It is crucial for nursing faculty to be aware of the heightened sense of anxiety, which students often experience during clinical placements. Faculty are trained to intervene when academic failure is seen, but may be unaware when students have increased anxiety levels, or how to intervene in this area (Williams, 2014). When nursing faculty are aware and educated on anxiety in the clinical setting, they may be more likely to intervene appropriately so that students can apply their knowledge skilfully in an environment that is supportive and conducive to learning. This will facilitate decreasing anxiety, enhancing learning outcomes, improving student success and increasing retention. All academic institutions delivering the BScN programs will benefit from knowledge about the anxiety experienced by nursing students in relation to their age, gender, work experience, and past education.

## 1.3 Statement of Purpose of the Study

The purpose of this study was to determine possible relationships between specific demographics of first and second year BScN students and their self-perceived anxiety levels as experienced in nursing clinical placements. In particular, the purpose of the study was to assess for relationships among gender, age, previous employment and education on self-perceived anxiety levels in the clinical setting.

## 1.4 Research Questions

Five research questions guided this study.

1. What is the anxiety level of 1<sup>st</sup> and 2<sup>nd</sup> year BScN students in clinical placements as determined by the STAI?
2. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' age and self-perceived anxiety levels in the clinical placement?
3. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' gender and self-perceived anxiety levels in the clinical placement?
4. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' previous employment and self-perceived anxiety levels in the clinical placement?
5. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' previous education and self-perceived anxiety levels in the clinical placement?

### 1.5 Significance to Nursing

It is important for nurse educators and clinical instructors to have an understanding of nursing students in the clinical setting and their experiences of anxiety. When student nurses have increased levels of anxiety, there is a direct threat to success in a clinical rotation (Moscaritolo, 2009). It is crucial for nursing faculty to understand their students' anxiety in order to foster supportive learning environments and to develop interventions to assist in decreasing students' high levels of anxiety. As student nurses are directly caring for patients, increased anxiety levels also pose a threat to patient safety and quality of care (Geiger-Brown & Lipscomb, 2010; Moneke & Umeh, 2013). Once a student becomes anxious, it can render them unable to concentrate on the task, or patient assignment. Rising anxiety levels are correlated with declining patient safety and care, which has been noted in the literature (Geiger-Brown & Lipscomb, 2010; Moneke & Umeh, 2013). Advances in health care are also accelerating resulting in new procedures and technologies to be introduced, making clinical settings more stressful. Today's

nursing students are the future of the profession, and if nursing faculty does not take appropriate actions and interventions in assisting students to manage the demands of clinical stress, nursing as a profession will be negatively impacted (Shipton, 2002).

While post-secondary institutions are promoting and increasing the number of non-traditional nursing students entering their nursing programs, this does not come without implications for nursing education (Buerhaus et al 2000; Jeffreys, 1998; O'Lynn, 2013). Retention rates for non-traditional nursing students are substantially lower than for traditional students (Oermann & Heinrich, 2004). Nurse educators are active partners in the complex process of non-traditional nursing students and their retention. Nurse educators can design theoretically and empirically supported retention strategies specific to targeting the non-traditional student population, and their anxiety in the clinical setting. Design of these strategies first requires an understanding of the non-traditional nursing student as a whole, including environmental variables, academic variables both which may contribute to anxiety levels, including the clinical environment (Oermann & Heinrich, 2004). It is essential that environmental factors such as age, previous work experience, and prior education be considered in relation to anxiety in the clinical setting. Jeffries (2012) advises that educators' actions concerning environmental factors can make a considerable difference in student academic and psychological outcomes, persistence, and retention. Jeffries (2012) also emphasizes the need for further research on anxiety in the non-traditional student in order to increase retention rates in this population. This knowledge will assist nursing faculty in developing curricula and educational interventions that address potential anxiety levels of student nurses from a heterogeneous population. In this present study, my goal is to partition out the variables characterizing the non-traditional student, including age, gender, previous work experience and

previous employment, to more clearly determine the relationships and factors attributing the anxiety in the clinical setting.

The literature presents a wide variety of interventional strategies aimed at assisting students decrease anxiety, such as humour, mentoring, simulation experiences prior to clinical, and fostering a respectful relationship between the clinical instructors and students (Billings & Halstead, 2013; Kameg, Szpak, Cline, & Mcdermott, 2014; Moscaritolo, 2009). While these interventions may be helpful for non-traditional nursing students as well, there is a gap in the literature regarding interventions specific for non-traditional nursing students. Nurse educators must recognize the holistic needs of non-traditional students, expand the teaching role, and create innovative strategies such as orientation programs, and workshops which can be tailored to non-traditional nursing students by joining students, family, faculty and friends into a collaborative support network (Billings & Halstead, 2013; Jeffreys, 1998). While this study will not aim to address the literature gap regarding effective interventions for non-traditional nursing students' anxiety in the clinical setting, it does provide a foundation on the anxiety differences in non-traditional and traditional nursing students. However, in order to develop specialized interventions for non-traditional nursing students, it is imperative to understand the anxiety and possible contributing variables surrounding the non-traditional student.

## 1.6 Theoretical Framework

The theoretical framework used to guide this research study was Situated Cognition Theory (SCT). In SCT, it is assumed that knowledge is embedded in the context, culture, and activity in which it was learned (Brown, Collins, & Duguid, 1989). Similarly, "every human thought and action is adapted to the environment, that is, situated, because what people perceive, how they conceive their activity, and what they physically do develop together" (Clancey, 1997,

p.1). In essence, knowing and learning cannot be separated from context, activity, people, culture, and language. Using SCT, learning occurs best when it is done so naturally in cultures, contexts, and activities, which reflect real life, as opposed to classroom learning. The classroom setting is believed to restrict learning by providing unsituated contexts, or learning to which students are unsure how to apply in a real-life setting (Brown, Collins, & Duguid, 1989). For example, on one hand, many students learn fractions in school, working through problem sets and simple examples. However they may not be able to transfer this knowledge to real life to solve problems involving fractions, like how to adjust a recipe. On the other hand, if students learn about fractions by performing real-world activities, like baking or shopping, they can internalize the knowledge and learn how to use it. They also see the application and relevance of the knowledge to their life. It is assumed that in order for nursing students' learning to be effective it is best to do so in meaningful contexts or apprentice-based situations, such as hospitals or in environments where nurses are employed. For example, a nursing student watching videos, and reading about urinary catheterization may not experience the real-life challenges, uniqueness, and possible contributing factors that may exist when performing a catheterization on an actual individual. SCT suggests that teaching should promote learning in a context as close as possible to the one where the acquired information will be applied, such as a clinical placement (Schell & Black, 1997).

Situated learning focuses on the relationship between the individual's learning and the social environment where the learning occurs (Hanks, 1999). The learning that occurs by student nurses in the clinical placement is open to social influences. The learning is situated in the clinical environment and, thus, the clinical environment is very closely associated with the learning process of nursing students. In clinical, nursing students learn the real world of nursing.

They become socialized and undergo enculturation. They imitate behaviours, acquire language, and gradually act according to the norms of the group (Melincavage, 2011). Perceptions, insights, and meaning are components of situated cognition theory. During learning experiences and the encompassing learning process, students will also experience anxiety. Situated cognition theory proposes that the individual's learning and the social environment are very closely connected, where learning in one environment or context is only transferable if it is in a similar or same environment. Thus only knowledge gained from previous education or employment from similar situations will transfer to the student's experience in the present clinical setting. SCT was useful in my study because it provided a systematic way of understanding characteristics of the non-traditional and traditional student and its relationship to their behaviour, specifically anxiety, in relation to the learning environment. The overall purpose of this theory was to connect the reader to existing knowledge and to assist in guiding the research process. It is expected that the outcomes of this study will relate to SCT by suggesting an inference about the role of learning in social environments.

## Chapter 2

### 2.1 Literature Review

A literature review was conducted to determine the state of knowledge related to student nurses' anxiety in the clinical setting with a focus on any variables that may impact self-perceived anxiety. Both empirical and non-empirical studies were examined for relevance. Literature from healthcare, education, and psychology was thoroughly reviewed using CINAHL, OVID, ProQuest, Google scholar, EBSCO, Psychology journal databases using the following search terms: anxiety, clinical, student, nursing, fear, stress, non-traditional setting, environment, gender, male, female, past experience, age, and maturity. The search was limited to published journal articles written in the English language, published in a peer-reviewed journal, and available as a full text journal article through Laurentian University. Books were also utilized if they were written in the English language and available from GOOGLE books. Bibliographic searches were then performed on the included references. Articles older than ten years were considered when there was dearth in newer research.

Clinical learning experiences are an integral and crucial aspect of nursing education. Clinical placements provide nursing students with opportunities to bridge their classroom theory with clinical practice, thereby expanding their knowledge, skills, and experience in a professional environment. Some scholars believe that student experience in clinical settings affirms their commitment to nursing as a career (Macleod-Clark, Maben, & Jones, 1997). Nonetheless, much research has found that clinical is a source of anxiety for nursing students, with the initial clinical experience producing the most anxiety in their practicum (Beck & Srivastana, 1991; Brunt, 1984; Hart & Rotem, 1994; Kim, 2003; Melincavage, 2011; Melo et al, 2010; Sharif & Masoumi, 2005; Timmins & Kaliszer, 2002)

However, it is still unclear what makes a clinical setting that much more stressful than the classroom setting. Some researchers have reported various factors contributing to student nurses' stress and self-perceived anxiety in the clinical setting. Influencing factors which have been cited are a lack of clinical experience, a lack of familiarity with clinical areas, caring for challenging patients, a fear of making mistakes, a perceived lack of support from nursing staff, and a fear of clinical evaluation (Shipton, 2002; Sprengel & Job, 2004). Literature suggests that the initial clinical experience produced the most anxiety in their practicum (Brunt, 1984; Hart & Rotem, 1994; Kim, 2003; Sharif & Masoumi, 2005). The reviewed literature revealed specific clinical situations and aspects of clinical anxiety for the nursing student.

