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Exploring the psychometric properties of the newly-developed Undergraduate Nursing Student Academic Satisfaction Scale

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EXPLORING THE PSYCHOMETRIC PROPERTIES OF THE NEWLY-DEVELOPED UNDERGRADUATE NURSING STUDENT ACADEMIC SATISFACTION SCALE

by

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Abstract

The purpose of this study was to examine the psychometric properties of a newly developed instrument: the Undergraduate Nursing Student Academic Satisfaction Scale (UNSASS). A nonprobability, convenience sample of 313 undergraduate nursing students from all four levels of a Bachelor of Science in Nursing (BScN) program completed the survey. Face and content validity was determined by a panel of undergraduate nursing students. Exploratory factor analysis was used to determine the construct validity and resulted in four factors (in-class teaching; clinical teaching; the program; and support and resources) which defined undergraduate nursing student satisfaction and accounted for 50% of the variance. The UNSASS was found to have excellent internal consistency reliability with a Cronbach's alpha of .92 for the *In-Class Teaching* factor, .91 for *Clinical Teaching*, .91 for *The Program*, .74 for the *Support and Resources* and .96 for the entire scale. The test-retest coefficient ranged from .70 to .86.

Dedication

I would like to dedicate this thesis to my amazing husband, Bob and our three wonderful children, James, Joel, and Jessica. I truly could not have done this without their support, encouragement, and patience.

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE: Introduction and Significance

Student academic satisfaction is an important consideration for higher education institutions. The university and college environments are dynamic, changing to meet the needs of society in order to remain viable and competitive with other institutions. Meeting students' needs and ensuring that students are satisfied with their educational experience are important because student satisfaction has been shown to have an impact on perceived reputation, loyalty to the institution (Helgensen & Nesset, 2007), attrition (Freeman, Hall, & Bresciani, 2007; Suhre, Jansen, & Harskamp, 2007) and retention (Astin, 1993). The ongoing assessment of satisfaction levels is the first step toward identifying strengths and areas for potential improvement in order to meet student and faculty needs. This study focuses specifically on the development of an appropriate measure to assess nursing student satisfaction with all aspects of their program. Existing instruments in the literature that have been used to measure student satisfaction do not meet the needs of Canadian nursing programs.

In this chapter the significance and impact of student satisfaction is explored. New challenges to satisfaction are discussed, including consumerism attitudes and generational differences. The unique challenges faced by nursing programs including program costs, an aging nursing workforce, and increasing enrolment are also discussed. Lastly, the purpose of the research study and the theoretical framework are defined.

Satisfaction is defined by Merriam-Webster (2009) as "fulfillment of a need or want" or "contentment." Student satisfaction is an important aim shared by institutions of higher education. Students are perceived to be essentially the consumers and their evaluation of the services reflects on the quality of education offered by such institutions.

Astin (1993) wrote extensively on the impact of the college experience on students. He stated that satisfaction levels of students are often ignored in higher education and that there is much to be gained from analyzing students' perspectives (p. 273). Gremler and McCollough (1999, 2002) have gone so far as to examine the consequences of guaranteeing student satisfaction. In their research a written service guarantee was given to students which included the potential for a partial tuition refund for dissatisfied students. This guarantee favourably impacted instructor evaluations which, at many institutions, impacts faculty promotion and tenure decisions.

In their Norwegian study, Helgesen and Nesset (2007) examined the connection between student satisfaction, student loyalty to the institution, and the perceived reputation of the institution. The findings suggest a positive correlation exists between student satisfaction and both loyalty and reputation. Administrators, faculty and students share an understanding of the value of an institution's reputation. One of the benefits related to reputation includes how attending or teaching at a specific institution *looks* on a resume and how it adds credibility to research funding opportunities linked to higher level education goals and purposes.

Institutions commonly engage in publicity and recruitment strategies to attract new students. Marketing and retention activities consume significant budgets so the justification of investment is demanded. Administrators and management must also ensure that enrolled students are satisfied and their needs are being met. Retention to completion is as important as recruiting new students. In response to competition among colleges and in an effort to move toward a more student-focused campus, some colleges

(i.e. Santa Fe Community College in Florida) are initiating ongoing satisfaction surveys with their students (Kress, 2006).

Suhre, Jansen, and Harskamp (2007) examined the effect of program satisfaction on attrition of law students in the first two years of study in the Netherlands. They found that program satisfaction was positively related to a student's motivation to study, attendance at lectures, and the number of credits obtained. Higher satisfaction was also associated with lower attrition. Freeman, Hall, and Bresciani (2007) conducted a study examining attrition of students in programs and reported that the satisfaction rating with the institution had the greatest impact on students' decision to leave a program. Their study revealed that students with high levels of overall satisfaction completed their selected course of study while those not satisfied withdrew and failed to complete their initial course choices. Astin's (1993) research suggested a positive correlation between student satisfaction, grades achieved, and retention. Wefald and Downey (2009) propose a positive correlation between student satisfaction and engagement or dedication, and GPA. Thus, it is evident that students' satisfaction can be an attributing factor to their retention and academic performance.

Generational issues also play a role in student expectations and the perception of satisfaction. The new Millennial or Generation Y students, born between 1980 and 2000 (Deeken, Webb & Taffurelli, 2008; Gibson, 2009; Gordon & Steele, 2005), comprise the majority of students on University and College campuses and differ significantly from the previous Generation X student and the Baby Boomers. Millenials are comfortable with technology, prefer clear expectations and structure, and enjoy teamwork (Deeken et al., 2008; Gibson, 2009; Oblinger, 2003). They are a racially and ethnically diverse group

who have a wide variety of backgrounds and experiences and consider intelligence to be valued and acceptable (Oblinger, 2003; Shaw & Fairhurst, 2008). These students are multitaskers and in the classroom, require stimulation and interaction in order to maintain attention and promote learning (Deeken et al., 2008; Shaw & Fairhurst, 2008) and do not have patience for delays (Frand, 2000; Oblinger, 2003).

Faculty members belong to either the Baby Boomer generation and were born between 1943 and 1960 (Deeken et al., 2008; Gordon & Steele, 2005) or Generation X who were born between 1960-1980 (Deeken et al., 2008; Gibson, 2009; Gordon & Steele, 2005). Baby Boomers are generalized to be hard working individuals who respect authority and value being recognized for their accomplishments (Gibson, 2009; Gordon & Steele, 2005). In the classroom, Baby Boomers may not be as comfortable with technology and have difficulty engaging the twenty-first century students. Generation Xers are more comfortable with technology than the previous generation and place a high value on efficiency and work-family life balance (Deeken & Webb, 2008; Gibson, 2009; Gordon & Steele, 2005). The Millenials' expectation for immediate response to emails or text messages with perhaps perceived lack of respect with communication styles puts barriers between these three generations. The characteristics of the different generations are used as a guideline only for an understanding of satisfiers and are reflective of individual experiences and perceptions. While there are similarities between the generations, it is important to consider the differences as they may influence expectations, values, beliefs, attitudes, and ultimately satisfaction.

In the twenty-first century, nursing is a popular choice for students who are looking for a career path. The assurance of employment after graduation is a definite

attraction. Universities and colleges compete for these student admissions. As students are linked to government funding, it is clear that it is in the best interest of higher education institutions to satisfy the academic needs of students so as to retain students and provide them with the quality education that they desire. In nursing, the investment in each student does not only require faculty to teach theoretical courses, but also entails the direct supervision in small groups during clinical instruction time, with investment in clinical placements, and laboratory instruction. Because of the increasing costs over time, it is particularly important that nursing students are satisfied with their educational experience and successfully complete their degree programs of study.

This is particularly important in light of the fact that the Canadian nursing workforce is aging, which places an additional pressure on Schools of Nursing to increase enrolment in order to increase the pool of new nurses (AACN, 2008; CNA, 2002). The average age of a registered nurse (RN) in Canada was 44.7 in 2005, compared to 41 in 1994 (CIHI, 2006). According to a 2002 study by the Canadian Nursing Association (CNA), the nursing shortage will exceed 113,000 registered nurses by 2016. The healthcare system is in need of new nurses and cannot afford to lose nursing students. While CNA reports that although the national numbers of graduating nursing students are increasing, these numbers fall short of the rising demand for nurses (CNA, 2008a). In 2007, the number of nursing student graduates in Ontario rose 40% from the previous year while the national number of graduates only increased by 12% (CNA, 2008b).

Thus, it is becoming critical that students not only complete their program, but also stay in the profession. In 2007, the Ministry of Health and Long Term Care in Ontario initiated the New Graduate Guarantee. The goals of this program are to increase

new nursing graduates' access to full time employment and adequate orientation and mentoring in the workplace in order to increase the nursing workforce (Health Force Ontario, 2008). This investment and commitment to new nursing graduates further emphasizes the importance of meeting the nursing students' needs and maintaining satisfaction during their education.

The increased demand for nurses in North America has lead to a significantly larger numbers of students in nursing programs. Such increased enrolments are likely to put a strain on students and faculties alike. Given the desire to provide excellent and competent graduates who can meet the demands of professional credentialing examinations, it important that students' experiences and satisfaction be assessed to ensure that curriculum content delivery is achieved. However, other facets of the students' learning and educational experience as well as institutional objectives must be carefully considered. A Health Canada (2007) report on nursing student attrition suggested that most nursing students leave in the first two years of the program. The main reasons that lead students to leave their nursing programs included difficult academic standards, the program structure, and lack of academic support (Health Canada, 2007).

In summary, student academic satisfaction has important implications for higher education institutions. The connection of satisfaction to institutional loyalty, reputation, retention and recruitment has been established in the literature. These factors create important considerations in the competitive academic environment. Nursing programs specifically have many challenges that warrant assessment of satisfaction. Satisfaction of nursing students in their program is vital to the ability of nursing programs to retain and

graduate competent students. Program costs continue to rise as enrolment numbers continue to climb. Assessment of nursing student academic satisfaction can provide insight into whether programs are meeting students' needs and if changes are required.

Purpose of the Study

The purpose of this study is to examine the psychometric properties of the newly-developed Undergraduate Nursing Student Academic Satisfaction Scale (UNSASS). The lack of an existing instrument that measures all aspects of nursing student academic satisfaction in Canada presents a large gap in the literature. The intent of this study is the development of a valid and reliable instrument that will facilitate a meaningful assessment of Canadian nursing programs.

Theoretical Framework

Vroom's (1964) expectancy theory provides the framework for this research on student academic satisfaction. This outcome-based motivation theory focuses on perception and individual choices. An assumption of this theory is that individuals make conscious choices related to their behaviour with the goal of increasing satisfaction and avoiding failure. Motivation is a result of an individual's efforts, performance and anticipated or resulting outcome. The three main concepts of this theory are valence, expectancy and instrumentality.

Valence refers to the "anticipated satisfaction from an outcome" (Vroom, 1995, p. 18). It can be positive or negative, depending on whether the outcome is desired or not.

Expectancy is the personal (subjective) belief or confidence that efforts will result in an appealing outcome. Individuals with no expectancy have no belief that actions or efforts will influence performance or an outcome while individuals with high expectancy have the strong belief or certainty that actions or efforts influence performance or the outcome (Vroom, 1995). Expectancy is often measured on a scale that ranges from 0 (no expectancy) to 1 (perfect expectancy).

Instrumentality is the belief that an outcome will lead to another valued outcome or reward. This value can range from -1 to +1 depending on the strength of the belief (Vroom, 1995, p. 21).

Motivation is the product of the three factors (Motivation = valence X expectancy X instrumentality). When assessing motivation levels, all three factors need to be considered because if any one of them is the equivalent of zero, motivation will also be zero, as mathematical functions dictate. Thus an individual's motivation is increased if

he/she: a) values the potential outcome; b) believes that increased efforts will lead to positive performance; and c) believes that positive performance level will lead to the desired outcome (Isaac, Zerbe, & Pitt, 2001).

This theory can be applied to undergraduate students' academic satisfaction levels. In the adapted cyclical model (Figure 1), outcomes or rewards influence the level of satisfaction which impacts the motivational state. Motivation directly impacts the effort expended and subsequent performance. The goal of higher education is not only to educate students, but to also motivate them to achieve success. This revised model highlights the importance of student satisfaction in achieving this goal.

Satisfaction is linked strongly with an individual's expectations. Two people can have the same experience but differ in their satisfaction levels due to differences in any of their valence, expectancy, or instrumentality factors. A student, who may desire high grades **(valence),** may believe that increased efforts in academic activities such as studying will increase grades **(expectancy)**. The increased performance level may also be expected to result in other positive outcomes such as being on the honour roll, academic rewards, or praise **(instrumentality).** The student must have a clear understanding of the expectations related to performance and outcomes and also have confidence that efforts will be rewarded.

Appleton-Knapp and Krentler (2006) found a significant link between students' expectations and satisfaction. Students, who had academic experiences that exceeded their expectations, also had higher satisfaction levels. These researchers highlighted the importance of instructors sharing with students what they can expect to learn through a course, and not just what is expected from each student. This single message was found

to enhance the satisfaction levels because valence, expectancy and instrumentality became clear and realistic.

Past experiences will also influence motivation. If a student valued high grades and increased studying time but was not able to achieve positive outcomes, he/she may not be motivated to try again. This can happen if expectations are unclear or if the required level of performance is not attainable by the individual student. When faced with similar circumstances in the future, the student's expectancy will be lower as will the motivation level (Vroom, 1995, p. 293).

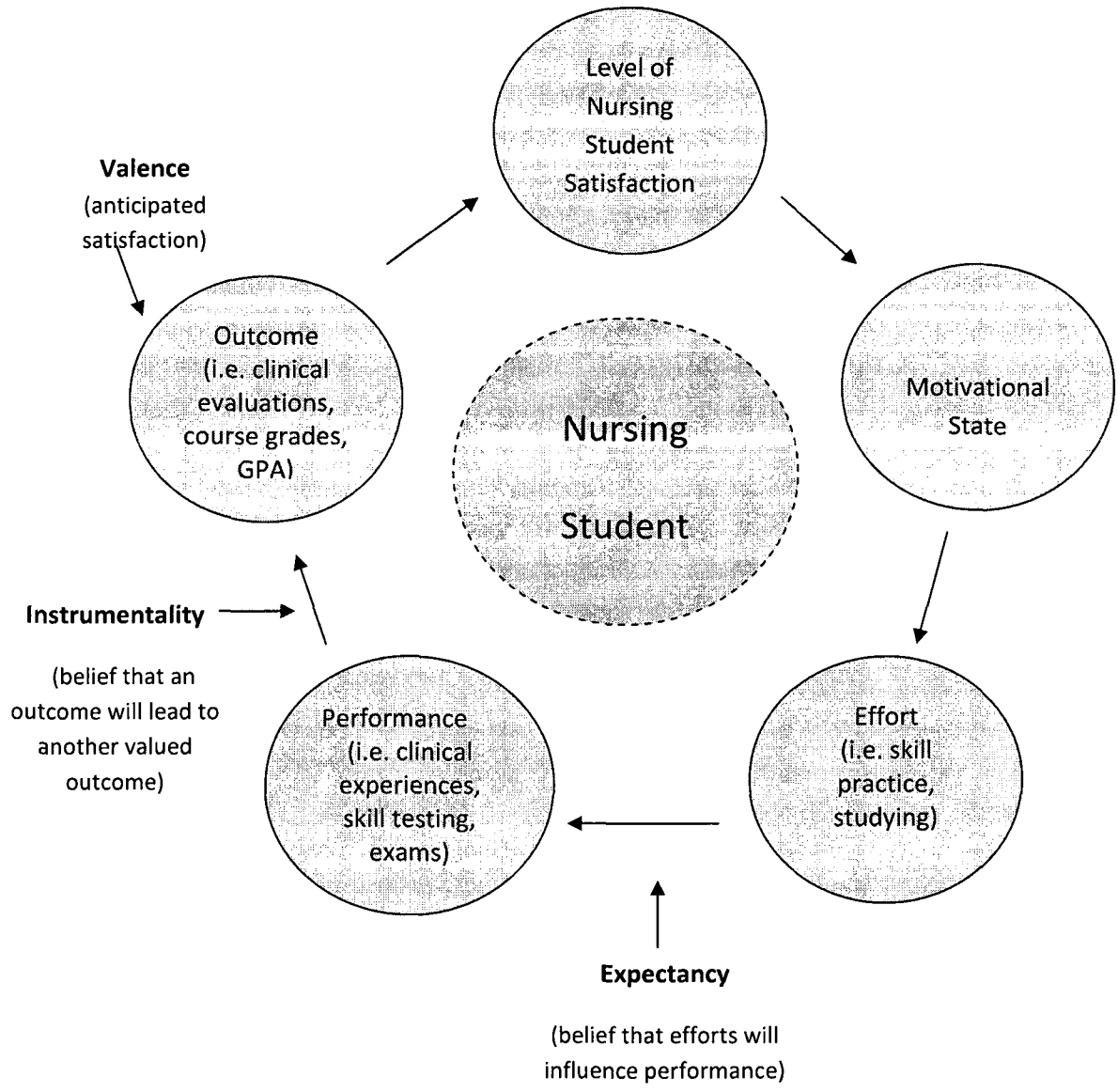
Undergraduate students may differ from each other with regard to outcomes that are desired. Students may place value on other areas beside high grades such as socialization with friends, interaction with faculty or team sports. Nursing students may also value the clinical and theoretical components differently.