It is important to recognise that high levels of perceived anxiety levels in nursing students' needs to be addressed to promote success in the profession (Sprengel & Job, 2004). While it has been found that students perform best with a moderate level of anxiety, extreme anxiety and low anxiety are detrimental to the students' performance in the clinical setting (Melincavage, 2011). In other words, a moderate level of anxiety is growth-producing for most undergraduate nursing students. As the level of anxiety begins to increase, emotional readiness peaks and then begins to decrease in an inversely U-shaped curvilinear manner based on the Yerkes-Dodson law (Ley, 1979). High anxiety can impede concentration, memory and problem-solving ability, which in turn may adversely affect academic performance and learning (Beddoe & Murphy, 2004; Sharif & Armitage, 2004). High anxiety has been associated with high attrition rates and failures on provincial registration exams (Beck et al., 1997; Pitt, Powis, Levett-Jones & Hunter, 2012; Poorman & Martin, 1991). In addition, studies have shown that students enrolled in undergraduate nursing programs show higher levels of anxiety compared to students in non-health departments and to the general population (Beck et al 1997; Shipton, 2002). Given the

imminent and threatening shortage of registered nurses (Ontario Nurses Association, 2014), this is an important issue for the profession of nursing.

However, it is still unclear what specifically makes a clinical setting that much more stressful than the classroom setting. Researchers have reported various factors contributing to student nurses' stress and self-perceived anxiety in clinical including lack of clinical experience, a lack of familiarity with clinical areas, caring for challenging patients, a fear of making mistakes, a perceived lack of support from nursing staff, and a fear of clinical evaluation (Shipton, 2002; Sprengel & Job, 2004). Shipton (2002) and Sprengel and Job (2004) explored the influencing factors contributing to student nurses' stress and anxiety, however neither research study compared the factors between traditional and non-traditional nursing students. Therefore, it is not known if the factors are different in the two groups. This further identifies a need to first investigate if anxiety levels are different between the non-traditional and traditional nursing student.

In the literature, traditional students are identified as female individuals, who are 21 and younger, enrolled in a nursing program directly after high school and who do not have multiple roles (Jeffries, 2012). For the purpose of this study, the definitions of recent literature were used to characterize between a non-traditional and traditional nursing student. Therefore, the term traditional student will refer to a nursing student who is enrolled full-time in an entry-level undergraduate-nursing program who is female, and under the age of 21 (Jeffreys, 2012). The term non-traditional students will refer to individuals who have at least one of the following characteristics: previous education and/or employment, are male, have multiple roles, or who have at least one year between high school and their first year in nursing.

Characteristics of today's students differ dramatically. Historically, nursing students have been predominantly women, aged 21 and younger who are enrolling in a nursing program directly after graduation from secondary education (Jeffries, 2012). In contrast, academic institutions are now more likely to accept mature students, over the age of 21, male students, students with previous undergraduate degrees or college certificates often unrelated to the new career they have chosen, and students with part-time or full-time occupations (Canadian Association of Schools of Nursing, 2010; Jeffries, 2012). Most certainly, there appears to be a trend that new graduate nurses are older than their counterparts who graduated in the late 1980's; the average age of a new graduate nurse in 1988 was 28.8 years, 1992 was 33.7 years, and in 2012 was 34 years of age (College of Nurses of Ontario, 2013). In light of this trend, nursing students are balancing work, home and school responsibilities, leading to increased stress and anxiety (Moscaritolo, 2009). Some scholars (Smith, Carpenter, & Fitzpatrick, 2015; Waltman, 1997) found that mature, non-traditional students possess certain strengths acquired from life experiences that aid them in their academic goals. By nature of their age, stage of development and probable increased life experiences, the adult may have more advanced coping mechanisms and correspondingly lower levels of anxiety or stress in new situations (Smith, Carpenter, & Fitzpatrick, 2015). Other strengths include maturity and confidence, increased motivation as choice to attend program is often made by self, and efficient time management skills (Smith, Carpenter, & Fitzpatrick, 2015). Many studies have found that mature-age students entering higher education have consistently been found to achieve better grades than younger students who are entering higher education directly from high-school (Hoskins, Newstead, & Dennis, 1997; Houltram, 1996; Kevern, Ricketts, & Webb, 1999). Yet, it is not known if mature-age students' higher grades are associated with more advanced coping mechanisms and lower

anxiety. The findings from these studies raise questions about the amount of anxiety in non-traditional nursing students, the relationship between age and anxiety, the relationship between gender and anxiety and the role of previous employment and education has on a student's current anxiety in the clinical setting.

Research on anxiety levels between male nursing students and female nursing students has been relatively inconsistent. Fumiko, Kurebayashi, Prado, & Silva (2012) studied self-perceived anxiety levels as determined by the STAI and found no statistical difference between them. However many studies (Aydin & Yucel, 2014; Chernomas & Shapiro, 2013; Misra & McKean, 2000; Papazisis, Tsiga, Papanikolaou, Vlasiadis, & Sapountzi-Krepia, 2008; Spielberger, 1983) found that female nursing students generally score slightly higher than males in state anxiety. Explanations offered for increased anxiety levels in females include the female population generally having increased self-reported anxiety levels, lower confidence levels, hormonal factors, but most of the studies recommend future research studies to investigate contributing factors. It is important to note that all of these research studies have focused on anxiety between male and female nursing students, although not specific to the clinical setting.

Research focused on nursing students' previous employment is scarce, and not concentrated specifically to anxiety in the clinical setting. Research on previous employment is concentrated more so on students' hours of work and its relationship to academic performance, showing that as one's hours of work increased, academic performance decreased (Salamonson & Andrew, 2006). One study (Hakimzadeh, Ghodrati, Karamdost, Ghodrati, & Mirmosavi, 2013) found that previous employment in a healthcare area enabled confidence, decreased feelings of anxiety, and increased competence in nursing students.

Literature on the presence of previous post-secondary education in nursing students is also infrequent in the literature. A statistic from Colleges Ontario (2011) states that 65% of college students were admitted to their program with at least some previous post-secondary education. A statistic specifically for the prevalence of nursing students with previous post-secondary education could not be obtained. Further, research on the relationship of previous post-secondary education and nursing students' anxiety levels is not present.

Of particular interest, only one study to date focused on a comparison of traditional and non-traditional baccalaureate nursing students' anxiety and its contributing factors (Waltman, 1997). Authors of this study also used the STAI scale to measure anxiety, in addition to other scales measuring self-concept and cognitive ability. In this study non-traditional and traditional student nursing groups were similar in the area of self-perceived anxiety levels. However, contrary to the literature mentioned, this study identified academic performance indicators suggesting that non-traditional student population did not perform as well as traditional students in their ability to learn in the school environment. This study was done to further explore the issue of anxiety in relationship to specific variables of traditional and non-traditional nursing students. There is limited research exploring the anxiety of non-traditional nursing students and no published studies describing how anxiety, specific to the clinical setting, is distributed in this population.

While the literature presents information on student variables, anxiety, and the clinical setting respectively, there is little information assessing the relationships amongst them. Anxiety in nursing students is well documented, but the extent and the variation of it across varied populations is not thoroughly studied. The adverse effects of anxiety of traditional nursing students are well documented in the literature. Research on anxiety and related stressors has

focused on the traditional, young, single, female student (Jeffries, 1998; Kevern, et al., 1999; Melo et al, 2010).

Research focused on non-traditional nursing students is required for numerous reasons. First, the increased abundance of non-traditional students entering the nursing profession is growing rapidly. The size of this sub-group is expected to rise as older adults enter nursing programs and enrolment of traditional students decline. Non-traditional nursing students come to post-secondary education with life experiences that are both quantitatively and qualitatively different from traditional nursing students. There is a need to establish a knowledge base of similarities and differences between traditional and non-traditional students in areas such as anxiety and stress (Waltman, 1997). This will help ensure that academic support addresses the needs of all students, and thus can assist in the retention of nursing students in the profession. One concern is the limited research of anxiety in non-traditional students. Currently there are no published research studies focusing on demographic characteristics, such as nursing students' age, gender, previous employment and education and their relationships with anxiety in the clinical setting. The identification of differences among traditional and non-traditional nursing students is necessary in order to design treatment interventions that best meet the needs of different student groups.

The variables of age, gender, previous employment, and previous education were chosen as a result of previous research in this area. As the focus of this research study is on the non-traditional student, it was necessary to choose demographic variables that would identify the student as either traditional or non-traditional in order to compare the self-perceived anxiety levels of the two groups. Age is the most common variable identifying whether a student is a traditional nursing student or a non-traditional nursing student. As well, gender is a variable of

concern as the nursing profession is female dominated. Previous employment and previous education are variables, which support if a student is a traditional or non-traditional student, assisting the researcher in determining if there is a relationship between these variables and self-perceived anxiety. Situated cognition theory proposes that a person's thoughts and actions are adapted to the situation occurring because perceptions, understanding and actions develop simultaneously (Clancey, 1997). One's gender and age influence these perceptions and actions. Situated cognition theory suggests that knowledge is acquired situationally and transfers only to similar situations. Therefore only knowledge gained from previous education and employment from similar environments will transfer to their present clinical setting.

The following section will offer definitions of some of the key terms extracted from the literature review, descriptions of concepts included in the theoretical framework, and the survey tool used for the research study.

## 2.2 Definition of Key Concepts

**Anxiety.** Definitions of anxiety vary throughout the literature. It most commonly denotes a complex reaction or response that varies in intensity and fluctuates over time, also known as state anxiety (Spielberger, 1966). However, the term anxiety is also used to refer to a personality trait, or trait anxiety. Spielberger (1966) defines this as "individual differences in the extent to which different people are characterized by anxiety states and by prominent defenses against such states" (p. 12). State anxiety is defined as an unpleasant emotional arousal in face of threatening demands or dangers. The threat can be physical or psychological and the person's self-esteem or well-being is threatened. Trait anxiety is interpreted as measuring individual differences in a relatively permanent personality characteristic. For example, if an individual is anxious now, they would presumably have a higher state anxiety level, and if they were

chronically anxious, it is probably that their trait anxiety level would also be elevated (Spielberger, 1966).

Nursing students may experience state anxiety in certain situations, such as the clinical setting. Some nursing students, like the general population may be anxious individuals, or have higher levels of trait anxiety. In relation to this research study, state anxiety is the focus. The clinical environment is viewed as the perceived threat. Whether a nursing student has higher than normal trait anxiety levels is insignificant.

When a person experiences a situation that is felt to be threatening, whether the threat is based on reality or one's perception, an anxiety state is aroused (Spielberger, 1979). The feeling is often diffuse and is often not easily described by the person. Lader (1984) states the feeling of anxiety is intense, unpleasant, and intolerable. A person's emotional reaction to a situation is based on the individual's perception of the situation (Spielberger, 1979). Physical symptoms may accompany the feelings of anxiety and include trembling, heart pounding, shortness of breath, and dizziness. For some, simple everyday tasks may be perceived as anxiety provoking while others do not. The same situation may be perceived as threatening while others as nonthreatening (Gaudry & Spielberger, 1971).

Anxiety should not be viewed as a negative concept. Without any anxiety, an individual lacks the motivation to complete academic tasks; such as completing daily homework, and studying for tests. However a high-level of anxiety interferes with concentration, and memory, which are critical for academic success. Therefore when a nursing student is experiencing a high or low level of anxiety in the clinical setting, it can have adverse effects on performance, concentration, learning and confidence (Melincavage, 2011).

Personal past experience may be a factor in determining whether or not a situation is threatening, and thus cause high levels of anxiety. In other words, the individual's interpretation of the situation influences the level of anxiety. An individual who has previous employment experience, education and older than the traditional nursing student age and thus probable increased life experiences, may have improved coping mechanisms and decreased incidence of becoming anxious or stressed in new situations. The purpose of this research is to determine if age, gender, previous work and employment change the perception of clinical and, therefore, influence the level of anxiety.

**Stress.** Often, stress and anxiety are used interchangeably. Stress is a response to a threat in a situation whereas; anxiety is a reaction to the stress (Anxiety and Depression Association of America, 2014). Perception and interpretation are subjective processes and are included in the meaning of the term anxiety, but not stress. Stress comes from the pressures we feel in life, as we are pushed by work or any other task that puts undue pressure on our minds and body. Stress can come from any situation or thought that makes us have negative feelings such as frustration, anger, or nervousness. Anxiety is stress that continues after that stressor is gone. It is a reaction to stress leaving feelings of apprehension and unease. Some people are more susceptible to stress than others, and what is stressful to one person may not be stressful to another (Spielberger, 1983).

**Clinical Setting.** The clinical setting, often referred to as the clinical learning environment, is defined as an area where student nurses obtain real life experience in a health care setting. Clinical placements allow students to integrate theory into practice. Examples of clinical settings include but not limited to hospitals, long-term care facilities, physician's offices,

and patient's homes. The clinical setting has been and will continue to be a large part of nursing education (Moscaritolo, 2009).

**Student Nurse.** Student nurses are individuals enrolled in a nursing education program for the purpose of becoming a registered nurse. Presently in Ontario, there are two nursing programs; practical nursing and the BScN. The focus of this study and the students in this study will be enrolled in the BScN program, which is a four-year undergraduate degree (Northern College, 2014).

### 2.3 Theoretical Framework: Situated Cognition Theory

Developed by Jean Lave and Etienne Wenger, Situated Cognition Theory is based on an anthropological view of learning in natural settings, and is the theoretical framework chosen to situate this research. Situated Cognition Theory recognizes the inextricable thinking and the contexts in which it occurs. Knowledge is assumed to be the unique by-product of unique relationships between an individual and the environment (Choi & Hannafin, 1995; Wilson, 1993). From this theory, it is assumed that the nature of the interactions among learners, the tools they use within these interactions, and the social context in which the activity takes place shapes learning. Supporters of situated cognition theory propose that learning is not something that happens in independent isolation, but instead is shaped by the context and culture in the learning situation (Wilson, 1993). According to one proponent, learning involves the whole person being actively involved in the world rather than a learner receiving factual knowledge about the world (Melincavage, 2011). Therefore learning is inherently social in nature, and thus the learner and the context are inseparable. When viewing learning, it is apparent that action, thought, feelings and values are context-dependent.

In this study, SCT is helpful to identify that social learning occurring in real-world contexts and communities ensure the best learning environments. For example learning your first language or a foreign language by immersion is widely held to be easier than learning languages from textbooks and vocabulary list (Brown, Collins, & Duguid, 1989; Jonassen & Land, 2012). The learner is intimately involved, interacting; participating in its history, assumptions, cultural values, and rules (Fenwick, 2000). When nursing students learn in actual life-settings, such as clinical placements, they are enculturated by observing the routine of others, unit values, language, and expected roles (Lave & Wenger, 1991). They observe the routine, values, language and normal actions of the group and setting. When learners are involved in realistic tasks in a real world and practical setting, they are able to interpret their relevance, applicability, and meaning.

Situated cognition theory regards the relationship between learning and the social contexts where it occurs. One's thoughts and actions are a result of the environmental situation because what people perceive, and how they conceive of their activity, and what they physically do develop together (Clancey, 1997). It is in the clinical setting that students experience, and develop their perceptions and thoughts about learning in this environment, and where they consider how their actions in this environment occur. Nursing students experience anxiety while learning in the clinical environment. Non-traditional nursing students may have different personal understandings of the learning environment and may have different anxiety experiences as opposed to traditional nursing students.

Situated cognition theory proposes that when a learner first enters a new setting, they often partake in legitimate peripheral participation (Brown, Collins & Duguid, 1989). Legitimate peripheral participation refers to those who are not directly taking part in a particularly activity

but also learn a great deal from their legitimate position on the periphery (Lave & Wenger, 1991). This provides opportunities for learners to make the culture their own (Melincavage, 2011). First and second year nursing students are most likely to begin clinical placements on the periphery, where they are observing from the boundary. For example, a first year nursing student may follow the nurse and go about his or her usual routine. The student observes and absorbs the role model's actions, language, and behaviours. When one's experience increases, learners move from a more peripheral position to a more central location of the learning environment (Brown, Collins, & Duguid, 1989).

Situated Cognition Theory also suggests knowledge is tied to the context of its acquisition. Because cognition is so dependent on the context, knowledge transfer from other contexts is conceived as playing little or no role in learning (Argote & Ingram, 2000). Knowledge is a product of the activity and situations in which they are produced (Brown, Collins, & Duguid, 1989). It implies that the clinical placement is a unique learning environment where previous experience or education does not facilitate learning in the clinical environment, unless the previous experience of education was in the same learning environment. The learning occurring in the clinical setting is bound by not only the skills completed, but also by the beliefs, values, language, and culture. One can only learn fully by being present in a real-life context where one is fully involved in its routine, values, and culture. In this learning environment, students often experience anxiety. The clinical learning environment, the learning process and anxiety are closely connected. In the clinical setting students are required to socialize and interact with their peers, patients, nurses, and professionals of other disciplines. They are embedded in the routine, culture, values, and language of the clinical setting. It is with this direct experience that students are learning and experiencing anxiety. Social cognition theory proposes

that every learning situation is unique, including the clinical learning environment. The clinical learning environment is distinctive from classroom learning, a student's previous employment and education. Thus, this theory proposes that a student's age, life experience, previous education, and prior employment experiences would have very little role in students' learning in the clinical setting.

## Chapter 3

### 3.11 Statement of Purpose of the Study

The purpose of this study was to determine the relationships between first and second year BScN students' demographic data and self-perceived anxiety levels as experienced in nursing clinical placements. The study set out to determine if there were relationships between the students' gender, previous employment, and education on their self-perceived anxiety levels in the clinical setting. The results of the study were used to guide discussion of strategies to decrease students' anxiety in the clinical setting and enhance student performance.

### 3.12 Research Questions

Five research questions guided this study:

1. What is the anxiety level of 1<sup>st</sup> and 2<sup>nd</sup> year BScN students in clinical placements as determined by the STAI?
2. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' age and self-perceived anxiety levels in the clinical placement?
3. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' gender and self-perceived anxiety levels in the clinical placement?
4. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN previous employment and self-perceived anxiety levels in the clinical placement?
5. Is there a relationship between 1<sup>st</sup> and 2<sup>nd</sup> year BScN students' previous education and self-perceived anxiety levels in the clinical placement?

### 3.13 Research Design

A descriptive correlational research design was utilized to assess the relationships between nursing students' self-perceived anxiety levels in the clinical setting and age, gender,

previous education, and previous employment. The purpose of this research was to investigate whether there were relationships between age, gender, past education, and employment on self-perceived anxiety in the clinical setting.

### 3.14 Setting

The surveys were distributed to the following campuses where BScN programs are offered: Laurentian University and Cambrian College in Sudbury; Northern College in Timmins; Sault College in Sault Ste. Marie; and St. Lawrence College in Brockville, Cornwall, and Kingston. The survey was completed online providing students the opportunity to complete it anywhere so long as they had Internet access.