Nursing programs challenge students with the many concepts and skills at varying degrees and thus students' expectancy pertaining to performance and outcomes may vary greatly. The ability to keep up with the program's expectations will influence motivation and satisfaction. (Vroom, 1995, p. 13)

As with other programs, many different faculty members teach in nursing programs. Each teacher/instructor may have different expectations with regard to rewards for performance. This factor of expectation is further compounded by the fact that the expectations change every semester and increase in complexity at each level of the program. A student may perform adequately in first year and achieve an acceptable grade but may not achieve the same grade for similar performance in the future. This

fluctuating, perceived inconsistency in student expectancy and changing expectations across the program affects satisfaction and resulting motivation.

Figure 1. Expectancy Theory and Satisfaction Model



Adapted from: Isaac, R. G., Zerbe, W. J., & Pitt, D. C. (2001). Leadership and motivation: The effective application of expectancy theory. *Journal of Managerial Issues, 13*(2), 212-226.

CHAPTER TWO: The Review of the Literature

The review of the literature will address two components related to this study. The first component examines the instruments that have been utilized in current research related to student satisfaction. This includes an examination of the instruments used to assess satisfaction of students in nursing programs and also instruments used to assess satisfaction in other undergraduate student populations. The instrument domains as well as validity and reliability data are discussed. The second component examines the actual study findings which are the predictors of student satisfaction.

Search Strategy

The following nursing electronic databases were systematically searched: Cumulative Index of Nursing and Allied Health Literature (CINAHL); Nursing and Allied Health Source (including Proquest and Evidence-Based Resources from the Joanna Briggs Institute); the Cochrane Database of Systematic Reviews. Online dissertations and theses were also searched. Keywords and subject terms used in a variety of combinations included: nursing, student, undergraduate, baccalaureate, program, satisfaction, surveys, and predictors. In addition, selected journal bibliographies were reviewed for further sources.

Electronic databases from Education (ERIC – Educational Resources Information Center, Wilson Web Omnifile, and Proquest), Social Work (Social Work and Social Services Abstracts) and Psychology (Social Sciences at Scholars Portal and PsychInfo) were also scanned for citations including keywords of undergraduate, students, program, and satisfaction in varying combinations.

Student Academic Satisfaction and Existing, Published Survey Instruments

Nursing Student Satisfaction Surveys. There were a limited number of studies specific to nursing students' satisfaction with all aspects of their academic program. Several of the studies in the literature surveyed satisfaction related to specific course delivery methods such as web-based learning (Bloom & Hough, 2003; Kearns, Shoaf, & Marguerite, 2004; and Creedy, Mitchell, Seaton-Sykes, Cooke, Patterson, Purcell & Weeks, 2007) or accelerated programs (Boylston, 2004). Others examined satisfaction with a particular clinical experience (Cleary & Happell, 2005). In addition, all of the seven nursing surveys in the current literature were used to assess nursing programs in different countries. Three were utilized in the United Kingdom (U.K.), one in Norway, one in Turkey, and two in the United States. There were no nursing student surveys found with a Canadian population. Table 1 outlines the key information from the nursing surveys. Additional details are included in the discussion below.

El Ansari's (2002a, 2002b) satisfaction survey focused on nursing student satisfaction with specific *modules* or courses and the teachers. This quantitative survey contained eighteen items and a comments section to collect qualitative data. The Cronbach's alpha for the entire instrument was .88, indicating very good internal consistency and reliability. The instrument was used again by El Ansari and Oskrochi (2004) with a reported Cronbach's alpha ranging from poor .27 to very good .86 on four identified subscales. El Ansari and Oskrochi identified that one challenge in the current research about student satisfaction remains the finding that many studies do not report the validity and reliability of the instrument.

Table 1

Nursing Surveys

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
El Ansari U.K. 2002	Not given. Modification of Kerridge and Mathews 1998 survey	Satisfaction with specific courses and teachers	18 items and a comment section Item example: *"Module ran smoothly"*	.88 for entire scale	Concise survey Clinical component not addressed
El Ansari & Oskrochi U.K. 2004	Same as above	Same as above	Same as above	.27-.86 on subscales	Detailed the validity and reliability of the instrument Low validity on one subscale (.27)
Liegler U.S. 1997	Social Integration with Faculty Social Integration with Peers from Pascarella and Terenzini 1980 survey	Examined satisfaction more broadly, including external influences, college facilities, faculty knowledge and support and social interaction	Length of survey not addressed Specific items not provided	.61-.86 on subscales Minimum factor load .30	Inclusion of social integration and peer relationships Broad focus

Table 1 (cont'd)

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
Espeland and Indrehus Norway 2003	Course Experience Questionnaire (CEQ), Nursing Clinical Facilitators Questionnaire (NCF), Subject Experience Questionnaire (SEQ)	Senior student satisfaction with courses and clinical	161 items Item examples: CEQ: *"It was always easy to know the standard of work expected"* NCF: *"The facilitator made sure that the clinical experience was organized in advance with nursing staff"*	CEQ: .68 to .79 (one subscale .37) SEQ: .58-.88 NCF: .41 - .94	Comprehensive assessment including both courses and clinical components Lengthy survey
Baykal, Sokmen, Korkmaz, and Akgun Turkey 2005	Adapted tool from Engineering faculty	Broad scope, primarily examining overall satisfaction with college and resources Administered in 3 consecutive years	85 items Specific survey items not included in the research	.97 for entire scale	Broad focus Anonymous responses (non-coded)

Table 1 (cont'd)

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
Kinsella, Williams, and Green U.K. 1999	Not identified	Included questions related to course organization, teaching, and clinical placements. Administered at 5 and 18 months in the program.	40 items Item example: *"The common foundation programme is OK but could be better organized"*	Not identified	Included clinical component Targeted first and second year students only Anonymous responses (non-coded)
Norman, Buerhaus, Donelan, McCloskeyand Dittus U.S. 2005	Study based on national survey from Johnson & Johnson Campaign for Nursing's Future	Focused on overall satisfaction with the participants' experience as a nursing student including rewards, challenges and finance issues	Length not addressed Included quantitative and qualitative components Item example: *"What is the most rewarding part about being a nursing student?"*	Qualitative had .91 intrarater and interrater reliability Quantitative reliability not discussed	Targeting issues related to retention of nursing students in programs Broad focus

Liegler (1997) examined predictors of nursing student satisfaction broadly and included external influences, college facilities, faculty knowledge and support and social interaction. Validity was determined through previous results of the nationally tested questionnaires with the minimum factor loading value identified as a low of 0.30. Factor analysis of the adapted tool was not reported by the authors. Content validity was determined through examining the average congruency percentage of the ratings of five expert faculty members (Liegler, 1997). Cronbach's alpha for each of the five scales incorporated into the questionnaire ranged from a low of .61 to an acceptable .86. The length of the questionnaire was not addressed in the research.

A Norwegian study by Espeland and Indrehus (2003) comprehensively explored senior student satisfaction with their courses and clinical experience. Acceptable validity and reliability of the CEQ was reportedly established in previous studies (Espeland & Indrehus, 2003). The researchers were unable to find NCF validity and reliability data. Four of the five areas measured with the CEQ (good teaching, clear goals, workload, and skills) were found to have acceptable reliability with Cronbach's alpha ranging from .68 to .79. One area (appropriate assessment) was identified as having low reliability with Cronbach's alpha .37. Reliability of the SEQ varied slightly with the different courses but ranged from a low .58 to an acceptable .88.

The NCF examined information related to the nurse supervisor (the hospital employed nurse) and the clinical teacher (the university employed instructor). Three main factors were examined for each of the facilitators: supportive behaviour; challenging behaviour; and preparatory behaviour. Two of the three factors measured with the NCF were found to have satisfactory reliability (supportive behaviour and

challenging behaviour). The researchers identified the length of this 161-question survey was prohibitive and suggest that future studies exclude the SEQ.

Baykal, Sokmen, Korkmaz, and Akgun's (2005) research had a broad focus, primarily examining overall satisfaction with the college and resources. This questionnaire contained 85 items which were then separated, after validity and reliability testing, into eleven factors. Cronbach's alpha for the survey was a reported .97. Item reliability ranged from a low of .36 to an acceptable .70.

Kinsella, Williams, and Green (1999) developed a tool examining various aspects of a nursing program including theory and clinical courses in the U.K. The instrument included questions related to courses, teachers, tutors, clinical experiences, lab practice, supervision, and pastoral care. The tool was piloted on recent graduates of the program, however, validity and reliability of the tool was not identified.

Norman, Buerhaus, Donelan, McCloskey, and Dittus (2005) examined nursing student characteristics and satisfaction with nursing education. The survey tool focused on overall satisfaction with the participants' experience as a nursing student and included open-ended questions related to rewards and challenges of being a nursing student. Reliability and validity of the quantitative portion were not discussed in the research. The qualitative portion was analyzed using content analysis with a reported intrarater and interrater reliability of .91 (Norman et al., 2005).

General Satisfaction Surveys. Table 2 outlines the key information from the general student satisfaction surveys. Additional details are discussed below.

Table 2

General Satisfaction Surveys

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
Noel-Levitz U.S. 2008	The Student Satisfaction Inventory (SSI)	Broad satisfaction assessment with the institution and includes: academic advising; services/ resources; admission, registration, financial aid; campus climate and support; teaching, courses; responsiveness to diverse populations; safety/security; student centeredness	50 to 70 items *"Classes are scheduled at times that are convenient for me"*	.97 for importance scores and .98 for the satisfaction scores >.8 for test-retest reliability	Scoring includes importance of variable, satisfaction level, and gap between the scores Broad scope Results are compared to national benchmark data (predominantly U.S.)

Table 2 (cont'd)

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
El Hassan Lebanon 2008	College Outcome Survey (COS) developed by the American College Testing (ACT) association	Examines satisfaction with: instruction/ faculty/ classroom practices; intellectual, personal, social growth; and preparation for further study or career	100 items Example not available	.72 - .99	Focus on perception of personal growth Comparison to national data optional Lengthy survey
Douglas, Douglas, and Barnes U.K. 2006	Not given	Used with business and law students Items were grouped into consumer-related categories and included: the faculty and lectures; facilities related to lectures and to the college; and goods and services	60 items Item examples: *"Teaching ability of staff"* *"IT facilities"*	Not reported	Involved assessment of importance and satisfaction with specific items (similar to Noel-Levitz) Comprehensive survey—included both program and campus assessment

Table 2 (cont'd)

Author, Country, & Year	Name of Scale	Use/context	# Items & Example	Alpha	Strengths/ Limitations
Grayson Canada 2004	Not given	Items related to courses, instructors, workload, classes, grades and student's development	Length not addressed Example not given	.71 - .75	Contained a broad question related to overall satisfaction as well as questions related to specific variables
Corts, Lounsbury, Saudargas, and Tatum U.S. 2000	Undergraduate Satisfaction survey	Targeted psychology students Items related to academic advising, courses, class size, career preparation, quality of instruction and overall satisfaction	27 items and 7 open-ended questions Item example: *"The availability of courses which help you prepare for future employment"*	Not reported	Assessment of student satisfaction within a specific faculty Broad focus

The Noel-Levitz survey tools are found quite extensively in U.S. research studies. These tools are also available in Canada, but not used as commonly in four year institutions (Noel-Levitz, 2008a). The Student Satisfaction Inventory (SSI) is the general survey that can be used for a variety of ages (Noel-Levitz, 2002a). The survey has different formats, geared to the type of institution (community, junior, and technical colleges; public or private four year institutions; and two year career and private colleges). Noel-Levitz reports high internal reliability of the SSI surveys. Cronbach's alpha for the importance scores is reported to be .97 and the satisfaction scores is .98. The test-retest reliability exceeds .8 (Noel-Levitz, 2008b).

Satisfaction is assessed within eleven areas and results in three scores for each variable including the importance of the variable, the satisfaction level, and the gap between the scores. The institution has the option of adding up to ten items. The potential impact of these additions on validity and reliability was not addressed.

Data analysis, conducted by Noel-Levitz, primarily consisted of examining three scores for each item. Institutional data was compared with national benchmark data which was comprised of the student responses from various institutions over the previous three years (Bryant, 2006). The tool has been available since 1994 and more than 2 million students at sixteen hundred U.S. institutions have completed the survey (Bryant, 2006). Annual reports are published identifying national strengths and challenges. A limitation is the restricted number of Canadian universities included in their benchmarking data. The survey is broad in scope and is designed to look at satisfaction with the institution, not a specific program.

The College Outcome Survey (COS) examines students' progress toward achieving their personal and educational goals as well as satisfaction with the institution (El Hassan, 2008). Specific validity and reliability information regarding the instrument was not found in the published research, nor available on the ACT website. A written request was necessary to obtain reliability information. The estimates for the COS items indicate multiple reliability indices ranging from a low .72 to a high of .99 across samples sizes from 50 to 500 (ACT, 2008b).

Similar to Noel-Levitz, data on the COS can be submitted to ACT for analysis and calculation of average scores, percentages and standard deviations. Investigators have the option of performing all the analyses themselves or to request required additional analyses to be done by ACT (ACT, 2008a). National data comparisons are available for selected survey questions. While there is a section in the COS survey related to satisfaction with the institution, the primary focus is on the impact that a college has had on students' development.

Douglas, Douglas, and Barnes (2006) developed an instrument similar to the Noel-Levitz survey, encompassing both student satisfaction and importance. Reliability and validity information was not reported for the research. This survey did provide a comprehensive overview of student satisfaction.

Grayson's (2004) four-year longitudinal study conducted at York University in Ontario examined Grade Point Average (GPA), academic satisfaction of students in various programs. The range for Cronbach's alpha for each year was .71 to .75 indicating good reliability. This study compared the results from the broad satisfaction question and the responses to list of questions and suggested that the results were similar enough to

recommend using only the broad question for administrative purposes like tenure and promotion. However, even for the proposed administrative purposes, these results have limited usefulness. There is questionable value in knowing the percentage of satisfied and dissatisfied students without knowing the factors impacting overall program satisfaction.

Corts, Lounsbury, Saudargas, and Tatum (2000) conducted a study in the psychology department at the University of Tennessee, Knoxville related to undergraduate satisfaction. The goal was to gain a broader perspective of the students' satisfaction within a specific faculty. Validity and reliability of the instrument was not discussed in the research. The assessment areas contained in the survey were similar to others in the literature with the addition of career preparation. This is not an area of concern for most nursing schools as the career path, while varied, are clear.

Survey Instruments Summary. Many of the surveys either lacked or did not report reliability and validity data (Corts et al., 2000; Espeland et al., 2003; Kinsella et al., 1999; Norman et al., 2005). A number of the current surveys have a limited scope, assessing satisfaction with particular courses and teachers, but not encompassing all aspects of a program (El Ansari, 2002a, 2002b; ElAnsari & Oskrochi, 2004). Other surveys have a broad focus, examining satisfaction with the institution or with students' overall educational experience rather than a specific faculty or program (El Hassan, 2008; Elliott, 2002; Liegler, 1997; Norman et al., 2005). While there were differences in the areas that were assessed with regard to student satisfaction, some common domains are present. These domains include: *Teacher and classroom practices* (Baykal et al., 2005; Bryant, 2006; Corts et al., 2000; Douglas et al., 2006; El Ansari, 2002a, 2002b; El Ansari

& Oskrochi, 2004; El Hassan, 2008; Espeland & Indrehus, 2003; Grayson, 2004; Kinsella et al., 1999; Liegler, 1997); *Support and resources* (Bryant, 2006; Douglas et al., 2006; Liegler, 1997); *Overall program* (Kinsella et al., 1999; Liegler, 1997); and *Organizational culture* (Bryant, 2006; Douglas et al., 2006; Kinsella et al., 1999). For the nursing surveys, only two of the seven studies assessed the clinical component of the program (Espeland & Indrehus, 2003; Kinsella et al., 1999).