### 3.15 Sample

Every student within the first two years of the baccalaureate nursing program at Laurentian University and the institutions of its collaborating partners were offered the opportunity to participate in the study. A convenience sample was used in the study. The criteria for inclusion were that students had to be enrolled in a clinical placement during the semester in which the study was conducted. Both male and female students, with no age restriction were included. Inclusion criteria included only first and second year nursing students as the research study sought to assess the anxiety levels of this subject group. Clinical characteristics change in third and fourth year, where students are often paired with a preceptor, therefore for continuity, only first and second year nursing students were invited to participate. In addition to generating a larger sample size, targeting many students at different institutions in different cities may enhance the generalizability of results.

### 3.16 Recruitment

An email was sent to each of the seven program coordinators at the respective sites. The email consisted of an explanation of the study, the appropriate approved Research Ethics Board form, and the Research Participant Information Form. The email requested the coordinators' assistance in distributing the research participant information form, as well as the link to the survey by forwarding the email to the students' school email. The students received the email, which explained the research study and provided the link to the survey if they consented to participate in the study. The researcher relied solely on confirmation from the coordinator that the students received the email. The coordinator advised the researcher how many students the email had been sent to.

By October 2014, a total of 835 eligible participants were sent an email invitation to participate in the research study. The Research Participant Information Form identified that participation was completely voluntary, and that there would be no consequences for not participating in the survey. The students were also informed that neither their program coordinator nor their professors would have access to their results.

### 3.17 Sample Size

The target population for this study was 835 students. There were 135 eligible students at Laurentian University (67 first year students, 68 second year students); 87 eligible students at Northern College (56 first year students, 31 second year students); 170 eligible students at Cambrian College (100 first year students, 60 second year students); 55 eligible students at the Cornwall campus of St. Lawrence College (27 first year students, 28 second year students); 126 eligible students at the Brockville campus of St. Lawrence College (66 first year students, 60 second year students); 142 eligible students at the Kingston campus of St. Lawrence College (70

first year students, 72 second year students); and 120 eligible students at Sault College (66 first year students, 54 second year students).

### 3.18 Variables

The variables considered in this research study were self-perceived anxiety, age, gender, past education, and past employment.

### 3.19 Instrumentation

The students were asked to complete two surveys: 1) a demographic questionnaire and 2) the State-Trait Anxiety Inventory Tool (STAI). The demographic questionnaire (Appendix B) was used to collect demographic data including age, gender, year of high school graduation, previous education, and previous work employment.

The STAI-Y1 was used to assess the students' self-perceived anxiety (Appendix C). The tool is a self-reported measurement tool with 40 four-point Likert scale items. It was developed in 1964 by Spielberger and revised in 1983 for use with individuals aged 14 and older (Groth-Marnat, 2009). The tool has two components: STAI-Y1 (Appendix C) and STAI-Y2. Items 1-20 measure situational or state anxiety (STAI-Y1) while the second part measures trait anxiety. For this research study, only state anxiety, STAI-Y1, was assessed given that situational anxiety was the focus of the study. Spielberger defines situational or state anxiety as unpleasant feelings of apprehension, tension, nervousness or worry, often accompanied by activation of the autonomic nervous system. In other words, situational anxiety reflects how threatening a person perceives his or her environment to be (McDowell, 2006).

The STAI-Y1 is composed of 20 self-report questions, which take approximately five minutes for an average college student to complete while subsequent completions taking less time (Spielberger, 1983). The questionnaire is comprised of four-point Likert-type items with a

balance between anxiety-present and anxiety-absent items (e.g., “I feel frightened; “I feel upset”). The participants chose the number which best describes the intensity of their feelings: (1) not at all, (2) somewhat, (3) moderately, (4) very much so. Scoring of the STAI-Y1 is weighted, meaning that, for each anxiety-present item is scored from 1-4, a rating of 4 indicates the highest level of anxiety. For anxiety-absent items scoring is reversed. Ratings of 4 for the anxiety-present and anxiety-absent items indicate the presence of a high level of anxiety. Scores range from 20 to 80. The total scores of the STAI-Y1 may be analyzed for each participant. A high score on STAI-Y1 correlates with a high state anxiety score. If scores for anxiety are higher, there is indication of more feelings of apprehension, tension, nervousness, or worry (McDowell, 2006).

The STAI was chosen for this study because it has been used extensively in research and clinical practice. It has been used with patients, students, adults in the community, caregivers, and military personnel (Groth-Marnat, 2009). The manuals for the tool are informative and provide clear instructions for administration. Both reliability and validity for the STAI-Y1 have been established. A research study at the University of South Florida (n=855) in 1983 provided evidence of reliability for the STAI-Y1 with a Cronbach’s alpha of >0.90. The study was repeated (Groth-Marnat, 2009) with a different sample population (n=656), and the Cronbach’s alpha remained high at >0.92. It is important to note that there were no psychometric tests found for the STAI-Y1 alone, without STAI-Y2. State anxiety test-retest reliabilities range from 0.51 for males to 0.36 for females (Groth-Marnat, 2009), values that are considerably lower than the trait anxiety findings. The lower range for state anxiety is to be expected since state anxiety is considered to be an inconsistent and unstable construct. The lack of instability is expected, as valid measures of emotional states should reflect the influence of unique situational factors at the

time of testing (Hersen, 2004). Measures of internal consistency resulted in high state anxiety median coefficients ranging from 0.88 to 0.93 (Spielberger, 1983). Convergent reliability was established by comparing the STAI to other scales. Correlations between the scale and the Taylor Manifest Anxiety Scale ranged from 0.79 to 0.83 in three different samples (McDowell, 2006). Correlations with Cattell's Institute of Personality and Ability Testing (IPAT) scale ranged from 0.75 to 0.77 (McDowell, 2006).

In order to demonstrate construct validity in assessing the STAI –Y1, the score for each item has to increase significantly in stressful situations as compared with neutral situations and to decline in relaxing situations. Construct validity of the STAI state anxiety was supported by the finding that the STAI-Y1 scores of participants were significantly higher during stressful situations and lower in less stressful environments after relaxation training than when they were tested in a relatively non-stressful class period (Spielberger, 1983). Construct validity of the STAI-Y1 is further evidenced when it was observed in military recruits. After they began a high-stressful training program, their STAI-Y1 scores were considerably higher than those of high school and college students who were tested under relatively non-stressful classroom conditions (Maruish, 2004). More than 10,000 individuals were tested when constructing and validating the STAI.

### 3.20 Ethical Approval

This study received approval from Laurentian University Research Ethics Board and the affiliated college sites in October 2014 (Northern College, St. Lawrence College, Cambrian College, and Sault College). The study was conducted with careful attention to ethical standards of research and rights of participants. Students were extended an invitation through their student emails. The invitation explained the study and participants' rights (Appendix A). As seen in the

appendix, the invitation described the purpose of the study and how the findings would contribute to nursing. It also explained that participation was voluntary and that there was no risk to the student by participating, declining to participate, or withdrawing participation.

### 3.21 Data Collection

Data collection began once ethical approval was obtained from both Laurentian University and the collaborating colleges. The coordinators of the BScN programs were contacted and informed about the purpose of the study. They received the ethical approval letter from their institution as well as the research participation information form (Appendix A). The coordinators forwarded an email from the researcher that contained the research participation information form. The form advised the students of the purpose of the study, the possible risks and benefits, and strategies undertaken to protect the privacy and confidentiality of participation. At the end of the form, students were able to press “Accept.” If the student clicked “Accept,” he or she was taken to the online survey tool FluidSurvey (2015). A reminder email was sent to the coordinators to remind the students about the study every two weeks after the initial invitation was sent out. The survey was available for completion for a total of 12 weeks from October until the end of December when the survey was closed.

As noted above, pressing the link “Accept” indicated consent. There was also a statement that, if the person did not wish to participate in the research study, he or she should close the email and delete it. Students were also advised that, if they chose to begin the survey but did not complete it or did not answer some questions, there would be no negative consequences.

Confidentiality in data collection and data analysis processes were carefully explained in the participant information form. No names or other identifying information appeared on any of the interview materials. It also stated that data would be grouped during analysis so that individuals

could not be identified. No one, including professors, would see the completed surveys. The use of an online survey led to an increased level of anonymity as opposed to paper surveys (Dillman, 2007). The online survey tool, FluidSurvey, includes an option to track data to IP addresses and emails. This option was removed so the researcher was unable to do this kind of tracking. Some demographic information was collected for the purpose of comparing the variables. This information is presented in the results section. The completed surveys are electronically stored and can be accessed via the researcher's passcode to the site. Only the researcher and the researcher's supervisor know this password.

The use of an online survey provided many advantages to the research study. Primarily, it allows the study to take place across Northern Ontario, thus increasing the targeted population and reducing travel for the researcher. Online surveys also protect class time and increase convenience for the students. Furthermore, some scholars have found that online surveys promote honesty and personal sharing (Jones, Murphy, Edwards & James, 2008). Persons who complete online surveys may be more willing or honest to disclose information than in an interview where they are disclosing it directly to another person. Online surveys provide the further advantage of readily available and electronically stored data.

### 3.22 Data Management

The original data was stored on the FluidSurvey database. This data was available to the researcher only through a password-protected login. Upon completion of data collection, the data was downloaded from FluidSurvey on to the researcher's personal computer and saved on a password protected USB, where it will be securely kept until the data is destroyed.

### 3.23 Data Entry and Cleaning

The data were entered into Statistical Package for the Social Sciences (SPSS) software program. Each survey response was included as well as, the responses of those who did not fully complete the survey. Any response with missing data was coded 999 to allow the researcher control over subsequent computations and analysis strategies.

### 3.24 Data Analysis

The data from the demographic portion as well as the STAI-Y1 were analyzed. Means and frequencies for the demographic data were calculated. Depending on the type of data and variables being analyzed, several different statistical tests were utilized. Spearman's correlation technique was used to assess the correlation among age and anxiety scores. Independent samples t-test was used to test the distribution among females and males. The Mann-Whitney U test was utilized to test for differences in anxiety between genders. Spearman's correlation technique was used to correlate previous employment with anxiety levels. Spearman's correlation technique was used to correlate the presence of previous education and anxiety levels.

## Chapter 4

### 4.1 Results

To determine the power analysis, G power 3.1 was utilized (Faul, Erdfelder, Buchner, & Lang, 2009). Running the G power analysis, with a power level of 0.80, indicated that the minimum sample size required is 102 participants. Adequate power was achieved in most t-tests as will be outlined below. It was not achieved in the female and male participant groups, which will also be addressed below.

### 4.2 Demographics/Participant Information

Between October 2014 and December 2014, 91 participants out of 835 possible participants completed the survey, representing an 11% response rate. The power of the analysis with 91 participants is 0.75. The results from partially completed and fully completed surveys were included in study results. Of the 91 respondents, 78 were female (85.7%) and 12 were male (13.2%). One participant did not choose either option. The average participant age was 24.2 years.

Participants were asked if they had attended post-secondary education after secondary education before their current enrolment in the BScN program. Results showed that 56.5% of participants had been to post-secondary education prior to their entry into the BScN program, while 43.5% of participants had no previous post-secondary education. The participants who stated they had attended previous post-secondary education prior to entering the BScN program were asked to state if this education was college, university, or other. Over half of the participants (56.6%) attended college, whereas 39.6% attended university and a small percentage (3.8%) took their post-secondary education in a setting other than college or university.

Another question asked the participants if they had been employed following high school graduation and before beginning their BScN program. Three quarters of participants (74.4%) stated they were unemployed following high school, while one-quarter (25.6%) stated they were employed. Those participants who were employed were also asked to state the type of their employment. The dominant employment type was retail, followed by health care.

The participant demographics are presented in Table 1 as follows. The fourth column demonstrates the comparison of the sample group to the target population. The target population percentages for gender and age were retrieved from the Colleges of Nurses of Ontario (2013). While the target population percentages for college students' previous education and employment were retrieved from Colleges Ontario (2011). Colleges Ontario (2011) does not have statistics on the specifics (college or University) of students who do have post-secondary education.

Table 1: Demographic Data

		Frequency (n)	Percent	Target population percent
Gender	Female	78	85.7	89
	Male	12	13.2	11
	Did not identify either gender	1	1.1	0
	Total	91	100	100
Age	17-24	54	58.7	57
	25-29	12	13.0	25
	30-34	20	21.7	9
	35+	6	6.5	9
	Total	92	100	100
Previous Education	Previous post-secondary education	52	56.5	65
	No previous post-secondary education	40	43.5	35
	Total	92	100	100
Type of Previous Education	University	21	39.6	
	College	30	56.6	
	Other	2	3.8	
	Total	53	100	
Employment	Employed after high school	23	25.6	62
	Unemployed after high school	67	74.4	38
	Total	90	100	100

Not all participants completed the survey in full. Some students provided demographic information but did not continue to complete the STAI-Y1. Importantly, the answers to the research questions explored in the study are based strictly on data generated by the students who completed the STAI-Y1 (n=82). The next few pages document what was learned in response to the research questions.

The participants were classified into either the traditional or non-traditional group, using the characteristics outline in the literature review above. Again, traditional students are characterized as female students aged 21 and younger, entering the nursing program directly from high school. The traditional group was composed of females, aged twenty-one and younger. Forty-eight percent (n=43) of the sample was traditional students. Participants were grouped into the non-traditional nursing student category if they were over the age of 21, had at least one year between high school and entry into their nursing program, and had previous education or previous work experience. In this study, non-traditional students accounted for 52% (n=47) of the sample. The approximately equal distribution of the participants in the groups confirms the presence of increased non-traditional students in nursing. Having balanced groups allows an increased chance of achieving results that are true to the population.

#### 4.3 Research Question #1

*What is the anxiety level of students as determined by the STAI-Y1?* Recall that the STAI-Y1 score ranges from 20 to 80, with a higher number indicating a higher level of perceived anxiety (Spielberger, 1983). In this study, the mean STAI-Y1 score was 45.35 ( $SD=4.117$ ), indicating a moderate level of perceived anxiety by this sample of the target population. Table 2 presents the overall STAI-Y1 results.

Table 2: General STAI Results

	Total Score
Mean	45.35
Median	46
Minimum	37
Maximum	56
Standard Deviation	4.117

#### 4.4 Research Question #2

*Is there a relationship between students' age and self-perceived anxiety levels?* Not all variables were normally distributed, as assessed by Shapiro Wilk's test ( $p < 0.05$ ), which excluded the use of Pearson's R correlation test (Laerd, 2013). Thus, Spearman's Correlation was used to assess the strength and direction of the relationship between the participants' age and STAI total scores. Although there was a negative correlation between age and total STAI-Y1 scores, it was not statistically significant,  $r_s(90) = -.031, p > .05$ .

The data were further grouped into age categories of 21 and younger ( $n=46$ ) and 22 and older ( $n=36$ ). The rationale for doing this was to obtain an impression of differences between the younger and older groups, representing the traditional population of younger students and the non-traditional population of mature students. This categorization was made due to the literature presented on the distinguishing characteristics between the traditional and non-traditional nursing student. It is also understood that BScN students coming directly out of high-school are approximately 17 to 19 years old. Because second year BScN students were also included in the study, the break between the age groups was chosen as 21. Table 3 points out that the mean STAI score of the 21 and younger group was 45.3 while the mean STAI score of the 22 and older

group was 45.4. There was no statistically significant difference between the group aged 21 and younger and the group aged 22 and older.

Table 3: Categorical Age and STAI Anxiety Means

Age	N	Mean STAI score	Standard Deviation
21 and younger	46	45.35	4.19
22 and older	36	45.36	4.01

The total scores for both age categories were normally distributed as assessed by the Shapiro-Wilk (21 and younger,  $p = 0.222$ ; 22 and older,  $p = 0.844$ ). Assumptions were met and an independent sample t-test was run to determine if there were differences between anxiety levels as indicated by the STAI-Y1 total scores for those aged 21 and younger and those aged 22 and older. It was found there was no statistical difference between anxiety levels for participants aged 21 and younger and 22 and older,  $t(76.2) = -.014$ ,  $p = .989$ .

#### 4.5 Research Question #3

*Is there a relationship between students' gender and self-perceived anxiety levels?* Table 4 demonstrates that the females had a mean STAI score of 45.07 ( $n=69$ ), while the males had a mean STAI score of 48.0 ( $n=11$ ). The student who did not choose either female or male did not complete the full STAI-Y1 survey and was, therefore not included in the analysis of results.

Table 4: Gender and STAI Scores

Gender	N	Mean STAI score	Standard Deviation
Female	69	45.07	3.96
Male	11	48.00	4.20
Total	80		

The total scores for both genders were normally distributed as assessed by the Shapiro-Wilk (female,  $p=0.316$  male,  $p= 0.893$ ). The independent sample t-test was utilized to determine if there were differences between anxiety levels in the clinical setting as indicated by the STAI total scores for males and females. There was a statistically significant difference between the mean STAI total scores of the female group and male group ( $p=.027$ ).

As the male sample size is small, the assumptions for the t-test could not be accurately verified, therefore a nonparametric test, the Mann-Whitney U test was also completed to confirm the association between STAI anxiety scores of females and males. Assumptions were met for the test. The test confirmed that there was a statistically significant difference between the total anxiety scores of males and females ( $U=528$ ,  $z=2.086$ ,  $p=.037$ ).

#### 4.6 Research Question #4

*Is there a relationship between previous employment and self-perceived anxiety levels?*

The variables considered in this question were previous employment and self-perceived anxiety levels. Only completed surveys were included in the correlation results ( $N=80$ ). Assumptions were met for Spearman's Correlation and it was run to assess the relationship between previous employment and STAI-Y1 scores. While a positive correlation was found between previous

employment and self-perceived anxiety levels, it was not statistically significant,  $r_s(78)=0.117$ ,  $p>.05$ .

#### 4.7 Research Question #5

*Is there a relationship between previous post-secondary education and self-perceived anxiety levels?* Only surveys with completed STAI anxiety scales were included in the correlation results ( $n=82$ ). Assumptions were met for Spearman's Correlation and it was used to determine strength and direction of association. A positive correlation was found between previous education and self-perceived anxiety levels. However, it was not found to be statistically significant,  $r_s(80)=0.107$ ,  $p>.05$

## Chapter 5

### 5.10 Discussion

The purpose of this study was to examine the relationships between nursing students' self-perceived anxiety levels and age, gender, previous education, and previous employment. In this chapter, the findings will be discussed in relation to the literature review and the theoretical framework, Situated Cognition Theory. Following this, the limitations as well as recommendations for future research will be presented.

### 5.11 Demographic Characteristics

All first and second year BScN students at the five educational sites were invited to participate. Of the possible 834 students, 91 participants completed the survey, representing an 11% response rate. The majority of participants, 86%, identified themselves as female and 13% identified themselves as male. This gender breakdown is in line with College of Nurses of Ontario (CNO) new registered nurse members, where, in 2013, 89% of new members were female and 11% were male (CNO, 2013).

A larger percentage (59%) of participants was in the 17 to 24-age group than in the other age groups; 13% of participants were aged 25 to 29 years; 22% of participants were aged 30 to 34, and 7% were aged 35 and older. This representation of nursing students allows analysis at different ages and at multiple points in life. The CNO (2013) identified that in Ontario, 57% of new members are aged 18 to 24; 25% aged 25-29; 9% aged 30-34; and 9% aged 35 and older. In light of this data, the sample population of the participants is a good representation of the target group. The other age groups are within approximate percentages, as evident in comparing the age group percentages.