Predictors of Student Academic Satisfaction

The predictors of student academic satisfaction are explored in order to increase understanding of these determinants and to assist with the testing of a pertinent scale. Nursing programs have a large course requirement in addition to the clinical and laboratory requirement. This results in a high level of contact between faculty members and students in both large classroom settings and smaller group settings. Nursing students also interact with nurses and other healthcare providers at clinical agencies (i.e. hospitals, community agencies). The nursing student study results are examined separately from studies of other programs due to its unique characteristics.

Nursing Student Satisfaction Results. The studies discussed in this section examine those few-published works in which nursing students' overall satisfaction was studied. Table 3 includes an overview of the studies. Additional information is included in the discussion.

Table 3

Predictors of Student Satisfaction—Nursing Studies

Author, Country, & Year	*Sample*	*Variables*	*Predictors of Satisfaction*	*Strengths/ Limitations*
El Ansari U.K. 2002	460 Students enrolled in 1 of 3 streams (Diploma, BA, and BSc) 1st and 3rd year students only 94% *white* 90% female	Four demographic variables (age, gender, disability, and ethnicity) Three educational factors (academic level, full-time or part-time status, and program) Course grade	Age: older students were more satisfied Enrolment level: first year students were more satisfied than third year students with the course content the instructors and the library resources Status: Part-time students indicated greater satisfaction than full-time students with library resources, the course content, and the expectation to be able to apply content in their career.	Incorporated course grade Inclusion of all streams limits generalizability Predominantly senior students included in sample

Table 3 (cont'd)

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
El Ansari & Oskrochi U.K. 2004	1660 Students enrolled in 1 of 3 streams 1st and 3rd year students 92% *white* 90% female 74% Full-time	Demographic and educational variables Course grade Delivery and teaching (D/T) Utility and stimulation (U/S) Opportunities for individualization (O/I) Information and resources (I/R)	Enrolment level: first year students had higher satisfaction than third year students Status: part-time students had higher satisfaction than full-time students Courses: those enrolled in courses with no examination were more satisfied Class size: smaller class size increased satisfaction GPA: positive correlation	As above Large sample Detailed the validity of the instrument

Table 3 (cont'd)

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
Leigler U.S. 1997	195 Senior nursing students 56% *white* 100% female 21% of sample were previously licensed RNs	Background characteristics (age, ethnicity, previous GPA and certifications) External influences (marital status, dependents) College facilities (related to health, computer access, nursing lab, bookstore, tutoring, and library) Academic integration (intellectual development, stimulating classes, overall academic experience, and grades) Social integration (interaction with peers, development of friendships)	Academic integration Satisfaction with faculty Interaction with peers GPA: 'indirect' positive correlation Ethnicity other than Anglo-American; Hispanic-American; Asian- American: 'indirect' predictor of satisfaction	Included students' perception of their own academic development and the importance of the peer group Older study Only senior students

Table 3 (cont'd)

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
Espeland & Indrehus Norway 2003	276 Senior nursing students ? Ethnicity 88% Female	Teaching, workload and content (CEQ) Clinical component (NCF) Specific courses (nursing theory, psychology and pathology) (SEQ)	Good teaching, clear goals, workload, assessment, and skills Clinical facilitators	Comprehensive survey Only senior students Lengthy survey
Kinsella et al. U.K. 1999	315 1st or 2nd year students enrolled in Diploma or Degree programs ?ethnicity 90% female	Courses Organization Teachers Clinical component	Age: younger students gave higher course evaluations	Primarily univariate analysis describing specific sample results but not the predictors of satisfaction Date collected at 5 and 18months of enrolment but not coded—lack of trending capability
Norman et al. U.S. 2005	496 Nursing students currently enrolled in a basic entry nursing program or who have declared nursing	Nursing student characteristics Financial aid Satisfaction with nursing	Not identified	The sample included all levels of students The survey tool contained quantitative and qualitative components

Table 3 (cont'd)

	their major 73% *white* 93% female	education Plans for the future		Did not analyze actual predictors
Baykal et al. Turkey 2005	694 All four levels included ?ethnicity ?gender	Education contents Relationship between college, students, and other institutions College management Relationships with educational staff Orientation and support services Socio-cultural services Medical services Evaluation Physical structure of school Respect for students Keeping students informed	Not identified 1st and 3rd year students had the highest satisfaction levels 4th year had the lowest satisfaction level	Study reported satisfaction of the sample with the eleven factors Prospective, anonymous survey conducted during three consecutive years Non-coded surveys-lack of trending capability Did not analyze predictors

A study conducted by El Ansari (2002a, 2002b) in the United Kingdom examined the impact of four demographic variables (age, gender, disability, and ethnicity) and three educational factors (academic level, full-time or part-time status, and program) on nursing student satisfaction. Only first and third year students were included as the second year was new at the institution. The sample was predominantly senior students with 88% level three and only 12% level one. A cross-sectional research design was utilized. The findings suggested a correlation between age and satisfaction level, with the older than 25-years group having the highest satisfaction. Participant grades were imported and linked to the survey. Age was also significantly and positively correlated with course grades. There was a weak correlation between course grade and satisfaction with the module (r_s = 0.019-0.25). The third year students were less satisfied with the course content (% of students reporting satisfaction decreased from 94% in level one to 76% in level 3), the instructors (a decrease from 98% in level one to 92% in level three), and the library resources (decrease from 82% in level one to 62% in level three).

The focus of El Ansari's study was limited to course content, the course teacher, and the library references. It is unclear if the clinical experiences in the program were evaluated. The inclusion of the three different program streams also complicated the analysis and limited the generalizability of the findings.

El Ansari and Oskrochi (2004) completed further research into the variables that affect satisfaction of health science students in the U.K. and the influence of demographic and educational variables. The researchers identified that a challenge with current student satisfaction research is that many studies contradict each other in the findings which could be a result of the analysis and interpretation and possibly confounding

relationships between variables. In El Ansari and Oskrochi's study, a universal sampling technique was implemented and resulted in a large sample of 1660 completed questionnaires from students enrolled in the academic year 2000/2001. This is the same academic year that the 2002 research was based upon but the link between the study samples was not discussed. Approximately two-thirds of the sample were in level three and one third of respondent were in was level one.

This study detailed the validity of the instrument and the analysis process. Using a multivariate analysis technique, component analysis was conducted and four main constructs were identified and accounted for 55% of the total variance. These constructs were: delivery and teaching (D/T); utility and stimulation (U/S); opportunities for individualization (O/I); and information and resources (I/R). The effect of thirteen variables on satisfaction and on each of the four constructs was examined before and after controlling for all other variables. After controlling for all other variables, gender, ethnicity, disability and age did not have an individual effect on student satisfaction reducing the expectation that satisfaction was derived from personal factors. After controlling, the following education related variables did exhibit a positive effect on satisfaction: part-time students; those enrolled in term one; those enrolled in courses with no examination; smaller class size; and students with higher grades.

Liegler (1997) examined potential predictors of senior nursing student satisfaction at five nursing programs in two states in south western U.S. The variables that were examined related to: the student's background characteristics; external influences; college facilities; academic integration; and social integration. The results were analyzed primarily using a least squares stepwise regression. With regard to ethnicity, this study

provided more diversity with 56% white, 17% Hispanic, 16% Asian, and the remaining 12% classified as *other*.

Through regression analysis three variables were found to significantly impact overall satisfaction explaining 42% of the variance (r=.65; F=46.42, $p < .001$). The variables included the nursing student's academic development (B=.43), student satisfaction with faculty (B=.25) and interaction with peers (B=.18). GPA was suggested to *indirectly* predict satisfaction as it was a predictor of the use of facilities and services (B=.17). Use of facilities and services was predictive of increased satisfaction. Similarly, *other* ethnicity which included all those other than Anglo-American; Hispanic-American; Asian- American influenced the use of facilities (β=-.18) and was *indirectly* a predictor of satisfaction. While several of the variables included in this study are common to other studies related to satisfaction, the students' perception of their own academic development and the importance of the peer group are distinctive.

Espeland and Indrehus (2003) utilized three questionnaires. They were the Course Experience Questionnaire (CEQ), the Nursing Clinical Facilitators Questionnaire (NCF) and the Subject Experience Questionnaire (SEQ) to explore senior student satisfaction with their courses and clinical experience. The CEQ examined satisfaction with the teaching, workload and content. The NCF examined satisfaction with the clinical component. The SEQ included specific items related to the nursing theory, psychology and pathology courses. The 161-question survey was completed by nursing students in their final semester at one of three university sites in Western Norway. Factor analysis was utilized for the CEQ and NCF data. The five areas examined with the CEQ

(good teaching, clear goals, workload, assessment, and skills) explained 51% of the variance in student satisfaction. No gender differences were evident in this study.

The NCF examined information related to the nurse supervisor and the clinical teacher. Overall satisfaction with students' clinical experience correlated positively with overall satisfaction with the clinical facilitators ($r = .59$). Findings also indicated the students had higher satisfaction with their clinical course than the theory course. This study encompassed academic and clinical satisfaction but was limited to students in their final semester. Ethnicity of the participants was not identified.

In response to high attrition levels in a U.K. nursing program, Kinsella et al. (1999) conducted a satisfaction study with 315 students who were enrolled in the first or second year of one of their diploma or degree programs. The variables that were examined related to the courses, organization, teachers, and clinical experience. Data were collected at 5 and 18 months after enrolment. Data was analyzed using chi-square, Mann-Whitney U and Kruskal-Wallace One-Way ANOVA test (Kinsella et al., 1999). The majority of students (87%) identified course organization as a problem. Eighty one percent indicated that teaching could be improved. In this study, students in the lowest age bracket (less than 20 years old) gave the courses higher evaluations than all other older age group. Descriptive statistics associated with the number of students in each age group were not discussed. Most students were satisfied with the clinical experiences (93%). Only univariate analysis was conducted. Actual predictors of satisfaction were not identified.

In response to the nursing shortage and the increasing nursing student enrolment, Norman et al. (2005) examined nursing student characteristics, financial aid, and

satisfaction with nursing education, as well as plans for the future. A U.S. national survey provided the data for this study (Norman et al., 2005). The sample included all levels of nursing students who were currently enrolled in a basic entry nursing program or who had declared nursing as their major. The majority of students were satisfied with their education (38% very satisfied, 48% somewhat satisfied). A common theme that emerged with the open-ended question related to challenges of their role. These included difficulty with maintaining a balance between school, work and home life (two thirds of students). Approximately 20% of students were concerned with the quality of their courses and commitment of their professors. This study provided an overview of nursing student satisfaction and challenges of being a nursing student but did not analyze the actual predictors of satisfaction.

Baykal et al., (2005) examined student satisfaction at a college in Turkey. This descriptive, prospective study had a sample of 694 students enrolled in a four year nursing program. The survey was distributed in 1999, 2000, and 2001. The survey was broad and focused on the overall college environment, resources and management. Data was analyzed primarily with ANOVA and post hoc tests. Specific demographics were not discussed in the research. The highest level of satisfaction was found with third year students (M=128.24), closely followed by first year students (M=126.48). Second and fourth year students expressed the lowest satisfaction levels (M=98.58 and M=94.97 respectively). This research reported on the overall satisfaction level of students based on eleven factors (e.g. education contents, medical services, and respect for students). Analysis related to which of the factors were actually strong predictors of satisfaction was not included in the study.

General Student Satisfaction Results. Several studies in the literature are not specific to nursing but examine student satisfaction more broadly and within various faculties. Table 4 includes the key information from these general student satisfaction studies. Additional information is included in the discussion below.

Elliott (2002) conducted a study to identify the determinants of satisfaction. All levels were included in the large sample of 1805 students and efforts were made to include a variety of majors. Descriptive analysis of the majors included was not discussed in the research. The Noel-Levitz Student Satisfaction Inventory was utilized and included 116 questions. Stepwise regression revealed student centeredness and instructional effectiveness to be significant predictors of satisfaction ($\beta = .485$, $p<.001$ and $\beta = .226$, $p< .001$, respectively). The results of this study highlighted the importance of the students' sense of belonging and quality of the educational experience (Elliott, 2002).

Grayson's (2004) four-year longitudinal study conducted at York University in Ontario examined GPA, professor performance and program satisfaction. The questionnaires were mailed out at the end of the school year from 1995 to 1998. The final sample included 513 students. Findings suggest that a higher GPA and good professor performance impact student satisfaction positively. The best predictor of these variables was the score from previous years (Grayson, 2004). South Asian and Chinese students had lower satisfaction than students of other ethnic backgrounds. There was no significant difference in satisfaction between genders. Program satisfaction did not vary significantly over the four years. The Arts students had significantly higher satisfaction than the Science students.

Table 4

Predictors of Student Satisfaction—General Studies

Author, Country, & Year	*Sample*	*Variables*	*Predictors of Satisfaction*	*Strengths/ Limitations*
Elliot (Noel-Levitz) U.S. 2002	1805 Variety of majors and all levels included 53% female 85% *Caucasian*	Academic advising Campus climate Campus life Campus support services Concern for the individual Instructional effectiveness Recruitment and financial aid Registration Campus safety Service excellence Student centeredness	Student centeredness Instructional effectiveness	Large sample Highlighted the importance of the students' sense of belonging

Table 4 (cont'd)

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
Grayson	1865 initially	GPA	GPA	4 year longitudinal study
Canada	513 by fourth year	Professor performance	Professor performance	Canadian study
2004	Faculties of Arts and Pure and Applied Science	Program satisfaction	(Satisfaction did not vary over the four years)	Attrition of sample (1865 to 513)
	73% *European origin*			
	67% female			
El Hassan	892	Instructor/ faculty/ classroom practices	Personal growth in social skills	Highlighted the importance of personal growth
Lebanon	Demographics not available	Intellectual, personal, social growth	Expression of ideas and emotions	
2008		Preparation for further study or career	Academic competence	
			Considering opposing points of view	
			Variety of courses	

Table 4 (cont'd)

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
			Faculty respect for students Early distribution of course outline Campus atmosphere of understanding	
Douglas et al. U.K. 2006	Business and law students All 3 levels included 54% female	Lecture and tutorial facilities Ancillary facilities Facilitating goods Explicit service Implicit service	Teaching staff Lecture resources IT resources	Contained both program and institutional variables

Author, Country, & Year	Sample	Variables	Predictors of Satisfaction	Strengths/ Limitations
Corts et al.	293	Advising	Course offering and career preparation accounted for	Broad scope
U.S.	Psychology students	Course offerings	55% of variance	Results specific to psychology faculty
2000	All 3 levels included	Career preparation		
	71% female ?ethnicity	Quality of instruction Class size		

There was no correlation between higher grades and more positive teacher evaluations.

El Hassan's (2008) research at the American University of Beirut utilized the ACT College Outcome Survey (COS) to study the effects of college on undergraduate students' goals, and to examine the factors that influenced perception of quality instruction and overall satisfaction. Statistics related to the students' grade level were not available in this study. Regression analysis was utilized and revealed 12 correlating variables (r=0.77; $p < .001$) associated with overall satisfaction with college. These variables included items related to personal growth in social skills (β =.311), expression of ideas and emotions (β =-.210), academic competence (β = -.194), and considering opposing points of view (β =.162). Other items related to satisfaction with curriculum and campus issues such as the variety of courses offered (β=.252), faculty respect for students (β =.233), early distribution of course outline (β =.194) and campus atmosphere of understanding (β =.172). This study highlighted the importance of the personal growth areas in student satisfaction.

Douglas et al. (2006) examined satisfaction of business and law students at a university in the U.K. The premise of this research was consumer focused and encompassed evaluation of the faculty as well as campus facilities and services. Both satisfaction and importance were measured. Quadrant analysis was utilized to explore the results. The items ranked as most important and had the highest satisfaction rating included the teaching staff, lecture resources, and IT resources. Items related to the physical facilities were listed as least important. Low satisfaction was given for textbook value, feedback, availability of staff, and workload. This study provided both specific information related to a program and general campus information.

Corts et al. (2000) studied satisfaction of undergraduate students enrolled in the faculty of psychology. The findings suggest that satisfaction was not related to gender, student level, or GPA. After demographic variables were controlled, regression analysis showed that satisfaction was positively correlated to academic advising, course offerings, class size, teaching and career preparation (Corts et al.). Course offerings and career preparation accounted for 55% of the variance of overall satisfaction. This study highlights that each faculty may have different identified priorities to achieve student satisfaction. Nursing may have different identified priorities, as career preparation is a strong focus, but this broader and efficient assessment of satisfaction allowed for a more comprehensive view of student satisfaction.

Study Findings Summary

This appraisal of the research study findings highlighted challenges related to the differences in the sample populations, and the variety of identified predictors of satisfaction.

Sample population. The samples in the studies were not diverse with regard to ethnicity and gender (El Ansari, 2002--94% white, 90% female; El Ansari & Oskrochi, 2004--92% white, 90% female; Liegler, 1997--56% white, 100% female; Espeland & Indrehus, 2003--ethnicity, 88% female; Kinsella et al, 1999--? ethnicity, 90% female; Norman et al, 2005--73% white, 93% female). Globalization is creating a more diverse student population in Canadian universities. In addition more males are turning to nursing for their career option. Between the years 2000 and 2005, the number of new male nurses rose from 11,000 to 14,000 (CNA, 2005). Over the past 10 years, approximately 8.4% of newly licensed Registered Nurses in Ontario were males (CNO,

2008b). Expectations and perception of satisfaction may differ in these new student populations.

The existing nursing student satisfaction research comes predominantly from the United States and the United Kingdom. In these countries, several streams of study are available and were included in the samples. Some of the students were enrolled in a diploma program, some were enrolled in a degree program, some were already licensed, and others were not yet accepted into a nursing program but were taking prerequisite courses. In addition, a number of the studies surveyed only certain levels of students. Some of the studies either targeted or included predominantly senior students (El Ansari, 2002; El Ansari & Oskrochi, 2004; Espeland & Indrehus, 2003; Liegler, 1997). Others included only junior students (Kinsella et al., 1999). This patchwork survey process yields little for generalizeable understanding of satisfaction across levels.

In Canada, all provinces except for Quebec and the Yukon require a Bachelor of Science in nursing degree to enter into practice (CNA, 2009). Generally, a three or four year university program of study is required to obtain this degree. The Canadian Nursing Association (CNA) develops the Canadian Registered Nurse Examination (CRNE). The standardized CRNE must be written and passed in order to be deemed competent to practise as a Registered Nurse. National competencies have been established that all faculties or degree programs must incorporate (CNO, 2008a).

Predictors of student satisfaction. Determining the predictors of student academic satisfaction from the current literature is difficult. Differences in the surveys lead to a wide array of variables in the studies. This makes comparisons between findings difficult and inaccurate. Gibson (2010) found similar results in his review of the

literature related to the predictors of business student satisfaction. He identified that the number of variables and the definition of the variables differed in the studies, making comparisons challenging.

In the current review, not surprisingly, a common predictor of student satisfaction was the quality of faculty teaching (Corts et al., 2000; Douglas et al., 2006; El Ansari, 2002a, 2002b; Elliott, 2002; Espeland & Indrehus, 2003; Grayson, 2004; Liegler, 1997). There is variation in findings related to which level of students had the highest level of satisfaction and if age was a predictor. First year students were found to be more satisfied than third year students in two nursing studies (El Ansari, 2002a, 2002b; El Ansari & Oskrochi, 2004) but other studies were not directed at these levels. Baykal et al. (2005) included all four levels of the nursing program and found satisfaction highest in third year students and lowest in fourth year. Grayson's (2004) study included all levels and found no change in satisfaction throughout four years. With regard to age, El Ansari (2002) and El Ansari and Oskrochi (2004) found older students to be more satisfied. Kinsella et al. (1999) found younger students to be more satisfied.

Two studies found the course offerings influenced satisfaction (Corts et al., 2000; El Hassan, 2008) but others did not include this as a variable. Other variables that were shown to be positive predictors of satisfaction include: part time students, those enrolled in courses with no exam, and smaller class size (El Ansari & Oskrochi, 2004); academic development and interaction with peers (El Hassan, 2008; Liegler, 1997); clinical facilitators (Espeland and Indrehus, 2003); student centeredness (Elliott, 2002); course grade (El Ansari & Oskrochi, 2004); overall GPA (Grayson, 2004); and IT facilities (Douglas et al., 2006).

Conclusion

The review of the literature highlights the lack of an existing, valid and reliable instrument that will efficiently and comprehensively measure nursing students' satisfaction with their program. A survey specifically directed to Canadian nursing programs would provide insight into areas of strength and areas that require improvement. Nursing schools strive for continuous improvement. Requesting feedback from students related to satisfaction and incorporating change as needed, would demonstrate that their input is valued. Nursing schools compete for the top students and strive to achieve high satisfaction among the student population as these provide strong marketing data. The intent of a standard satisfaction tool would not be to publically compare institutional results as this may contribute to a further increase in the competitive nature of higher education institutions. The intent would be to have a valid and reliable tool available to assess student satisfaction with nursing programs.

CHAPTER 3: Methodology

Research Design

This study is a secondary data analysis conducted on an existing self-report data set that had not been analyzed previously. The self-report survey was administered with the intention of examining the psychometric properties of the newly developed Undergraduate Nursing Student Academic Satisfaction Scale (UNSASS). Validity testing included the examination of face, content, and construct validity, while reliability testing included both the stability (intra-rater reliability) and internal consistency of the instrument. Predictive validity was also examined through exploration of the predictors of nursing student academic satisfaction using the UNSASS as an outcome measure.

Questionnaire Development

The questionnaire items were developed through a review of the existing literature and in consultation with experienced faculty members. Four nursing faculty members deemed to be key informants with many years of individual experience teaching in a variety of nursing programs were consulted regarding key areas and questions to include in the survey. Through the review of the literature and consultation with experts, the term *undergraduate academic satisfaction* was defined as the nursing students' perception of contentment with the following five domains:

1. Satisfaction with clinical teaching
2. Satisfaction with in-class teaching
3. Satisfaction with the program
4. Satisfaction with the organizational culture

5. Satisfaction with the support and resources available for students within the program

The first domain, ***satisfaction with clinical teaching***, consisted of 16 items related to the interaction with clinical instructors and their expertise. An item example of this domain included: *Clinical instructors facilitate my ability to critically assess my clients' needs.* The second domain, ***satisfaction with in-class teaching***, also contained a balanced number of 16 items. These items were related to the theory classes and instruction. An item example of this domain included: *Faculty members demonstrate a high level of knowledge in their subject area.* The third domain, ***satisfaction with the program***, consisted of 12 items related to satisfaction with the nursing program design, requirements and expectations. An item example of this domain included: *This program provides a variety of good and relevant courses.* The fourth domain, ***satisfaction with the organizational culture***, contained nine items concerning faculty and staff behaviour, procedures and students' sense of belonging. An item example of this domain included: *Faculty members are good role models and motivate me to do my best.* The fifth and final domain, ***satisfaction with support and resources***, contained nine items related to support from administration and faculty as well as available institutional resources including the library and nursing laboratory. An item example of this domain included: *The facilities (classrooms, clinical and computer labs) facilitate my learning.*

Although an existing survey was not directly utilized, current surveys were used, to inform the researcher of areas and potential questions that could be included in the development of the new questionnaire. Several of the survey questions related to clinical and classroom experiences were adapted from the CEQ and NCF questionnaires used by

Espeland and Indrehus (2003) with consent. The initial UNSASS survey was composed of 99 items divided into five sections related to the identified domains. After face and content validity measures were implemented (discussed below), the survey was reduced to 62 items (Appendix A). A five-point likert scale was used with options ranging from strongly agree to strongly disagree. A demographic data sheet was also incorporated into the survey (Appendix B) to capture the demographic characteristics of the study participants and to collect the necessary information to conduct predictive analysis. The demographic data sheet included 12 questions related to gender, ethnic background, country of birth, current employment, high school GPA, student level, nursing program GPA, completion of other degrees, and history of course failure. Subjects were also asked if they were a collaborative student (i.e. a student that had attended one of the partner college sites for the first two years) and if they had ever attended a different nursing program (i.e. a transfer student).

Sample and Setting

A non-probability, convenience sample of 313 undergraduate nursing students volunteered to complete the study questionnaire from a potential total of 477 students registered in the program. This satisfies the minimum sample size requirement of 5 subjects per item (Stevens, 1996). For this study, this would calculate to be 310 subjects (5 X 62). Another method to determine adequate sample size is based on findings from a Monte Carlo study conducted by Guadagnoli and Velicer in 1988 and relies on factor loading values (Stevens, 1996). The main guidelines proposed from this study are: "components with four or more loadings above .60 in absolute value are reliable, regardless of sample size" and " components with about 10 or more low (.40) loadings

are reliable as long as sample size is greater than about 150" (Stevens, 1996, p. 372). Inclusion of factor loading scores is an essential aspect of the data analysis.

Students enrolled in an undergraduate nursing program in a designated faculty of nursing at the time of data collection were all eligible to participate. This nursing program is offered as a collaborative program on various sites in a tri-county region of Ontario. For the third year of the program, all the students from every site attend the university campus for classes and clinical. During the fourth year, students have the option of returning to their original site. This survey was administered only on the university campus. The sample consisted of students in all four levels as follows: 27.8% first year; 26.8% second year; 33.5% third year; and 11.8% fourth year.

Participation was solicited through pre-authorized announcements that were made by one of the two undergraduate student research-assistants at the end of scheduled nursing classes to avoid the risk or potential for coercion. Students were given information regarding the purpose of the study and their rights as participants including their right to withdraw from the study at anytime. A written letter and consent form explicitly explained this right (Appendix C). Consents were obtained by the student research-assistant who also administered the questionnaire to study participants. The classrooms had tables, chairs and adequate lighting. The survey took approximately 15 to 20 minutes to complete. There were no restrictions to participation in the study with regard to age or gender. Only students who were in the Post-Diploma program (RN-to-BScN) were excluded from participation. These students already have a diploma in nursing (i.e. practicing nurses) and are pursuing their university degree in a variation of the basic generic degree program being examined.

Ethics Considerations

This original study was approved by the university Research Ethics Board (REB) in January 2005. Approval of secondary data analysis was also granted by the REB at the same university prior to the conduct of this study. Confidentiality of participant responses was protected through coding of student identifiers. The unique coding system was described to the participants in an instruction sheet (Appendix D) and was used the purpose of both data collection and data entry. This system allowed for the linkage of student responses while protecting the anonymous nature of their responses and concealing their identity. As a result of this coding system, students' names and university identification numbers were not used nor requested on any of the data collection sheets. The completed questionnaires are kept in a locked cabinet in the researcher's office. Access to the computer where data is stored is password protected. Data collection sheets will be destroyed within five years of completion of the study and publication of its results.

Participating students were informed that participation was completely voluntary and that they could withdraw at any time without consequence. They also had the option of refusing to answer any of the questions and still remain in the study.

Data Collection Procedures

Data were collected during the beginning of the second semester of the academic year in mid-January 2005. The designated researcher and research-assistant made arrangements to attend the last ten minutes of a nursing theory class for all four levels of undergraduate nursing students. The researcher described the purpose of the study, the risks and benefits of participation in the study, and invited students to participate. All

faculty members, including the researcher, were then excused from the room, to return to their offices so as not to be in view of the exit doors of the classroom. Only those students who were willing to participate in the survey were asked to remain in the classroom. A research-assistant administered the survey and remained in the room until all surveys were completed and submitted.

A flyer requesting participation in the study was also posted on the nursing student communication boards (Appendix E) to give students who were not available to complete the survey in class the opportunity to participate in the study. This subset of students was given the opportunity to pick up a study questionnaire, complete it, and return it to a secured drop box. A research-assistant returned to the classroom two weeks later and administered the same survey to all students who had completed the survey the first time. A database of student responses was created using the Statistical Package for the Social Sciences (SPSS).

Data Analysis

Descriptive statistics. Descriptive statistics for this data analysis included examination of the mean, median, mode, and frequencies of responses. The database was examined for the amount and pattern of missing data. To determine if the missing data was random or systematic, *t* tests were performed by regrouping data into 2 categories (those cases that have missing data on a variable; and those that do not have missing data). If no significant difference exists between the two groups, the missing data is most likely random and not a concern to the researcher (Munro, 2005). Outliers or values that fall outside of the bulk of the other values were also examined. According to Munro, outliers can be due to: errors in recording; participants not following instructions; or an

"unusual subject" (p. 54). Distributions of continuous variables were also checked for normality. Lack of normal distribution was treated according to the guidelines outlined in Tabachnick and Fidell (2001).

Validity Testing

Face and content validity. Validity refers to the degree to which an instrument "measures what it purports to measure" (Nunnally & Bernstein, 1994, p. 83). Face validity is an informal judgment of whether the instrument appears to measure the construct of interest (Nunnally & Bernstein, 1994; Waltz, Strickland, & Lenz, 2005). It can be assessed by individuals for whom the instrument is designed (Nunnally & Bernstein, 1994).

Face validity was assessed by twenty-two undergraduate nursing students who were currently enrolled in one of the four levels of the program. These students volunteered to review the initial 99-item questionnaire for clarity, relevance, and structure of the statements. The cover letter and packet provided to these students is included in Appendix F.

Content validity refers to whether the items selected or developed for the survey are relevant and encompasses the full scope of the construct under investigation (Waltz et al., 2005). In this study, content validity of the revised 62-item questionnaire was performed by four students (two from third year and two from fourth year). The selection of these students was based on academic performance and the academic research experience that the investigating team had with those individuals.

Construct validity. Construct validity is defined as: "the extent to which relationships among items included in the measure are consistent with the theory and

concepts" (Waltz et al., 2005). Factor analysis has been identified as an effective method to evaluate construct validity when a variety of domains have been identified for the subject of interest (Waltz et al., 2005) and has been used frequently in nursing in the development of instruments (Munro, 2005). Exploratory factor analysis was employed to determine construct validity in this study with principal component analysis utilized for extraction.

Factor analysis is a method of grouping data into meaningful clusters (Field, 2005) to provide information related to which items on a scale should be grouped together and which should be eliminated (Munro, 2005). Cronbach's alpha was calculated for each subscale to determine internal consistency or whether the items on the subscale are actually a reflection of the broader construct, in this case, student satisfaction.

Principal component analysis generated a factor matrix of the correlation of each item with each factor (factor loading) as well as the amount of variance explained by each factor (eigenvalue) (Munro, 2005). Items with a factor loading of 0.40 and higher were included in further analysis. Factors with eigenvalues of 1.00 or above were also considered to explain a significant amount of variance (Burns & Grove, 2001). An additional method used to determine the significance of a factor is the examination of the scree plot (Field, 2005). This is a graph of the eigenvalues of the factors to better visualize the relative importance of each factor (Field, 2005). Varimax factor rotation is a form of orthogonal rotation that "attempts to maximize the dispersion of factor loading within factors" (Field, 2005, p. 749). This rotation was conducted to allow for more distinct clustering of items on the identified factors. Items under each factor were

carefully assessed with regard to their indications to determine the appropriate name for the cluster.

Predictive validity. Predictive validity is "an instruments ability to differentiate between people's performances or behaviours on some future criterion" (Polit & Beck, 2007, p. 322). The predictive value of the proposed UNSASS was examined by exploring its ability to identify the predictors of satisfaction levels such as high school grades, self-reported GPA and demographic variables using linear regression analysis. This step was done following reliability testing.

Reliability Testing

Stability. Reliability refers to the stability and consistency of an instrument (Nunnally & Bernstein, 1994). Intra-rater reliability is a rater stability test that will be measured through test-retest procedures. When an instrument is administered to the same individuals on separate occasions, the stability of the survey is measured by examining the two sets of scores (Polit & Beck, 2007). In this study, participants completed the same survey a second time two weeks following the first administration. Two weeks has been established as an appropriate time frame for the retest (Waltz et al., 2005). An assumption of this test is that given the factors examined are unchanged differences in the two scores can be attributed to random error (Burns & Grove, 2001). Pearson's correlation coefficient was calculated for the two sets of scores to determine the variation.

Consistency. Internal consistency of the entire scale was measured through calculation of Cronbach's alpha coefficient, which "represents the extent to which performance on any one item in an instrument is a good indicator of performance on any other item in the same instrument" (Waltz et al., 2005, p. 140). In addition, internal

consistency on each subscale was evaluated. The alpha value ranges from 0 to 1, with higher values indicating the items on a scale or subscale are measuring the same trait (Nunnally & Bernstein, 1994; Waltz et al., 2005). A value of .7 or higher has been identified as acceptable for "a newly developed psychosocial instrument" (Burns & Grove, 2001, p. 396). The split-half technique was also employed. In this method, the scale is divided randomly into two halves and the correlation between the halves is measured. The correlation coefficient indicates the extent to which the two halves are measuring the same attribute (Polit & Beck, 2007).

CHAPTER FOUR: Results

This chapter summarizes the results of the statistical analysis. Data screening and analysis is described followed by a summary of the sample characteristics. The analysis related to the instrument testing for validity and reliability measures is provided. All statistical calculations were made through use of the Statistical Package for the Social Sciences (SPSS) version 18.

Data Screening and Analysis

The data were screened for missingness, outliers, and normality. The percentages of missing data related to the demographic characteristics of the participants are listed in Table 1. Of the 313 completed surveys, nine had missing data on one of the 62 survey items. These were treated with case mean substitution in order to maintain the sample size. Case mean substitution has been reported as an appropriate method for treating missing data on psychometric measures (El-Masri & Fox-Wasylyshyn, 2005).