Participants were also asked to identify if they had been employed prior to enrolment. Three quarters (74.4%) stated that they were unemployed while the remainder (25.6%) indicated that they were employed. Those participants who were employed were also asked to state the type of their employment. The dominant employment type was retail. According to Colleges of Ontario (2011), 38% of college students are unemployed and 62% are employed. This demonstrates that the demographic data for this sample was not congruent with the target population and may therefore limit the generalizability of these results. Data regarding if the employment status was part-time or full-time was not collected in this research study.

A total of 56.5% of participants had previous post-secondary education while 43.5% of participants were admitted directly from high school. This is an important finding given the number of young student nurses who participated in the study. According to the Council of Ontario Universities (2014), the number of non-high school applicants since 2000 has increased by 111%, suggesting that this cohort includes students returning to university from the workforce or college, students transferring to university, and mature students. In this study, of those who attended post-secondary education, 56.6% attended college, 39.6% attended university, and 3.8% attended a different form of post-secondary education. Since the study was conducted primarily at the community colleges that share collaborative relationships with Laurentian University, the literature for the profile of college students was also explored. Colleges Ontario (2011) stated that 65% of college students were admitted to their diploma program with some previous post-secondary education. In light of this data, our sample is proportionately representative of the target population where the majority of nursing students in our study were also admitted to the program with some post-secondary education.

### 5.12 Generalizability

Taken together and aside from the employment history of students, the sample of this study was a good representation of the target population. It is important to note that the population of nursing students at the study's selected college and university sites is somewhat homogenous. The sites are predominantly in northern Ontario with less diversity in culture and language. Indeed, the results of this study may have generalizability to first and second year nursing students across the province or nation, however further studies are necessary to confirm if relationships between the variables will hold true in other settings with other people.

### 5.13 Research Question #1

The mean STAI score of the participants was 45.35. The STAI score total ranges from 20 to 80, the higher the number indicating the higher perceived anxiety level. Biggers, Zimmerman, and Alpert (1988) indicate that nursing students encounter more anxiety provoking situations than many other college students. Some factors linked to students' experiences of anxiety in the clinical setting include interacting with healthcare professionals, feeling insecure regarding competence, fear of making mistakes, feeling unfamiliar with the clinical environment, and constant observation by the clinical instructor (Chesser-Smyth, 2005). In the literature, anxiety in nursing students is noted to be highest in first year and often linked to high attrition rates (Beck et al., 1997; Poorman & Martin, 1991). Normal STAI state anxiety for college students is identified as less than 40, with typical scores for people with diagnosed anxiety falling in the range of 47 to 61 (McDowell, 2006; Spielberger, 1979). In the literature, students enrolled in diploma, associate, and baccalaureate nursing programs reported high levels of stress and anxiety in the clinical learning environment (Carlson, Kotze, & van Rooyen, 2005; Cook, 2005; Elliot, 2002; Hayden-Miles, 2002; Sharif & Masoumi, 2005; Shipton, 2002). In a study conducted by

Kaya, Kaya, Pallos, and Kucuk (2012), anxiety levels were measured using the STAI among nursing and midwifery students with an average score of 40.11. Fumiko, Kurebayashi, Prado, & Silva (2012) found the level of state anxiety of nursing students to be 51.92, which is considerably higher than both Spielberger's identified normal and this study's results. This study demonstrates that nursing students' self-perceived anxiety levels in the clinical setting is higher than students enrolled in other college programs. The literature has also identified nursing students' anxiety levels to also be higher than the average student enrolled in a college program. This is of crucial importance to note. Recall that a small amount of anxiety can be beneficial for learners as it is reported to motivate students into action. However when students have moderately to high anxiety levels has been found to interfere with confidence, process of thinking, attention, critical thinking skills, and demonstrating skills that have been previously learned (Ormrod, 2008). This ultimately impairs performance presenting a threat to academic success (Jarvis, 2006). As the participants in this research study have reported higher than normal anxiety levels, they may be experiencing any or all of these adverse effects.

#### 5.14 Research Question #2

The second question addresses if there is a relationship between students' age and self-perceived anxiety levels. There was no significant correlation found between the two variables. Furthermore, there was no statistical difference between anxiety levels for participants aged 21 and younger and participants aged 22 and older. Many researchers (Jacobi, 1987; O'Connor and Bevil, 1996; Waltman, 1997) have pointed out that age was not related to state anxiety according to their use of the STAI. The researchers did not offer rationale for why there was no relationship between the two variables. They suggested further studies to assess this.

The results of this study are consistent with the assumptions of situated cognition theory. While older students, characterized as non-traditional students, may have increased life experience, clinical learning is still a unique learning setting where learning is tied to this specific setting and its attributed context. In theory, SCT believes in placing learners in realistic settings where socially acquired ways of knowing are valued (Schell & Black, 1997). Since SCT assumes that knowledge is dependent on the current context and, knowledge transfer from previous contexts is conceived as playing little or no role in learning (Argote & Ingram, 2000). In other words, older students who have more life experiences will have little contribution to their present learning. Generally, acquired information from unrelated situations is viewed as irrelevant and that there is no general cognitive skill that promotes learning transfer. The non-traditional, older student may have more life experience, however unless the older adult has previous experience in the same clinical setting, this experience is suggested to have no impact on the adult students' present experience in clinical. In line with this theory then, previous life experience of the older student should not assist in facilitating his or her learning and the student may not feel increased comfort or less anxious in the clinical learning environment. This study's results further support the theory that learning is context bound.

It is important to explore literature that also challenges the study's use of SCT. The literature identifies the important issue of learning transfer from one context to the other. The controversy of this topic is clear in the literature. From the sociological and psychological perspective, it has been concluded that there is no skill that promotes learning transfer. This controversial issue is stated to be difficult to prove or disprove. Some authors completely refute the idea that knowledge cannot be transferred if it was acquired in another situation, stating that practical examples show that learning does transfer. Some authors (Schell & Black, 1997) do not

argue against learning transfer, simply they promote learning in a context that is as close as possible to the one where the acquired information will be applied.

### 5.15 Research Question #3

The third research question explored whether or not there is a relationship between gender and self-perceived anxiety levels. In the study, the males scored higher in state anxiety levels than the females. One previous study has found no statistical difference between males' and females' self-perceived anxiety levels as determined by the STAI (Fumiko, Kurebayashi, Prado, & Silva, 2012). However a larger body of research supports that female nursing students generally score slightly higher in state anxiety than males (Aydin & Yucel, 2014; Chernomas & Shapiro, 2013; Spielberger, 1983). This may not be surprising as women have a higher lifetime prevalence of anxiety disorders compared to men (Statistics Canada, 2013). In nursing students, female participants are reported to consistently score 3 to 5 points higher than males (Spielberger, 1980).

In this study, there was an increase in STAI for male subjects compared to the female participants and the difference was statistically significant. This finding from our study is not consistent with the above literature. The nursing profession is still largely populated by women (CNO, 2013). As such, it continues to have gender challenges regarding social stigmas related to cultural and social psychological factors (O'Lynn, 2013). Men, who are considered non-traditional students, who choose nursing as a career are at greater risk than their women counterparts of being unsupported, devalued, and judged for engaging in non-traditional gender careers. Male nurses are often faced with the reality of defending their career choice, their contribution to nursing, and their sexuality (Evans & Frank, 2011). The social stigmas may be a

contributing factor to this study's findings of male nursing students' increased anxiety compared to female nursing students' anxiety.

Situated cognition theory focuses on the influence of physical and social structures such as the learning setting, the individuals in this setting along with their behaviours, language, interactions and actions on the learners' behaviour. As one proponent states "human knowledge and interaction cannot be divorced from the world" (Jonassen & Land, 2012, p.59). A male student's knowledge consists of his perspectives or description of how nursing appears. The social gender stigmas that remain as challenges in the nursing profession may impact the male student nurse's behaviours and feelings and translate to higher anxiety levels. In a female dominated profession, male student nurses may feel that they have to prove themselves more or gain respect. Recall, situated cognition theory emphasizes that new learners are usually involved in peripheral participation, where they observe more than partake, and absorb the environment's routine, behaviours, norms, and language. Once a learner's experience increases, they move from a peripheral participation to a more central participation, where they are actively involved in the activities or tasks. Non-traditional, male nursing students may feel they have to prove themselves more so prior to moving from peripheral participation to being actively involved.

#### 5.16 Research Question #4

The research question focused on the relationships between nursing students' previous employment and self-perceived anxiety levels. In this study, there was no association between the two variables. Little research has been done on the influence of prior employment on anxiety levels in the clinical setting. However, Hakimzadeh et al. (2013) found that work experience in a field related to healthcare facilitated confidence, decreased feelings of anxiety, and increased competence in nursing students. This is aligned with situated cognition theory, which suggests

that previous knowledge acquired is transferrable if the learning context or in this case, employment is similar to the present learning experience, in this study the clinical learning setting.

This study's participants revealed that retail was the predominant type of employment. Since the participants' employment was unrelated to the clinical setting, any knowledge acquired through their employment would not be transferrable to the clinical learning setting. The finding is consistent with situated cognition theory in that knowledge is tied to the context of its acquisition. Knowledge acquired through one context is dependent on that setting, and knowledge obtained from different context is proposed to have little consequence (Argote & Ingram, 2000). Thus, an individual's knowledge and experience from previous employment does not transfer to their learning in the clinical setting, and the student may not feel increased comfort or decreased anxiety in the clinical learning environment. The setting is just as unfamiliar and new to them as any other setting. While nursing students may have previous employment experience and knowledge, unless this experience is from a similar context, it has little effect on their learning process and therefore anxiety levels in their present clinical setting. Each context or learning setting is unique; each said to be its own community with its own culture. The nursing profession is in itself its own community, bound not only by their tasks but also by their intricate, socially constructed webs of belief (Brown, Collins, & Duguid, 1989). These characteristics make each learning environment unique and individual, thereby preventing knowledge transfer from one context to another.

#### 5.17 Research Question #5

The fifth research question explored whether or not there is a relationship between previous post-secondary education and their self-perceived anxiety levels. There was no

statistically significant difference found between previous post-secondary education and self-perceived anxiety levels in the clinical setting. There is little research on the relationships between nursing students' previous post-secondary education and their anxiety levels. Again, this finding reinforces that nursing knowledge is unique and the learning is situated. Situated cognition theory proposes that knowledge is not transferred and is bound to the context in which it is acquired (Reder, Anderson, & Simon, 1996). The results of the study emphasize the propositions of the theory; a student's increased knowledge base from previous education will assist them very little in the clinical setting, and, thus, do little to decrease their anxiety.

#### 5.18 Summary

The study confirms that nursing students have high self-perceived anxiety levels in clinical settings. When variables were tested for correlations with self-perceived anxiety in the clinical setting, the only correlation found was between gender and self-perceived anxiety levels, where males were found to have higher anxiety levels than females. There was no statistically significant correlation between age, previous education, previous employment, and self-perceived anxiety in the clinical setting, supporting the propositions of situated cognition theory. Therefore characteristics of non-traditional students, other than the gender characteristic, do not seem to be correlated to anxiety levels in the clinical setting.

The study's results reinforce the notion of SCT. While some may assume that as one ages, and therefore has increased life experience they will have decreased anxiety levels. SCT supports the notion that unless someone has experience in the same or very similar learning setting, their past life experiences are suggested to have no impact on their present experience, including their anxiety levels. Likewise, the impact of students' previous employment and education offer the same suggestion. The study's results reinforce that a students' knowledge and

experience from previous employment or education does not transfer to their learning in the clinical setting, and therefore the student may not feel increased comfort or decreased anxiety in the clinical setting. Each learning context is unique; each considered having its own community and thus its own culture. The impact of gender on nursing students' anxiety levels also reinforces the views of SCT. Social gender stigmas that still remain in the female dominated profession of nursing may impact male students' behaviour and anxiety levels in the clinical setting. While engaging in the clinical setting, and absorbing the environments' norms, male students may feel they need to demonstrate their abilities to be a nurse. This delays their shift from peripheral participation to being actively involved.

#### 5.19 Limitations

A number of limitations must be acknowledged which may have affected validity associated with the findings from this study. First, the study included only first and second year nursing students, making it difficult to generalize the possible results to all nursing students across the four-year program. First and second year nursing students were only included in this study for feasibility reasons; increasing the number of enrolment years would have increased the number of contacts to distribute the survey. Only those students who were enrolled at the applicable colleges and universities were invited to participate in the study. Therefore, it is unknown if they are consistent with students enrolled in third or fourth year of the BScN program. The study's selected colleges and university were predominantly in northern Ontario, where the nursing student population is somewhat homogenous in culture and language. It is unknown if the results are consistent with students enrolled in other colleges or universities across Ontario or Canada.

The study showed no statistical significance in relationships among self-perceived anxiety and age, previous employment, or previous education. However, there could have been a type II error in failing to detect a relationship between two variables when there is one present (Munro, 2005). This commonly occurs when the sample in the study is too small, thereby limiting the opportunity to measure a true relationship among the variables. The target sample, determined by G Power, of 102 participants was not achieved, as only 91 participants responded to the survey. Munro (2005) has pointed out that ways to decrease the likelihood of a type II error include increasing the sample size and decreasing sources of extraneous variation. For example, the surveys could have been available for a longer period of time in order to attempt to increase the sample size. There could have been a better attempt to control various external factors by controlling time. Depending on the time of day, week, or month, this may have influenced the participants' self-perceived anxiety levels (Munro, 2005). For example, anxiety levels may differ if students responded to the survey the day prior to clinical as opposed to a weekend day. The environment is also found to influence participants' emotions, behaviour and may therefore influence their self-perceived anxiety levels (Munro, 2005). For example, students may feel more at ease if answering the survey at home as opposed to at school. These steps would have further decreased the likelihood of making a type II error.

The difficulty in interpreting correlational findings stems from the fact that in the real world, behaviours, states, attitudes, and characteristics are interrelated in complex ways (Munro, 2005). There are many other variables that could affect the students' anxiety levels besides age, gender, past employment or education. There are often alternate explanations for the levels of the students' anxiety, besides the upcoming clinical day. The students may have been experiencing anxiety due to an instructor, course, or an outside influence, which may have affected their

responses to the instrument. Particularly this may be the case with small sample sizes found in the gender correlation.

The response rate of 11% also suggests the limitation of increasing selection bias. Given the voluntary nature of the study, students who perceive themselves as an anxious person may decide to not participate in a study such as this one. There may be systematic differences between the people who participated and those who did not. While it would be beneficial to obtain the demographics of those who did not respond to the survey, privacy and confidentiality policies restrict the researcher from obtaining this information. Thus, the results may not be generalizable to the target population. A low response rate could have occurred for many reasons. While the method of online survey data collection does have many advantages, it has disadvantages too. Students may neglect to complete a survey on their personal time. This factor may have contributed to the poor response rate.

In addition, self-reported questionnaires are often said to lack validity (Lobiondo-Wood & Haber, 2005). The students participating in the study may or may not have been honest regarding their anxiety and may have wanted to demonstrate social desirability. The students may have been untruthful, given answers that they felt were desired, or felt judged or embarrassed for being under or overly anxious. As there is no way to tell whether the respondent is telling the truth or responding in a socially desirable way, the researcher is usually left to assume the participant is telling the truth (Lobiondo-Wood & Haber, 2005). Social desirability bias can be reduced through strategies such as counterbalancing positively and negatively worded statements, and guaranteeing the confidentiality of responses, both of which were completed in this research study. If social desirability bias did occur, the results could be skewed and the reported anxiety levels may not represent their true anxiety.

There is also a tendency with Likert scales for participants to respond towards the middle of the scale, perhaps to make them look less extreme in their views and perceptions (Lobiondo-Wood & Haber, 2005). Consequently, the results could be skewed and again not represent their actual anxiety levels. Another flaw of participants responding surveys is that participants may forget pertinent details when completing a demographic questionnaire (Lobiondo-Wood & Haber, 2005). For example, pertaining to this research study, participants may not recall the year they graduated high school, and accurate information regarding previous education and employment. As well, lack of a trained interviewer to clarify questions can lead to unreliable data although the STAI is regarded to be very clear in its questioning.

The survey was available for a total of three months from October to December. The fall semester that includes a clinical rotation generally begins in September and completes at the end of December. The beginning of a clinical rotation may produce an increased sense of anxiety and students may rate their anxiety on the STAI higher than at other times. Towards the end of December, clinical rotations are coming to an end, and students generally have an increased sense of comfort in their specific clinical settings. For those students who completed the survey at this time, they may have rated their anxiety lower than students who completed the survey near the beginning of the semester.

#### 5.20 Recommendations for Future Research

The findings provide an opportunity for discussion, raising further questions and emphasizing the need for more research on the topic of nursing students' anxiety. Further studies consisting of a larger sample size is recommended to reduce a Type II error. A sample consisting of third and fourth year nursing students would be helpful to assess the different anxiety levels among students across all years of a four-year nursing program. Targeting nursing programs in

other areas of the country would lead to greater confidence in the findings and increase the possibility of generalizability. Further studies in this area will confirm this study's results.

The finding of males' higher perceived anxiety compared to females' sense of anxiety presents a topic of exploration. Further studies focusing on the differences between males' and females' student nurses self-perceived anxiety in the clinical setting would be required to validate this finding. Qualitative studies exploring views on anxiety would be valuable to more clearly understand both male and female nursing students' perception of anxiety in the clinical setting. A comparison of male nursing students' self-perceived anxiety to those of males in other undergraduate programs would also be interesting in order to assess if there is an increase in anxiety solely in nursing programs. Understanding that the experience of the male nursing student is unique is an important first step toward enhancing retention (Jeffreys, 2012). Being cognizant and sensitive to male students' feelings and providing support should assist in making their clinical experiences positive. Jeffreys (2012) also suggests providing equal opportunities in clinical education for both male and female nursing students. Ensuring the presence of men role models also assists in preventing feelings of isolation, self-doubt, and loneliness in male student nurses (Jeffreys, 2012).

The current study found no statistically significant correlation between self-perceived anxiety levels and age, previous employment, or previous education. While previous research indicates that age and anxiety levels have no relationship (Jacobi, 1987; Waltman, 1997), research is sparse and not up to date on the impact of previous employment, education and anxiety. Thus, further research to confirm there is no correlation between the variables and anxiety levels is recommended. Future research on students with previous employment and/or education experience in health care and those with previous employment and/or education in

areas other than healthcare and their differences in anxiety in clinical is recommended. By performing studies with specific knowledge on students' previous healthcare experience, further expansion on the effect of transferring knowledge and anxiety levels from one context to another will be obtained. Researching if the employment status of part-time or full-time and its relationship on anxiety in the clinical setting is also suggested, as it was not included in this research study. It is also recommended to perform phenomenological studies exploring nursing students' previous life experiences such as employment and education, and how they believe this effects their clinical experience, including their perception of their anxiety in clinical.

#### 5.21 Recommendations for Practice

The findings of this study are important to nursing educators and clinical instructors who are preparing baccalaureate-nursing students. First it is imperative nurse educators and clinical instructors recognize that nursing students have moderately high anxiety levels. When nurse educators already have an understanding that their students are moderately anxious regarding clinical, educators are more likely to assist their students in decreasing the anxiety and face the anxiety feelings as opposed to ignoring them (Jeffries, 2012). While educators may associate student anxiety in the clinical setting with particular demographics including age, previous employment and previous education, this study does not provide evidence of this. Thus, educators should think more about anxiety as an individual experience with the exception that there may be a difference in perceived anxiety between males and females.