The demographic characteristics of the sample are displayed in Table 5. Two variables were deleted from analysis due to a high level of missing data (33.2% in each variable). These two variables were related to the participants' employment status (part-time or full-time) and job type (nursing or non-nursing). A third variable, which addressed whether the participant had ever studied in any other nursing program was also deleted due to the lack of clarity of the survey question. Missing data for the demographic variables were corrected with substitution of the most common response for the variable (i.e. missing data for the *gender* variable was added to the *female* category).

Table 5

Demographic Characteristics

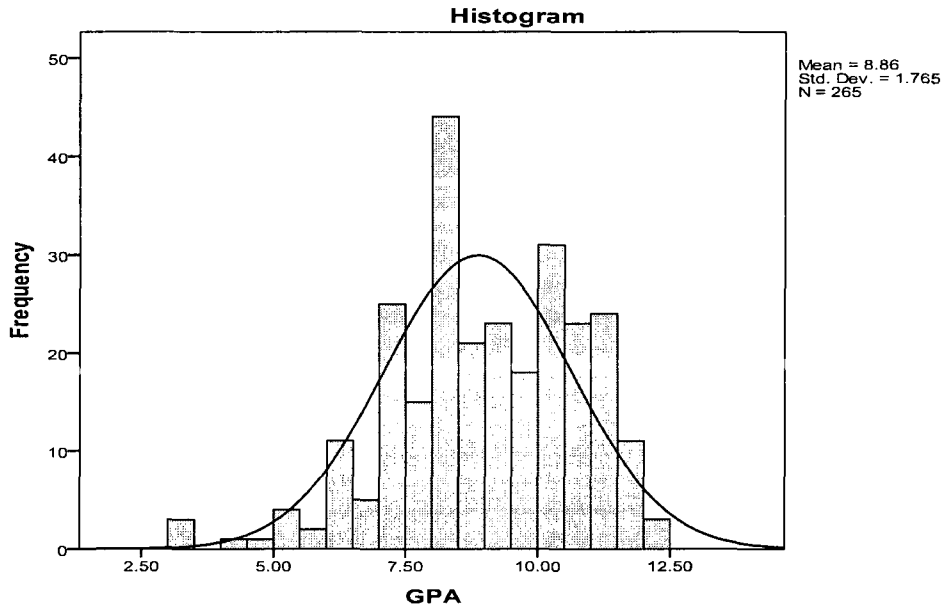
Variable	*N (%)*	*Variable*	*N (%)*
Gender		High School Average	
		60-70	13 (4.2)
Female	275 (87.9)	71-80	138 (44.1)
Male	27 (8.6)	81-90	141 (45)
Missing	11 (3.5)	91-100	12 (3.8)
		Missing	9 (2.9)
Race		Enrolment Level	
White	241 (77)	1st level	82 (26.2)
Black	16 (5.1)	2nd level	83 (26.5)
Asian	29 (9.3)	3rd level	104 (33.2)
Other	17 (5.5)	4th level	37 (11.9)
Missing	10 (3.2)	Missing	7 (2.2)

Table 5 (cont'd)

Birth Country		Other Diplomas	
Other	71 (22.7)	No	268 (85.6)
Canada	235 (75.1)	Yes	37 (11.8)
Missing	7 (2.2)	Missing	8 (2.6)
Job		Failed a Course	
No	97 (31)	No	285 (91.1)
Yes	209 (66.8)	Yes	21 (6.7)
Missing	7 (2.2)	Missing	7 (2.2)
High School Place		Collaborative College Student	
Other	19 (6.1)	No	271 (86.6)
Canada	287 (91.7)	Yes	35 (11.2)
Missing	7 (2.2)	Missing	7 (2.2)

The demographic variables were either categorical or ordinal with the exception of current GPA, which was a continuous variable. This variable's distribution was explored for normality. The kurtosis value was .3 and the skewness value was -.531 indicating normal distribution (see Figure 2) (Munro, 2005, p. 47).

Figure 2. GPA histogram



The mean of the self-reported GPA scores was 8.86 (SD $\pm$ 1.77) with 15.3% missing data on this variable. Students may have chosen not to share this information with the researcher. A dummy variable was created, labelling the GPA data as either reported or missing. A chi square test was conducted comparing the GPA missing data with the reported high school averages. The result was not significant ($X^2 = .002$, df = 1, $p = .961$).

A Chi square test was also conducted comparing the missing GPA data and whether the students had failed a course in the nursing program. The results were not significant ($X^2 = .019$, df = 1, $p = .890$). Of the participants who had reported failing a

course in the program, 14.3% did not report their GPA and 15.4% did report their GPA. The results of the comparison between missing GPA and both high school averages and course failure suggest that data missingness was not systematic. Group mean substitution was therefore utilized for the missing GPA data.

There were also five outliers in the GPA variable. The reported GPA in these outliers was less than five which would constitute a failing GPA in the nursing program. None of the participants with these low reported GPAs had indicated that they had failed a course in the program previously. There may have been some confusion with reporting of these variables as the GPA ranking may vary at institutions and four of the five participants were first year students. These outliers were treated with group mean substitution with the mean GPA for the level the student belonged to substituted for the outlier. In this case, there were four first year students ($X = 8.3$) and one third year student ($X = 9.1$). The revised histogram (Figure 3) and Q-Q plot (Figure 4) indicate a normal and linearly distributed variable.

Figure 3. Revised GPA histogram

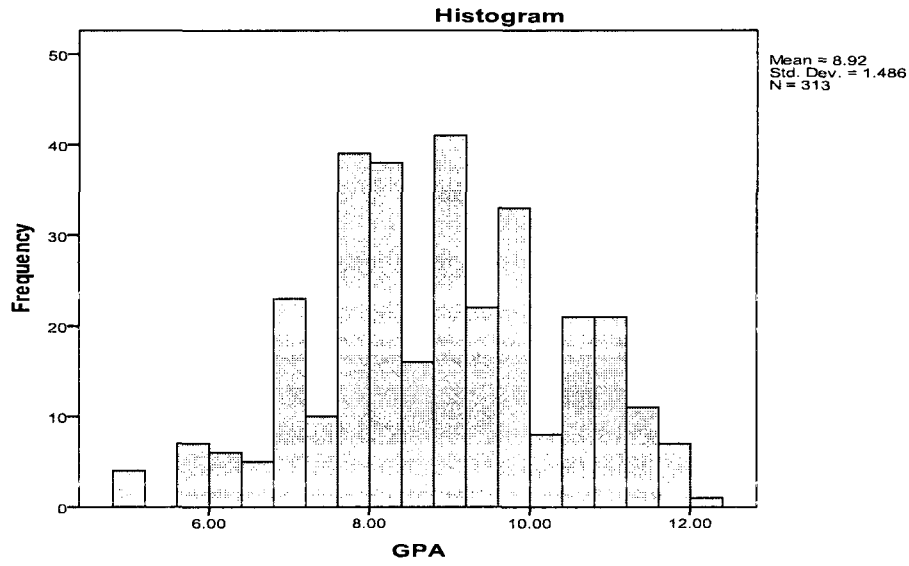
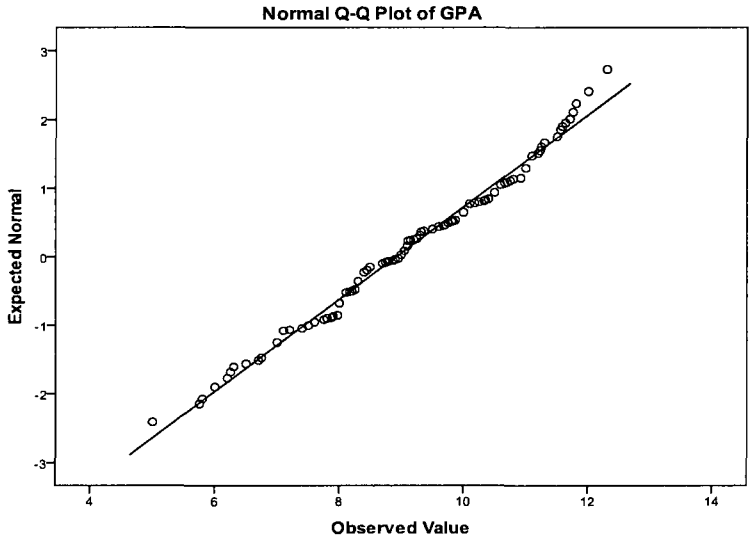


Figure 4. Q-Q plot



Sample Characteristics

The majority of participants in the study were female (N = 275, 87.9%), white (N = 241, 77%), and Canadian (N = 235, 75.1%). All four levels of students were represented in the sample but with higher participation in the first three levels (1st level:

N = 82, 26.2%; 2nd level: N = 83, 26.5%; 3rd level: N = 104, 33.2%). The majority of participants also reported having a job outside of school hours (N = 209, 66.8%). Only 6.7% (N = 21) reported having ever failed a course in the nursing program. Collaborative college students comprised 11.2% (N = 35) of the sample. The overall mean of the GPA scores was 8.86 (N = 313). The mean GPA score for each of the four levels was 8.5; 9.3; 9.1; and 8.4 respectively.

Psychometric Testing of the UNSASS

Validity

Face and content validity. Face validity of the original 99-item survey was assessed by twenty-two undergraduate nursing students. This process resulted in the reduction of survey items to 62. Questions were revised or deleted based on the written feedback from this panel of judges. An example was the combination of item # 20 *Clinical instructors provide feedback on performance in a positive manner* and item #21 *Clinical instructors give me formal and informal feedback concerning my clinical experience* to form the new item # 11 *Clinical instructors provide me verbal and written feedback on performance concerning my clinical experience.* Also, items that were written in the negative form were deemed by members of the panel to be confusing and thus were revised. For example, item # 18 was originally worded as *clinical instructors often fail to give me sufficient guidance before I perform technical skills.* This was changed in the new item # 9 to *clinical instructors give me sufficient guidance before I perform technical skills.* The panel members made recommendations regarding additional details that impact satisfaction. One example included the modification of item #84 in the initial questionnaire, *required textbooks and other learning materials are*

readily available at the university bookstore, to the new item # 57 r*equired textbooks and other learning materials are readily available* ***with reasonable prices*** *at the university bookstore.* The written comments from the panel judges are provided in Appendix G.

Content validity of the 62-item survey was assessed by four undergraduate nursing students. These students were asked to rate each item with regards to its relevance to undergraduate student academic satisfaction on a five-point likert scale ranging from strongly irrelevant to strongly relevant. The content validity index (CVI) is determined by calculating the proportion of items that are rated as relevant or highly relevant by all of the reviewers (Waltz et al., 2005). The CVI of the survey was 0.83, indicating that 83% of the items were rated as relevant or highly relevant to the construct of student satisfaction by all four reviewers.

Construct validity. Exploratory factor analysis, principal components approach, was used to determine construct validity of the scale. Varimax orthogonal rotation method was explored in the factor extraction process. Orthogonal rotation results in factors that are uncorrelated with each other and is an appropriate method for instrument development in which there are independent subscales (Munro, 2005). Results from orthogonal rotations are more parsimonious in which analysis is more replicable than oblique rotations (Munro, 2001).

Initially, all 62 items were included in the analysis. Additional analysis was conducted, decreasing the number of factors and items, based on eigenvalues and factor loading scores. Factors with eigenvalues greater than one were considered significant and items with factor loading scores of at least 0.4 were retained. The factor analysis steps are displayed in Table 6 and are described in detail in the section below.

Table 6

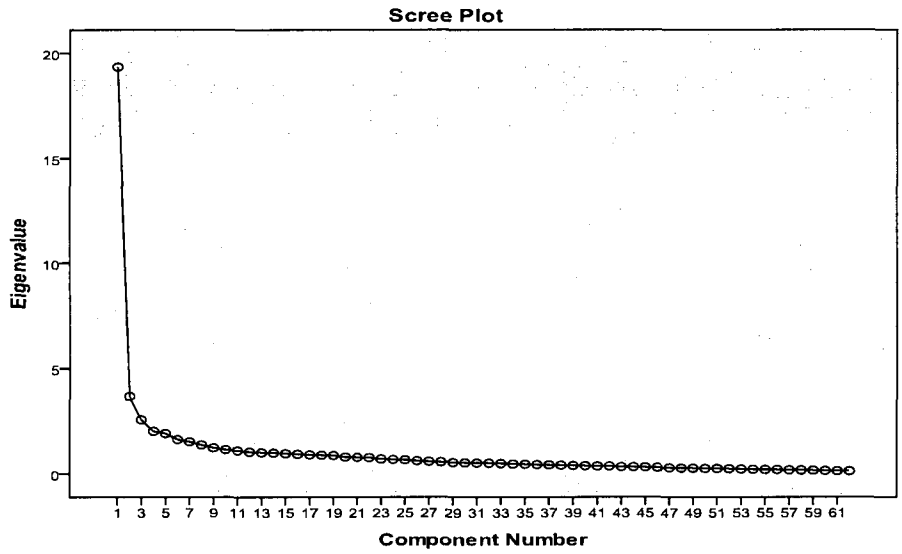
Factor Analysis Results

Analysis Attempts	*# Factors*	*Total Variance explained*	*# items per factor*	*Double-loaded items*	*Poor loading items (<0.4)*
1 All 62-items included: completely exploratory	8	54.9%	15, 9, 7, 5, 4, 4, 2, 2	#31	7, 16, 23, 32, 36, 41, 44, 45, 46, 50, 53, 57, 58
2 Forced 6 factors	6	50.25%	16, 14, 13, 4, 4, 1	#30, 32, 43, 52	7, 16, 23, 36, 41, 45, 46, 51, 53
3 Forced 5 factors	5	47.6%	17, 14, 14, 4, 2	#22, 30, 32, 33, 43, 52	7, 16, 23, 36, 41, 46, 48, 50, 51, 53, 57
4 Forced 4 factors	4	44.5%	18, 15, 13, 5	#31, 33, 43, 61	7, 16, 23, 36, 41, 48, 50, 51, 53, 56, 57
5 Forced 4 factors and deletion of poor loading items	4	50.13%	18, 15, 13, 5	#30, 32, 33, 43, 52	(deletion of 7, 16, 23, 36, 41, 48, 50, 51, 53, 56, 57)
6 Forced 4 factors, deletion of poor loading items and double-loaded items	4	50.13%	16, 15, 12, 5	(deletion of #32, 43, 30)	(deletion of 7, 16, 23, 36, 41, 48, 50, 51, 53, 56, 57)

The initial analysis included all 62 items and resulted in items significantly loading on eight factors, based on the scree plot method, accounting for 54.9% of the

variance (see Figure 5: Scree plot). The first factor accounted for 31.2% of the variance. The number of items in each factor was 15, 9, 7, 5 (with one double-loaded item # 31), 4, 4, 2, and 2 respectively. Four of the factors contained less than five items and an additional factor contained five items with one item loading on two factors. The items in the last two factors related to *faculty secretaries* and with *the value of class attendance.* Thirteen items did not have sufficient loading (i.e. < 0.4) on any of the eight factors (items # 7, 16, 23, 32, 36, 41, 44, 45, 46, 50, 53, 57, 58).

Figure 5. Initial Scree Plot (with all 62-items included)



Factor analysis was repeated, forcing six factors loadings. The number of items in each factor was 16 (3 with double-loaded items # 30, 43, 52), 14, 13 (1 with double-loaded item #32), 4, 4, and 1 respectively. The six factors accounted for 50.25% of the variance. The item included in the last factor was related to the knowledge of faculty members (item #22). The factors with four items each were related to program resources (lab and library) and faculty/secretary attitudes. The first factor included 16 items with three of these items loading above 0.4 on two different factors. These items related to

classroom teaching effectiveness; the caring/helpfulness of faculty; and faculty as role models. Nine items did not load sufficiently on any of the factors (items # 7, 16, 23, 36, 41, 45, 46, 51, 53). Given that several items had double loadings, factor analysis with the forcing of a five factor solution. This approach resulted in two factors with less than five items. These factors related to faculty secretaries and to program resources. The number of items in each factor was 17 (4 with double-loaded items # 22, 30, 43, 52), 14, 14 (2 with double-loaded items # 32, 33), 4, and 2 respectively. The five factors accounted for 47.6% of the variance. Eleven items did not load sufficiently on any of the factors (items # 7, 16, 23, 36, 41, 46, 48, 50, 51, 53, 57).

Factor analysis with the forcing of a four factor solution resulted in a factor one with 18 items (2 with double-loaded items # 43 and 61); factor two with 15 items; factor three with 13 items (two double-loaded items # 31 and 33); and factor four with five items. These four factors accounted for 44.5% of the total variance. Eleven items again did not load sufficiently on any of the factors with only two item differences between the five- and four-factor solution Item # 46 (faculty behave professionally) did not load with the five-factor solution; item #56 (library resources) did not load with the four-factor solution. Analysis was repeated again with deletion of the poor-loading items (items # 7, 16, 23, 36, 41, 48, 50, 51, 53, 56, 57). The results contained five double-loaded items, three items within factor one and two items within factor three. The content of these items were examined to ensure deletion would not compromise the instrument's purpose. Item analysis is included in Table 7.

Table 7

Analysis of Double-loaded Items

Item #	*Double-loaded Item Content*	*Similar Items in Survey*
30	Faculty members are very good at explaining things	#18 The quality of instruction I receive in my classes is good and helpful #22 Faculty members demonstrate a high level of knowledge in their subject area
32	Faculty members try to make their subject interesting	#18 The quality of instruction I receive in my classes is good and helpful
33	There is a commitment to academic excellence in this program	Item #40 is similar (Most of the courses in this program are beneficial and contribute to my overall professional development) but does not adequately cover this content. This item loaded significantly higher on factor three (.561) than factor one (.440). This item was kept in the analysis.
43	Faculty members and clinical instructors are caring and helpful	#20 Faculty members are easily approachable #26 Faculty members make every effort to assist students when asked #10 Clinical instructors are approachable and make students feel comfortable about asking questions
52	Faculty members are good role models and motivate me to do my best	Other content in the survey does not address role modeling. This item loaded significantly higher on factor one (.521) than on factor three (.414). This item was kept in the analysis.
61	The administration shows concern for students as individuals	No similar item in survey. This item loaded significantly higher on factor one (.509) than factor four (.442). This item was kept in the analysis.

The results of the item analysis supported the deletion of three items (# 30, 32, and 43) from the factor analysis. Items #33, 52, and 61 were maintained in the analysis to preserve their content in the survey. The scree plot graph (Figure 6) for the final four factor instrument illustrates more distinct factors. The resulting factors contain 16, 15, 12, and 5 items respectively and accounted for 50.12% of the total variance. Three items (# 33, 52, and 61) again loaded above 0.4 on two different factors but with differences in loading values that exceeded 1.0 (see Table 8).

The new four factors closely resemble the original five domains of the UNSASS with the following exceptions:

1. The *culture* domain was deleted. Four items did not load on any of the factors (#48, 50, 51, and 53). The remaining five items loaded with one of the other four factors.
2. Three items (#17, 18, and 28) moved from *in-class teaching* to *the program.*
3. Three items (#55, 58, and 61) moved from *support and resources* to *in-class teaching.*

(See Table H for revised 48-item questionnaire)

Figure 6. Scree Plot after deletion of poor loading and double-loaded items

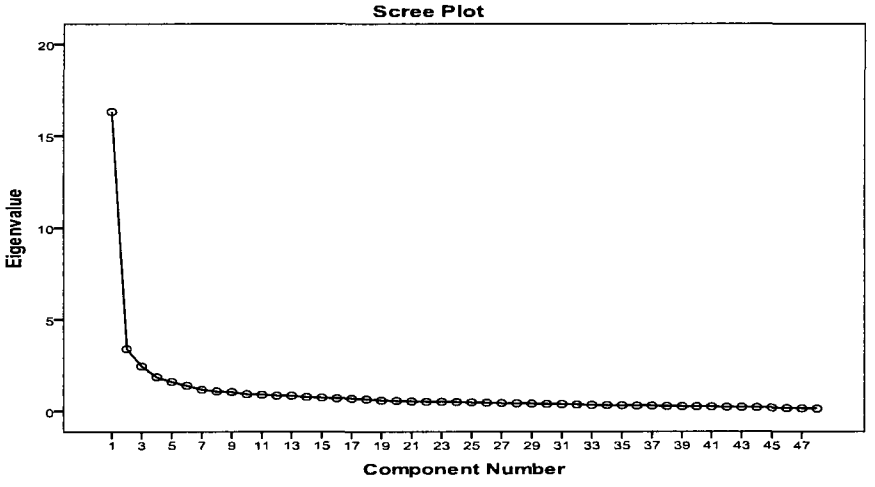


Table 8

Factor analysis: 4 factors after deleting poor loading (#7, 16, 23, 36, 41, 48, 50, 51, 53, 56, 57) and redundant items (#30, 32, 43)

Factor 1 In-class Teaching		*Factor 2 Clinical Teaching*		*Factor 3 The Program*		*Factor 4 Support and Resources*	
Eigenvalue: 16.335		*Eigenvalue: 3.399*		*Eigenvalue: 2.461*		*Eigenvalue: 1.866*	
% of variance: 34.032		*% of variance: 7.081*		*% of variance: 5.126*		*% of variance: 3.888*	
Item	*Loading*	*Item*	*Loading*	*Item*	*Loading*	*Item*	*Loading*
27	.751	10	.762	39	.727	59	.771
20	.718	14	.760	34	.719	47	.728
26	.710	15	.721	40	.705	60	.560
31	.672	9	.706	18	.649	62	.465
25	.633	12	.691	38	.642	54	.458
49	.633	1	.645	35	.615		
21	.628	8	.641	37	.608		
24	.626	5	.639	33	.563		
19	.575	11	.620	28	.547		
58	.567	13	.552	17	.517		
52	.520	4	.529	42	.517		
61	.514	3	.511	44	.431		
22	.468	6	.481				
55	.453	2	.439				
45	.441	46	.402				
29	.441						

Reliability

Consistency. Internal consistency of each subscale was analysed through calculation of Cronbach's alpha (see Table 9). The Cronbach alpha for each subscale was .92, .91, .91, and .74 respectively indicating good to excellent reliability (Burns & Grove, 2001). Each subscale's coefficient was examined to determine if deletion of any item would result in an increase in the reliability of the scale. Deletion was not indicated for any of the scales. Cronbach's alpha for the entire scale was .957.

Table 9

Internal Consistency

Factor	*Alpha*
In-class teaching	.92
Clinical Teaching	.91
The Program	.91
Support and Resources	.74
Overall Total Scale	.96

The results of the split-half reliability are displayed in Table 10. The correlation coefficient was .931 for part 1 and .915 for part 2. The correlation between the two forms was .817. The high degree of correlation suggests that the survey is measuring a single construct.

Table 10

Split-Half Reliability Coefficients of the Entire Scale

Alpha		*Correlation between*	*Guttman split-half*
Part 1	*Part 2*	*forms*	*coefficient*
.931	.915	.817	.896

For test-retest reliability, 162 participants (52%) completed the survey the second time two weeks after the first survey. Pearson *r* values above .7 demonstrate good test-retest reliability (Polit, 1996). The Pearson *r* for four factors ranged from .7 to .86 with an overall scale value of .88. These results suggest that the UNSASS demonstrates consistency over time (see Table 11).

Table 11

Test-Retest Reliability

Variables	*M± SD*	*Pearson's r*	*p*
Factor 1: In-class teaching			
Before	56.31 ± 10.12	.81	< .001
After	56.79 ± 10.06		
Factor 2: Clinical Teaching			
Before	56.90 ± 9.38	.86	< .001
After	54.69 ± 9.76		
Factor 3: The Program			
Before	44.02 ± 7.58	.80	< .001

After	44.33 ± 7.60		
Factor 4: Support and Resources			
Before	18.93 ± 3.16	.70	< .001
After	18.75 ± 3.17		
Overall Scale			
Before	176.28 ± 25.91	.88	< .001
After	175.12 ± 25.88		

The correlation of the four factors was analyzed through calculation of Pearson's *r* coefficient (see Table 12). The correlation of factors one, two, and four ranged from .43 to .59 indicating a low level of correlation. The correlation of factors one and three was .73 indicating a stronger correlation. Factor one includes questions related to in-class teaching such as faculty feedback, attitudes, and availability. Factor three includes questions related to the overall program such as program requirements, quality of instruction, and value of the courses. While the individual items loaded significantly on each of the scales, it is understandable that there is a correlation between the specific faculty questions and the overall program questions as they all relate to student satisfaction.

Table 12

Correlation between Factors

	Pearson r Correlation			
Factor	1	2	3	4
1	1			
2	.59	1		
3	.71	.57	1	
4	.52	.43	.51	1

Predictive validity. Following reliability analyses, predictive validity was examined through linear regression to explore which variables predict satisfaction as measured by the UNSASS. A variable entitled *overall satisfaction* was created and defined as the sum of scores of the four factors. This new continuous variable was examined for outliers by transforming individual row scores to standardized scores (z-scores). A score that exceeds ± 3.29 was deemed to be outlier. Only one score exceeded 3.29 and was therefore considered an outlier. The actual value of this score was 74. The closest value to this outlier was 104. Tabachnick and Fidell (2001) recommend changing the outlier value to a value that is one unit smaller than the next closest value. The value was changed to 103. The scores for overall satisfaction ranged from 103 to 234 with a mean value of 176.28. The skewness value of -.454 and kurtosis value of .368 indicate normal distribution. The overall satisfaction histogram (Figure 7) and overall satisfaction Q-Q plot (Figure 8) are displayed below.

Figure 7. Overall Satisfaction Histogram

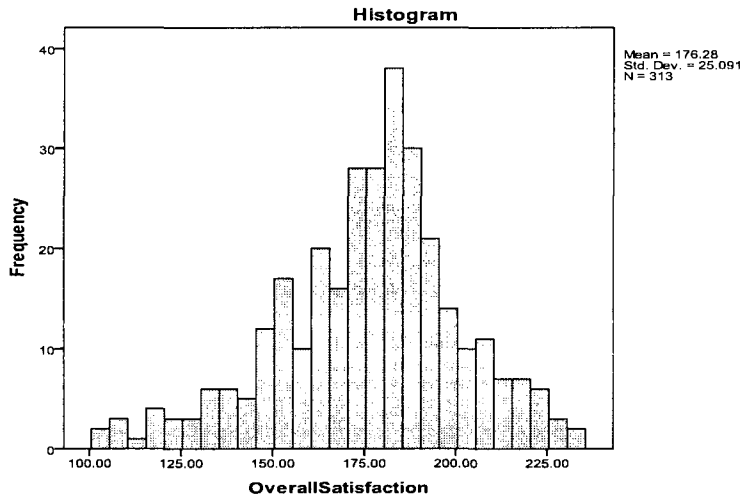
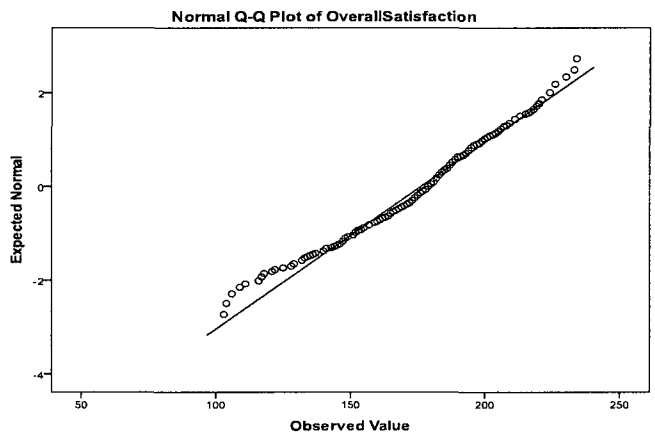


Figure 8. Overall Satisfaction Q-Q plot



In order to meet the requirement for dichotomous variables, two of the categorical variables were transformed into dummy variables. These variables were high school average and enrolment level. The grade range of 60 to 70% was chosen as the reference variable for the high school averages. Level one was chosen as the reference variable for enrolment level. The race variable was changed to *white* and *all others*.

The correlation between each independent variable and the dependent variable (overall satisfaction) was examined. T-tests were analyzed for the dichotomous variables

(gender, race, birth country, other diplomas, job, course failure, high school place, and collaborative student). ANOVA was run for the ordinal variables (high school average and enrolment level). Pearson correlation was run on the continuous variable (GPA).

There was no significant difference in overall satisfaction scores with gender, race, birth country, job, course failure, high school place, and collaborative student. There was a difference between those students who had another diploma (t = -2.328; p = .025). The ANOVA analysis results suggest a significant difference between those students who had a high school average above 90 and the students who were in the other three categories (60 to 70; 71 to 80; and 81-90) (F = 5.093; p = .002). There was also a difference between first year students and all other levels of students (F = 15.583; $p <$ .001). There was no significant correlation between overall satisfaction and GPA (r = -.049; p > .05).

Standard and stepwise linear regression were run with the following variables included: gender, race, birth country, other diplomas, job, course failure, high school place, collaborative student, high school average, enrolment level, and GPA. The variables which contributed significantly to the model were consistent in both methods of regression. The variables included: high school average above 90%; level of enrolment; and other diploma. These results are also consistent with the t-test results above. Results are displayed in Table 13.

Table 13

Stepwise Regression Analysis Results

Variable	*B*	*Standard Error*	*Beta (β)*	*t*	*Significance*
Level 2	-17.229	3.501	-.305	-4.921	.000
Level 3	-21.554	3.344	-.406	-6.446	.000
Level 4	-13.346	4.495	-.172	-2.969	.003
Level 1 (reference)	-	-	-	-	-
High School Average 91-100	-22.104	6.797	-.169	-3.252	.001
Other diplomas	-8.822	4.047	-.114	-2.180	.030

$R^2 = .208$

Students in level one were the most satisfied, followed by level 4 and level 2. The least satisfied student group was level three. Students with the highest high school averages (91 to 100%) were less satisfied than students with all other reported averages. Those students who had a diploma in another field of study were less satisfied than those who did not have any previous higher education.

Summary

Through this analysis, the UNSASS has been proven to be a valid and reliable instrument. Construct validity was demonstrated through exploratory factor analysis, resulting in a 48-item scale with four of the original five factors included with slight modifications. Internal consistency was demonstrated through calculation of Cronbach's

alpha ($\alpha = .96$) and split-half reliability ($\alpha = .817$). Consistency over time was demonstrated through test-retest analysis ($r = .7$ to $.81$). The four factors also demonstrated acceptable levels of correlation ($r = .43$ to $.73$). Predictive validity testing suggests that students who reported high school averages that exceeded 91% or have a diploma in another field of study are less satisfied. Level one students were the most satisfied, followed by level four and two. The least satisfied students were in level three.

CHAPTER FIVE: Discussion

This chapter presents a discussion of the study results. This includes discussion of the psychometric properties (i.e. validity and reliability) of the UNSASS, implications and recommendations for nursing practice and research, and the limitations of the study.

Validity

Face and content validity of the UNSASS was established in the initial instrument development phase. Face validity was determined by feedback from 22 undergraduate nursing students, who were enrolled in the program at the time of the study. The feedback from these students resulted in the original 99-item survey being reduced to 62-items. The deleted items were deemed as either redundant or irrelevant to the concept. Face validity testing also resulted in linguistic revisions and edits to clarify potentially ambiguous terms and/or statements. Content validity was then assessed by two third year and two fourth year undergraduate students. The final content validity index was .83, indicating that the relevance of the items on the scale was very good. This exceeds the recommended level of .80 (Waltz et al., 2005). Of the items that did not score as relevant, only one of the judges had indicated that the item was irrelevant (i.e. had indicated that the item was strongly or somewhat irrelevant).

Construct validity was established through exploratory factor analysis with components extracted through principle component analysis. The final four factors that were extracted had eigenvalues greater than one and item loadings greater than 0.4. While Kaiser's criterion of retaining factors with eigenvalues greater than one is used widely in existing research, not all authors are in agreement with its accuracy in determining the number of factors (Burns & Grove, 2001; Nunnally & Bernstein, 1994).

In this study, the scree plot was also examined. It was evident that the graph of the eigenvalue scores levelled after the fourth factor, giving further confidence with the four-factor solution. Minimum factor loading values of 0.3 is recommended by several authors (Burns & Grove, 2001; Munro, 2001; Waltz et al., 2005). In nursing student satisfaction studies which included factor analysis, the acceptable loading scores varied from 0.3 (Liegler, 1997) to 0.4 (El Ansari & Oskrochi, 2004) and 0.5 (Espeland & Indrehaus, 2003). In this study, loading scores ranged from 0.402 to 0.771, with each factor having several high loading scores (i.e. above 0.5). This gives evidence to validity of the instrument and the strong correlation between the items and the factors.