As nursing educators become more aware of the variables increasing anxiety among nursing students in clinical, they may be more likely to intervene appropriately and early. Clinical instructors should be sensitive to the unique setting of the clinical placement. The culture of the clinical environment includes its own beliefs, tools, and the learning that occurs in

it is a process of enculturation (Brown, Collins, & Duguid, 1989). When students are given the opportunity, they observe and practice the cultural practices of the environment. The importance of the process lies in the exposure and not in explicit teaching (Brown, Collins, & Duguid, 1989). Clinical placements, while often anxiety provoking assist in the enculturation of nursing students by exposing them to authentic nursing occupation settings, as opposed to classroom learning. It is important to acknowledge that the clinical nursing culture is foreign to individuals, no matter their background, gender, education, employment, or age.

It is important to note that educators alone do not hold sole accountability for students' anxiety levels. Students themselves need to be proactive and understand that their clinical instructors or professors are not entirely responsible for their learning. Student preparation is one of the most essential aspects contributing to lower anxiety levels in clinical (Sharples, 2011). Being prepared for clinical can prevent problems and reduce overall anxiety, and students must take responsibility for preparation. There are many ways students should prepare for clinical including both physiological preparation and psychological preparation. Physiological preparation includes planning their actions or care for the day, organizing the required equipment for their clinical day in advance, researching patient diagnoses, and practicing required nursing skills in the lab. Psychological preparation includes implementing confidence building strategies, being mindful of their psychological states and reflecting upon them, practicing relaxation or anxiety reducing techniques, as well as reflecting on their learning goals for the clinical day (Payne, 2010; Sharples, 2011). Students who prepare themselves for clinical, are likely to feel empowered and confident, along with an optimal amount of anxiety in the clinical setting in which in turn increases ability to concentrate, problem solve and provide adequate patient care (Emerson, 2007).

It is not expected that anxiety in the clinical setting will ever be completely eliminated. Anxiety must be kept at a moderate level (Kleehammer, Hart, & Keck, 1990). In order to graduate emotionally stable nursing students, faculty must assess and evaluate the presence of anxiety in their students. Doing so can prevent burnout in students, increase student satisfaction, and increase the quality of patient care (Beck & Srivastava, 1991). Faculty working with students in clinical should remain vigilant for signs of anxiety and periodically debrief with students to discuss their anxiety and stress. Studies have found ways to decrease student anxiety in the clinical setting such as peer mentoring, counselling, role modeling, and positive student staff-relationships (Moscaritolo, 2009; Sprengel & Job, 2004).

Of particular importance is to understand why men have higher anxiety levels than women in order to have interventions focus on the roots of the cause. Exploring male nursing students experience related to stress and anxiety and if the cause is related to conflict between traditional male roles, the non-traditional career choice, gender bias and/or discrimination is needed. If these are contributing factors to their anxiety, they may adversely influence student satisfaction and academic achievement, and thus increasing attrition risk (Jeffreys, 2012). Nurse educators, clinical instructors and preceptors are in a key position to recognize, reduce and sometimes eliminate known stressors.

## 5.22 Conclusion

Although correlations of self-perceived anxiety and variables such as age, previous education, and prior employment were not statistically significant, more research needs to understand the impact of gender on anxiety in nursing students. This information is important so that faculty can identify students who may be at increased risk for anxiety during their undergraduate experience.



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## Appendices

### Appendix A: Research Participation Information Form



#### Research Participation Information Form

**Research Title:** Nursing students' age, gender, previous education and employment in relation to anxiety levels in the clinical setting.

**MScN Student Investigator:** Pamela Layte

**Thesis Advisor:** Roberta Heale

What you should know about this study:

- You are being asked to join a research study.
- This consent form explains the research study and your part in the study
- You do not have to participate in the study
- Please read it carefully and take as much time as you need
- Please ask questions at any time about anything
- You are a volunteer and may change your mind at any time.
- There is no penalty to participating or not participating.

#### **What is the purpose of the study?**

The purpose of this research is to explore nursing students' levels of anxiety in the clinical setting. It is hoped that the research will result in a better understanding of nursing students' clinical experience, which will benefit future nursing students, clinical instructors and nursing education in general.

### **What will happen if you join this study?**

If you agree to be in this study, we will ask you to complete an online survey. The survey will be available for two weeks leading up to your clinical day, for you to complete on your own time.

The survey will include a demographic form, which does **not** include your name or any personal identification, and a self-reported anxiety form. The survey will take approximately 15 minutes.

The online survey is not traceable to you. We are unable to track who completed which survey to your email address, IP address or other manner. Some questions on the survey may provide information that may identify you if it is not common (example: your age). Grouping the data in analysis will ensure these individuals are not identified.

There will not be a follow-up questionnaire or other requirements.

### **Are there risks or discomforts of the study?**

To the best of our knowledge there are no physical risks in this study. You may feel uncomfortable sharing your demographic information or rating your anxiety levels. You are free to refuse to answer any question.

A list of resources is provided if you feel that your anxiety is heightened or that you feel vulnerable. The resources are listed to the specific area of your college or University:

#### **Porcupine**

Mental Health Helpline  
705-360-3003

Canadian Mental Health Association  
Temiskaming District  
1-888-665-8888  
<http://www.cmhact.ca/index.php>

#### **Sudbury**

Laurentian University Health & Wellness Clinic  
705-673-6546

Sudbury Crisis Intervention Line  
705-675-4760

#### **Sault Ste. Marie**

Mental Health Helpline  
705-759-3434  
[www.sah.on.ca](http://www.sah.on.ca)

#### **Cornwall**

Cornwall Community Hospital  
[www.ementalhealth.ca](http://www.ementalhealth.ca)  
1-8666-996-0991

#### **Brockville**

Community Mental Health Services  
613-544-4229  
[www.fcmmas.ca](http://www.fcmmas.ca)

**Are there benefits to being in the study?**

There may be no direct benefit to you for taking part in this study. Your participation will contribute to the results of this study. Information learned from this study may create new knowledge for the benefit of future nursing students, clinical instructors and nursing education in general.

**Withdrawal from Study**

Participation in this study is voluntary. You have the right to refuse to take part in this study. You may complete all or only some of the survey questions. You can stop completion of the survey at any time. If you choose to participate, you have the right to withdraw at any time without penalty or loss.

**Confidentiality and Privacy Authorization**

The researcher will protect your information, as required by Laurentian University. You will **not** have to put your name or signature anywhere. No names or other identifying information will appear on any of the interview materials. Data will be grouped in analysis so that individuals will not be identified. No one, including your professors will see the completed questionnaires. Data will be kept for approximately 7 years. It is difficult to give an exact date but it is my intention to destroy the data after all publications from the data are completed.

**Questions**

If you have any questions, you can contact the researcher's advisor:

Roberta Heale

705-675-1151 ext. 3971

[rheale@laurentian.ca](mailto:rheale@laurentian.ca)

If you would like to contact an official not associated to the research team regarding possible ethical issues or complaints about the research itself:

**Research Ethics Officer, Laurentian University Research Office,**

**Telephone: 705-675-1151 ext 2436 or toll free at 1-800-461-4030 or email**

**[ethics@laurentian.ca](mailto:ethics@laurentian.ca).**

Results of this study will be available once the student researcher has completed her thesis. The thesis will be available online. A one-page summary of the research study and results will also be distributed to the nursing departments for easier accessibility.

I would like to thank you for taking the time to read the information about this research study. If you consent to participating in this research study and you agree to complete the survey, please press the following button:

**Accept**

If you do not wish to participate in this research study, please exit this email and delete.

## Appendix B: Demographic Information Questionnaire

Please answer the following questions.

Date: \_\_\_\_\_

1. Which gender do you most closely identify with?

FEMALE    MALE    DO NOT SELF-IDENTIFY WITH EITHER

2. Age in years \_\_\_\_\_

3. In what year did you graduate high-school? \_\_\_\_\_

4. a) Have you previously (prior to BScN) been enrolled in post-secondary education?

YES                  NO

b) If yes,    COLLEGE                  UNIVERSITY                  OTHER

c) Did you PARTIALLY COMPLETE GRADUATE

5. Have you been employed after graduation of high-school?

YES                  NO

b) What was the area of employment (not including employment during or before high-school):

\_\_\_\_\_ for \_\_\_\_\_ years

\_\_\_\_\_ for \_\_\_\_\_ years

## Appendix C: Self-Evaluation Questionnaire STAI FORM Y-1

A number of statements, which people have used to describe themselves are given below. Read each statement and **answer it pertaining to how you feel right now, that is at this moment, about your upcoming clinical day.** There are no right or wrong answers. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

	Not at All	Somewhat	Moderately So	Very Much So
1. I feel calm	1	2	3	4
2. I feel secure	1	2	3	4
3. I am tense	1	2	3	4
4. I feel strained	1	2	3	4
5. I feel at ease	1	2	3	4
6. I feel upset	1	2	3	4
7. I am presently worrying over possible misfortunes	1	2	3	4
8. I feel satisfied	1	2	3	4
9. I feel frightened	1	2	3	4
10. I feel comfortable	1	2	3	4
11. I feel self-confident	1	2	3	4
12. I feel nervous	1	2	3	4
13. I am jittery	1	2	3	4
14. I feel indecisive	1	2	3	4
15. I am relaxed	1	2	3	4
16. I feel content	1	2	3	4
17. I am worried	1	2	3	4
18. I feel confused	1	2	3	4
19. I feel steady	1	2	3	4
20. I feel pleasant	1	2	3	4