Factor analysis supported four of the five originally proposed domains of the UNSASS with slight modification in item loadings. The original domain entitled *culture* was not supported but several of the items that were thought to explain this domain loaded on one of the other four factors. Three of the items related to the overall impression that faculty created; whether faculty were good role models; and if concerns could be freely expressed. These items closely relate to faculty teaching and correlated with the *In-class Teaching* factor. Another culture related item that pertained to the support provided by the faculty secretaries highly correlated with the *Support and Resources* factor. The last culture item was related to the professionalism of faculty and correlated with the Clinical Teaching factor. In nursing, professionalism is frequently discussed within the context of the actual practice of nursing in hospitals and other agencies. It is therefore appropriate that this item is included in evaluation of the faculty that teach the clinical practicum. The resulting 48-item instrument is more parsimonious and has items related to organizational culture woven into the data driven four factors.

The resulting four factors (in-class teaching, clinical teaching, the program, and support and resources) accounted for 50.12% of the total variance. Although other researchers have approached the assessment of nursing student satisfaction in a variety of ways and with varying factors, the reported total variance is similar (Liegler—42%; Espeland and Indreus—51%; and El Ansari & Oskrochi—55%). Academic satisfaction is a subjective experience and as the expectancy theory and satisfaction model suggests, is reliant on individual expectations and values. Given all the potential variables that account for students' academic satisfaction, explaining one half of the variance with four factors is clinically significant.

Of the four factors, *In-class Teaching* accounted for the greatest amount of variance (34%). This is consistent with existing literature (Corts et al., 2000; Douglas et al., 2006; El Ansari, 2002a, 2002b; Elliott, 2002; Espeland & Indrehus, 2003; Grayson, 2004; Liegler, 1997) which suggests that faculty teaching is an independent predictor of satisfaction. This finding demonstrates the importance of faculty teaching to students. In this study, in-class teaching was incorporated as one of the four factors that actually defined undergraduate students' satisfaction.

The second factor entitled *Clinical Teaching* accounted for the next largest percentage of explained variance (7.1%). The clinical practicum of a nursing program is essential to the profession as it is where theory knowledge is actually applied into practice. Only two of the seven other nursing studies included this key component in their assessment of student satisfaction.

The third factor, *The Program*, accounted for 5.1% of the variance and examined satisfaction from an overall perspective. Items included in this factor related to the

commitment for academic excellence; enhancement of critical thinking skills; program requirements; and intellectual growth. Two other nursing studies included items related to the overall program but were limited to general organization and communication (Kinsella et al., 1999) or intellectual development and course stimulation (Liegler, 1997). Other studies (El Ansari, 2002a, 2002b; El Ansari & Oskrochi, 2004; Espeland & Indrehus, 2003) focused on specific courses. While the evaluation of satisfaction with a course is valuable, the UNSASS promotes a deeper reflection of satisfaction with entire nursing program.

The fourth factor, *Support and Resources*, accounted for 3.9% of the variance and included items related to the facilities, equipment, and support personnel. Only one nursing study (Liegler, 1997) and two non-nursing satisfaction studies (Bryant, 2006; Douglas et al., 2006) included similar items in their research. The coordination of a nursing program entails more than just the in-class teaching and clinical components. Other individuals (i.e. faculty secretarial staff and lab personnel) and resources impact the students' experience. The inclusion of this factor in the UNSASS contributes to a more comprehensive assessment.

Predictive validity analysis was performed by running a regression model in which the final 48-item instrument was used to measure satisfaction as an outcome. The results suggested only three variables were independent predictors of student satisfaction. These variables were: level of enrolment; having another diploma; and high school average. First year students were found to be the most satisfied. This is congruent with the nursing student studies done in the U.K. by El Ansari (2002) and El Ansari and Oskrochi (2004) in which first and third year students were included. However, second

and fourth year students were not reported in these studies, making true comparisons challenging. In Baykal's (2005) nursing study in Turkey, all four levels were included and first and third year students were found to be the most satisfied (M = 126.48 and M = 128.24, respectively). Findings related to the first year students could be considered congruent but the findings related to third year are contradictory. In this study, third year students were the least satisfied. Grayson's (2004) study, which was not specific to nursing found no change in satisfaction across four years. Confirming predictive validity is difficult due to the wide range of variables included in the studies, conflicting results, and variation in programs, streams, and expectation of students. However, it is possible that in our study, first year students were most satisfied due to the fact that they might have had lesser time to experience negative encounters that may be associated with course demands, marks, clinical rotations, and professional interactions.

Students who reported a high school average above 90 percent and those who had a previous diploma in a different discipline before entering the nursing program, were found to have lower overall satisfaction. The findings were consistent with other studies (Hoffman and Lowitzki, 2005; Kerridge and Mathews, 1998). Although there is a limited amount of research which includes these variables, Hoffman and Lowitzki (2005) found a negative correlation between high school grades and satisfaction and Kerridge and Mathews (1998) found that students who had a previous diploma were more critical of their higher education classes.

Reliability

The UNSASS demonstrated good to excellent internal consistency reliability with Cronbach's alpha on the four subscales ranging from .74 to .92 (Burns & Grove, 2001)

indicating a high level of correlation among the items in each factor. The internal consistency results of the factors exceed those reported in other nursing studies (El Ansari & Oskrochi, 2004; Espeland & Indrehus, 2003; Liegler, 1997). The overall scale value of .96 is an indication of excellent internal consistency and high correlation between the items and the construct of academic satisfaction. This far exceeds the .7 minimum acceptable value identified for a newly developed instrument (Burns & Grove, 2001). Split-half reliability was .82, also demonstrating high internal consistency. Test-retest reliability was assessed by 52% of the sample that completed the second round of the questionnaire at the recommended two week interval. Pearson's *r* for the subscales ranged from .7 to .8, indicating a reliably stable instrument over time.

Implications and Recommendations for Nursing Practice/Education

Assessment of student satisfaction in nursing programs is becoming more imperative as enrolment numbers continue to climb and student populations continue to change. In Ontario, there are governmental pressures to increase enrolment numbers due to an impending nursing shortage. There are also institutional pressures to increase revenue by increasing student numbers. Not only are the class sizes increasing, they are changing in other ways. Cultural diversity and generational differences impact student expectations. Measuring satisfaction levels with in-class teaching, clinical experiences, support and resources as well as the overall program can give valuable insight into the students' perception and program evaluation. The four factors of the UNSASS provide a comprehensive evaluation of a nursing program but could be utilized separately to assess a specific component independently. Further testing of the instrument with a variety of nursing programs could more accurately identify the predictors of student satisfaction and

allow for comparisons within and between programs utilizing a parsimonious instrument with generic factors present in all programs.

In this study, predictive validity analysis indicated three variables that significantly relate to student satisfaction (enrolment level, other diplomas, and high school average). First year students were the most satisfied in this study, followed by fourth year (B = -.172, p < .01), second year (B = -.305, p < .01) and lastly, third year (B = -.406, p < .01). The survey was completed after the first year students would have finished their first semester. They may still have been feeling excited at being accepted into the program and were looking forward to learning more about nursing. By second year students are presented with more challenges and are assigned to somewhat challenging clinical rotations, and thus may feel overwhelmed and discouraged. Second year is when most of the *hands-on* skills are taught and hospital rotations are started.

Third year had the lowest satisfaction level. For the collaborative program, this is the year that all students from the university and college sites come together on one campus. This results in larger class sizes and new expectations for the college students at a new institution. There are also higher overall expectations of a third year student in the nursing program. This finding is consistent with the expectancy theory and satisfaction model. In this case, the students' effort and performance may not have lead to the desired outcomes which impacted satisfaction level. While there was no significant difference in satisfaction between the college (N = 35) and university (N = 278) students, it seemed that all the students were equally dissatisfied at this level of the program (t = .886; p > .05). At the time that data was collected for this study, the collaborative program was in

its early stages of organization and development. This may have been a factor in overall student satisfaction at this level.

Fourth year student satisfaction rebounds back to close to first year levels. It is possible that these students would have been entering their final semester of the program and may have been looking forward to completion and graduation. To have pre-graduate students reflect positively on their education is an encouraging finding for a nursing program. Having almost completed the program, these students may have more realistic expectations regarding the effort that is required and the performance level that is needed in order to achieve the desired outcomes.

Faculty need to be aware of the variation in satisfaction among student levels. It may be important to ensure first year student understand the future program requirements and have realistic expectations. It may also be important to pay attention to the challenges that may negatively influence satisfaction of students in the second and third levels.

Students with reported high school averages above 90% and those with a diploma in another area had lower satisfaction than other students ($B = -.169, p < .01$; $B = -.114, p < .05$, respectively). These students may have different expectations. This is congruent with the expectancy theory in which past experience, in this case educational experience, influence expectations, motivation and resulting satisfaction. The students who had outstanding high school averages may be more competitive for grades and may desire these high grades in order to maintain a scholarship (valence). They may have the expectancy that their effort will result in high grades, similar to their high school experience. They may be more critical of the program due to these pressures. Therefore,

it is important that specific planning and interventions be directed to address the concerns and expectations of these sub-groups of students.

Students with another diploma have been in other programs, and therefore have something to compare with their current experience. They are usually older (age was not collected in this study) and thus may be paying for their own education. They may also resent the need for another degree in order to secure a job. Moe et al. (2009) found that second degree students placed a higher value on their nursing education than other students. Strage's (2008) study which examined traditional and non-traditional students' perception of the *ideal* professor and *ideal* course found that older students and more experienced students (i.e. those who transferred from another educational institution) were more concerned about being adequately prepared for their career and future. The younger students desired courses and teachers that were similar to their high school experience and were fun and engaging. These differences in values and expectations are indicators of satisfaction that must be kept in mind.

Implications and Recommendations for Research

There is limited current research in the area of nursing student academic satisfaction. This is the first Canadian study related to student satisfaction with their overall nursing program. Through this study, the validity and reliability of the UNSASS was established. Psychometric analysis resulted in a four-factor instrument which comprehensively measures nursing student academic satisfaction. Further research is required to examine satisfaction with the revised 48-item tool. Longitudinal studies, in which a student's satisfaction is tracked throughout the four years of the program, would be of value to examine the current trend. It would be interesting to see if the third year

students in the collaborative program were still the least satisfied or if changes have been implemented to ease the transition.

In this study, GPA was not correlated to satisfaction. Students with higher reported GPAs in the nursing program did not have higher satisfaction with the program. According to the expectancy theory and satisfaction model, outcomes lead to a level of satisfaction which leads to a level of motivation. The results of this study do not support this assumption. The findings suggest that students who were more satisfied were not necessarily more motivated to achieve higher grades. There is limited evidence in the literature related to GPA and satisfaction. Of the three studies which included grades, one reported a positive correlation of the specific course grade with satisfaction (El Ansari & Oskrochi, 2004); one non-nursing study suggested a positive correlation with overall GPA (Grayson, 2004) and one nursing study suggested an indirect positive correlation with GPA (Liegler, 1997).

There may have been some misunderstanding with the self-report of GPA scores. The demographic sheet contained a blank space for students to write in their GPA but as different institutions use varying ranges (i.e. U.S. use a four point range for GPA; the study institution's GPA ranking ranges from one to thirteen) this may have affected the results. All of the outliers (five in total) were below five which would indicate very low grades yet these participants did not indicate having failed a course in the program previously. There was also 15.3% missing data with this variable. While this may have been related to the students not wanting to disclose this information, there may also have been confused regarding which number to report. Clarifying the range and grade on the demographic sheet is recommended for future studies.

Another possible explanation for the lack of a correlation between GPA and satisfaction is the nature of the nursing program. The application of theory to practice is a large focus with the ultimate goal of having students being able to apply their knowledge in the clinical settings. Perhaps satisfaction with the process of obtaining the knowledge and skills necessary to move toward the performance goals is more important to students than the end point of the course grades. The nursing program in this study did not give grades for the clinical component (it is a pass or non-pass) which may have also been a factor. This is an area that requires further exploration in future studies.

There was no significant difference in overall satisfactions scores with the variables of gender, race, birth country, job, course failure, or high school place. The lack of gender differences is consistent with other research studies (Corts, 2000; El Ansari, 2002; El Ansari & Oskrochi, 2004; Espeland & Indrehus, 2003; Grayson, 2004). The number of females included in this study's sample (88%) was comparable to the other nursing studies (El Ansari, 2002; El Ansari & Oskrochi, 2004; Espeland & Indrehus, 2003; Kinsella et al., 1999; and Norman et al., 2005). With regard to race, El Ansari & Oskrochi (2004) did not find any significant difference in satisfaction levels. However, El Ansari (2002) found 'non-whites' to be less satisfied with courses and Grayson (2004) found South Asian and Chinese participants to report more negative satisfaction. Liegler (1997) found 'other ethnicity' (included all those other than Anglo-American; Hispanic-American; Asian- American) to *indirectly* influence satisfaction levels. The ethnicity of the current study sample was more diverse than several of the other studies that reported on this variable (El Ansari, 2002; El Ansari & Oskrochi, 2004; Elliott, 2002). Twenty percent of students in the current study indicated their ethnicity to

be *black*, *asian*, or *other*. As student populations continue to change due to increasing globalization trends, this may be an area to continue to monitor.

Questions related to employment, course failure, birth country, or high school place were not included in other studies but may also be important variables to continue to monitor for effect on satisfaction. Economic pressures may influence the number of students who need to work to support the cost of their education and this may impact the course failure rate and subsequent satisfaction. Similar to race, birth country and high school place will give additional information and insight into the new student populations.

Limitations of the Study

Limitations of this study relate to: the potential for response and self-selection bias; the lack of negatively worded survey items; and sample size and selection.

The value of self-report studies has been established in the literature (Stone et al., 2000; Waltz et al., 2005) but they do have the potential for response set biases such as social desirability and extreme response (Polit & Beck, 2006). Students may have responded with answers that are considered socially acceptable or have chosen extreme responses for the entire scale. Methods that were employed to decrease the risk of response set bias included: assuring participants of the confidentiality of their responses; having a research-assistant (not a faculty member) administer the survey; and allowing adequate time for completion of the survey.

Some researchers recommend the use of both positively and negatively worded questions within the questionnaire to prevent response set bias (Polit & Beck, 2006; Waltz et al., 2005), however not all researchers are in agreement. In their extensive

review of the literature, Torabi and Ding (1998) identify several researchers who do not recommend this practice due to potential risk of confusing the respondents and the subsequent risk to response validity. In the current study, there were 13 negatively worded items in the original 99-item instrument. Based on feedback from the students conducting the face validity assessment, these items were deleted. The students assessed these questions to be confusing.

Like all self-report studies, self-selection bias is a threat to validity (Polit & Beck, 2006). The students who volunteered to participate in the study may have differed in their satisfaction level from those students who chose not to participate. In addition, the students who volunteered to participate may not be reflective of their entire level. The sample size of 313 represented 66% of the undergraduate nursing student population and was adequate for this study. However, future studies should include a larger sample size as well as an increase in fourth year and college collaborative student participation. The study was conducted at one Ontario University which had a collaborative nursing program and included students who had attended college sites during their first two years of the program. The characteristics and expectations of the sample may differ from the larger population of nursing students and the findings may not be generalizable to one-site programs.

The sample size recommendation for factor analysis varies in the literature. Three of the four factors met the requirements suggested by Guadagnoli and Velicer (1988) with four or more loadings above .60. The fourth factor contained five items with only two loading above .6. These researchers state however that this assumption can be violated if the sample size exceeds 300 (Guadagnoli & Velicer, 1988), the case in this

study. Tabachnick and Fidell (2001) and Comrey and Lee (1992) also recommend a sample size of at least 300 for factor analysis (as cited in Field 2005). Other researchers believe that the ratio of subjects to variables is more important than the total number of participants (Osborne & Costello, 2004) but the recommended ratio varies in the literature. Polit (1996) recommends a ratio of at least five subjects per variable but prefers ten. Munro (2001) recommends at least 10 subjects per variable. Although the ten to one ratio is commonly recommended, it may not be empirically supported (Field 2005). In this study, the ratio of subjects to variables was adequate at five to one (313 participants; 62-item instrument) but future studies should strive for an increase in this ratio to ensure the factor solution is stable.

Conclusion

The purpose of this study was to examine the psychometric properties of the Undergraduate Nursing Student Academic Satisfaction Scale. Through the data analysis, this instrument has been found to be a valid and reliable tool. Instrument analysis suggests that undergraduate nursing student satisfaction can be largely measured by evaluating four factors: in-class teaching, clinical teaching, the program and support/resources. Additional testing of the instrument is recommended to confirm validity and reliability with larger samples and to further explore the predictors of nursing student satisfaction.

Appendix A
Revised 62-item Questionnaire

Undergraduate Nursing Students' Academic Satisfaction Scale (UNSASS)

Code: ___ ___ /____ ____ ____/____/____ **Level:** _____

The scale:
The Undergraduate Nursing Students Academic Satisfaction Scale (UNSASS) is a questionnaire that is specifically designed to assess satisfaction of undergraduate nursing students with their academic programs. It is a 62-item questionnaire that can be completed in 30 - 45 minutes. The UNSASS assesses undergraduate students' satisfaction with their academic program in five domains:

1. Satisfaction with clinical teaching
2. Satisfaction with in-class teaching
3. Satisfaction with the program
4. Satisfaction with the organizational culture
5. Satisfaction with the support and resources available for students within the program

Directions:
This survey is intended to assess your satisfaction with your nursing program based on your experience from the point you joined the program to this point. To best answer each question, we ask that you relate each question to your cumulative personal experience in the program. Please rate how strongly you agree or disagree with each of the following statements by placing a check mark (√) in the appropriate box.

For example
If you **strongly disagree** with an item, your selection should look like the following

Item #	Items	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
	The clinical instructors effectively communicate with the nursing staff to facilitate my					√

If you **somewhat agree** with an item, your selection should look like the following

Item #	Items	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
	The clinical instructors effectively communicate with the nursing staff to facilitate my			√		

Thank you for your participation

Item #	Items	Strongly agree	Agree	Somewhat agree	Disagree	Strongly disagree
	Clinical teaching					
1	Clinical instructors give me clear ideas of what is expected from me during a clinical rotation					
2	Instructions are consistent among different clinical and lab instructors					
3	Clinical instructors provide enough opportunities for independent practice in the lab and clinical sites					
4	Clinical instructors are available when needed					
5	Clinical instructors assign me to patients that are appropriate for my level of competence					
6	Clinical instructors encourage me to link theory to practice					
7	Clinical instructors make sure that I am prepared before I care for my assigned patients					
8	Clinical instructors facilitate my ability to critically assess my clients needs					
9	Clinical instructors give me sufficient guidance before I perform technical skills					
10	Clinical instructors are approachable and make students feel comfortable about asking questions					
11	Clinical instructors give me verbal and written feedback concerning my clinical experience					
12	Clinical instructors view my mistakes as part of					

	my learning					
13	Clinical instructors demonstrate a high level of knowledge and clinical expertise					
14	Clinical instructors provide feedback at appropriate times, and do not embarrass me in front of others (classmates, staff, patients and family members)					
15	Clinical instructors are open to discussions and difference in opinions					
Item #	**Items**	**Strongly agree**	**Agree**	**Somewhat agree**	**Disagree**	**Strongly disagree**
16	Clinical placements are well thought and provide excellent learning experiences					
	In-class teaching					
17	Going to class helps me better understand the material					
18	The quality of instruction I receive in my classes is good and helpful					
19	I receive detailed feedback from faculty members on my work and written assignments					
20	Faculty members are easily approachable					
21	Faculty are fair and unbiased in their treatment of individual students					
22	Faculty members demonstrate a high level of knowledge in their subject area					
23	Faculty members make appropriate use of modern technology and audio-visual aids to enhance my learning					
24	Faculty members provide adequate feedback about student progress in a course					
25	Faculty members are usually available after class and during office hours					
26	Faculty members make every effort to assist students when asked					
27	I can freely express my academic and other concerns to faculty members					

28	As a result of my courses, I feel confident about dealing with clinical nursing problems					
29	I am generally given enough time to understand the things I have to learn					
30	Faculty members are very good at explaining things					
31	Faculty members make an effort to understand difficulties I might be having with my course work.					
32	Faculty members try to make their subject interesting.					
Item #	**Items**	**Strongly agree**	**Agree**	**Somewhat agree**	**Disagree**	**Strongly disagree**
	The program					
33	There is a commitment to academic excellence in this program					
34	The program enhances my analytical skills					
35	The program is designed to facilitate team work among students					
36	The program and faculty members create a positive environment for cultural diversity and cultural tolerance					
37	The program enhances my problem solving or critical thinking skills					
38	I usually have a clear idea of what is expected of me in this program					
39	This program provides a variety of good and relevant courses					
40	Most courses in this program are beneficial and contribute to my overall professional development					
41	The program has a zero tolerance policy regarding cheating and plagiarism					
42	I am able to experience intellectual growth in the program					
43	Faculty members and clinical instructors are					

	caring and helpful					
44	Overall, the program requirements are reasonable and achievable					
	Culture					
45	Faculty members create a good overall impression					
46	Faculty members behave professionally					
47	The secretaries behave professionally					
48	Faculty members greet/acknowledge me when they see me					
49	I can freely express my academic and other concerns to the administration					
50	Faculty speak positively of the program in front of students					
51	I feel a sense of belonging here					
52	Faculty members are good role models and motivate me to do my best					
53	Student disciplinary procedures are fair					
	Support and resources					
54	The facilities (class rooms, clinical and computer labs) facilitate my learning					
55	Faculty members take the time to listen/discuss issues that may impact my academic performance					
56	Library resources and services are adequate for my learning needs					
57	Required textbooks and other learning materials are readily available with reasonable prices at the university bookstore					
58	Channels for expressing student complaints are readily available					
59	The secretaries are caring and helpful					
60	Support at the clinical and computer labs is readily available					
61	The administration shows concern for students as individuals					
62	Computer and clinical labs are well equipped, adequately staffed, and are readily accessible to meet my learning needs					

Appendix B
Demographic Data Sheet

Code: ___ ___ /____ ____ ____/ ____/____ **Level:** _____

Gender: ☐ ☐ Male ☐☐ Female
Ethnic background
☐ White ☐ Black ☐ Asian ☐ Aboriginal ☐ Other, specify_____

1. Were you born in Canada?
☐ No ☐ Yes
If you responded "no" above, please specify_____

2. Do you have a job outside school hours?
☐ No ☐ Yes, if yes ☐ part-time ☐ Full-time

3. If your answer to the previous question was yes, do you work in nursing related job?
☐ No ☐ Yes

4. Did you complete your high school diploma in Canada?
☐ No ☐ Yes
If you responded "no" above, please specify_____

5. What was your high school average?
☐ 60 – 70% ☐ 71 – 80% ☐ 81 -90% ☐ 91 – 100%

6. What level nursing courses are you currently taking?
☐ level I ☐ level II ☐ level III ☐ level IV

7. What was your cumulative GPA as of last semester: ----------

8. Do you have a university degree or college diploma in a field other than nursing?
☐ No ☐ Yes, if yes specify

9. Have you ever failed a course in the nursing program?
☐ No ☐ Yes

10. Were you initially registered in the collaborative program at one of the college campus sites?
☐ No ☐ Yes

11. Did you ever study in any other nursing program prior to joining this program?
☐ No ☐ Yes

Appendix C
Participant Consent Form

UNIVERSITY OF
WINDSOR

CONSENT TO PARTICIPATE IN RESEARCH

Title of Study: Examining the psychometric properties of the Undergraduate Nursing Students' Academic Satisfaction Scale (UNSASS): A two phase study

You are asked to participate in the above titled research study conducted by **Dr. Maher El-Masri, Prof. Susan Fox, Dr. Sharon McMahon, and Dr. Elaine Duffy**, from the Faculty of Nursing at the University of Windsor

If you have any questions or concerns about the research, please feel to contact **Dr. El-Masri** by telephone at **519-253-3000, ext. 2400** or email at: **melmasri@uwindsor.ca**

PURPOSE OF THE STUDY

The purposes of this study are to

1. Examine the reliability and validity of a questionnaire (UNSASS) that examines academic satisfaction among undergraduate nursing students
2. Assess satisfaction among undergraduate nursing students at the University of Windsor
3. Examine the predictors of nursing students' academic satisfaction
4. Examine the change in satisfaction levels as students progress through the program.

PROCEDURES

If you volunteer to participate in this study, you will be asked to:

1. complete the 62-item UNSASS questionnaire and 11-item demographic questionnaire. The UNSASS asks questions about the degree to which you agree or disagree with statements concerning the nursing program. Completion of the questionnaires will take approximately 30 minutes and will take place after one of your scheduled classes.
2. repeat completion of the UNSASS questionnaire two weeks later in order to help us determine its reliability.

3. continue through to phase two of the study if you are in Levels I, II, or III of the nursing program. Participation in phase two involves completion of the questionnaires annually until you graduate from the nursing program.

POTENTIAL RISKS AND DISCOMFORTS

The study carries no actual or potential physical risk. Social and psychological risks associated with identity disclosure are minimal. Despite this, efforts were made to further minimize risks through coding of respondent identity so that responses cannot be linked to respondents except by the respondents themselves.

POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

Your participation in this study may help the faculty identify areas that students think need improvement or change. This may enable the program administration to make student-sensitive changes to improve the quality of the program and increase student satisfaction and retention. Such changes may influence you as a currentl Level I, II, or III student and may therefore make your learning experience a more satisfactory one. It is unlikely that Level IV students will derive such benefits of participation. Other changes may impact future students, especially if these changes are long term ones.

PAYMENT FOR PARTICIPATION

You will receive no payment or compensation in return for your participation in this study

CONFIDENTIALITY

To ensure the confidentiality of your responses, you will be assigned a unique identifying code that will be only identifiable by you (MM and YY of your birth date, last three university ID numbers, the first initial of your mother's name, and the last letter of your given name). This code will allow matching of the questionnaires that you complete throughout the study without allowing the investigators to know who you are. The questionnaires will be kept in a locked cabinet in the office of the investigator. Completed questionnaires will be entered into a computerized data file that will be assigned a secure password. To prevent investigators or others from knowing students' identities, the questionnaires and computerized data entries will be identified only by their assigned codes. Once the study is completed and the results are published, all hardcopies of the questionnaires will be destroyed.

PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you do not want to answer and still remain in the study. No members of the nursing faculty, including the investigators, will know or seek to know the nature of your responses if you participated in the study.

FEEDBACK OF THE RESULTS OF THIS STUDY TO THE SUBJECTS

Upon completion of the study, the results of the study will be presented in the Faculty of Nursing as part of a research forum to all faculty members and undergraduate nursing students. In addition, a copy of the study findings will be posted online at the University of Windsor research ethics website (www.uwindsor.ca/REB) for students to access. However, if you are interested in getting a personal copy of the results, please indicate this to any member of the research team so that this request can be met. In addition, copies of the final report will be provided to the student body (Nursing Society).

SUBSEQUENT USE OF DATA

Data collected in this study may be used in subsequent relevant research other than the purposes identified above. However, if you do not wish to have us use your data in subsequent research, please indicate so by checking the box below:

- ❑ I do not give permission for the investigators to use my data in subsequent research

RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. This study has been reviewed and received ethics clearance through the University of Windsor Research Ethics Board. If you have questions regarding your rights as a research subject, contact:

Ms. Linda Bunn
Research Ethics Coordinator
3916
University of Windsor
Windsor, Ontario
N9B 3P4

Telephone: 519-253-3000, ext.

E-mail: lbunn@uwindsor.ca

$ SIGNATURE OF RESEARCH SUBJECT/LEGAL REPRESENTATIVE

I understand the information provided for the study "Examining the psychometric properties of the Undergraduate Nursing Students' Academic Satisfaction Scale (UNSASS): A two phases study" as described herein. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____

Name of Subject

_____ _____

Signature of Subject Date

$ SIGNATURE OF INVESTIGATOR

These are the terms under which I will conduct research.

_____ _____

Signature of Investigator Date

Appendix D
Instruction Sheet: Participant Coding

Instruction Sheet
Undergraduate Nursing Students' Satisfaction Study

Please read the accompanying information sheet and consent form and sign the consent form and date it if you agree to participate.

If you sign the consent form and agree to participate in the study, we ask that you kindly complete the UNSASS questionnaire and attached demographic sheet.

We expect that this will take about 15-20 minutes of your time.

For the sake of re-testing, we ask that you please enter your code appropriately as follows:
Your month of birth (2 digits)/ the last three digits of your university ID/ the first letter of your mother's first name/ the last letter of your first name.

For example,
If your birth month is May, your student ID is 123 456 **789**, your mother's first name is **J**ane, and your first name is Joh**n** then your code will be:

0 5 / 7 8 9 / J N

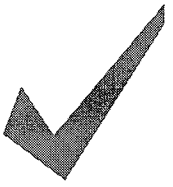
This code was designed in this way to ensure that you are the only one who can solve it, while also giving us a way to match your responses for comparison reasons.

When you have completed the consent form, the UNSASS questionnaire, and the demographic sheet, please insert back into the provided envelope and seal the envelope. Please do not put your name or university ID on the envelope. The information sheet is for you to keep, if you would like. Please return the sealed envelope to the Nursing Office.

Appendix E
Survey Participation Flyer

Attention Undergraduate Nursing Students:

If you have not had an opportunity to participate in the first phase of the **Nursing Students' Satisfaction Study**, here's your chance!



If you're interested, please pick up your survey at the Nursing Office (HEC 3rd floor)

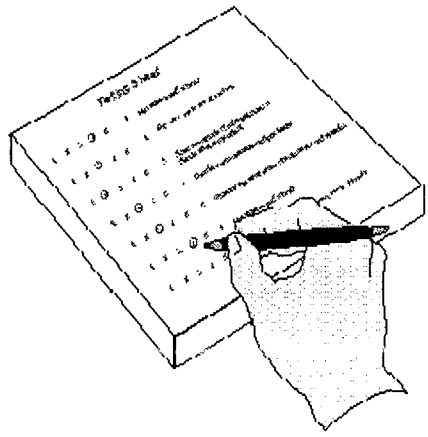
Appendix F

Face and Content Validity Panel Judge Cover Letter and Survey

Dear student:

My colleagues (Prof. Susan Fox , Dr. Sharon McMahon, and Dr. Elaine Duffy) and I are developing an Undergraduate Nursing Students' Academic Satisfaction Scale (UNSASS) that we want to use as an index of students' satisfaction. Therefore, we are inviting you to participate, as part of an expert panel to judge whether items included in this scale truly represent our concept of interest (student academic satisfaction). As a judge, we ask that you rate the items according to the following rating criteria:

1. = strongly irrelevant to the concept
2. = somewhat irrelevant to the concept
3. = undecided
4. = somewhat relevant to the concept
5. = strongly relevant to the concept



If you accept to take part in this focus group, we ask that you protect the confidentiality of this questionnaire. This means that you do not photocopy it and accept not to discuss it or share it with anyone within or outside the university except the study investigators. If you agree to these terms please sign below

Name: _____

Signature _____ Date:_____

Notice Please remember that we are **not** interested on your satisfaction, but we are interested in the degree to which you think the items reflect our concept of interest (student satisfaction)

Feel free to add new items or make changes/suggestions on existing items whenever you think it is appropriate.

Sincerely

Maher M. El-Masri, PhD, RN

Thank you very much for your participation

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
	Clinical teaching					
1	Clinical instructors are often aware of my level of previous learning and competence					
	Comments					
2	I am able to figure out what is expected of me in clinical courses					
	Comments					
3	Clinical instructors often discuss my learning needs with me					
	Comments					
4	Clinical instructors give me clear ideas of what is expected from me during a clinical rotation					
	Comments					
5	Instructions are consistent among different clinical and lab instructors					
	Comments					
6	Clinical instructors provide timely feedback about my clinical performance					
	Comments					
7	Clinical instructors provide enough opportunities for independent practice					
	Comments					
8	Clinical instructors encourage me to feel responsible for my own learning					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
9	Lab instructors encourage and provide time for independent practice during lab hours					
	Comments					
10	Clinical instructors do not provide sufficient supervision					
	Comments					
11	Clinical instructors are available when needed					
	Comments					
12	Clinical instructors assign me to patients that are appropriate for my level					
	Comments					
13	Clinical instructors encourage me to link theory to practice					
	Comments					
14	Clinical instructors make sure that I am prepared and clinically competent before I care for my assigned patients					
	Comments					
15	Clinical instructors encourage me to consider a range of alternative approaches to client care					
	Comments					
16	Clinical instructors discuss my client-care with me to ensure client safety					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
17	Clinical instructors facilitate my ability to critically assess my clients needs					
	Comments					
18	Clinical instructors often fail to give me sufficient guidance before I perform technical skills					
	Comments					
19	Clinical instructors make students feel comfortable about asking questions					
	Comments					
20	Clinical instructors provide feedback on performance in a positive manner					
	Comments					
21	Clinical instructors give me formal and informal feedback concerning my clinical experience					
	Comments					
22	Clinical instructors effectively communicate with the nursing staff to facilitate my learning					
	Comments					
23	Clinical instructors make sure that the clinical experience was negotiated with clients					
	Comments					
24	Clinical instructors view mistakes as part of learning					
	Comments					
25	Clinical instructors discussed with me when she/he would be available to give assistance					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
26	Clinical instructors demonstrate a high level of knowledge and clinical expertise					
	Comments					
27	Clinical instructors provide feedback at appropriate times, and do not embarrass me in front of others (classmates, staff, patients and family members)					
	Comments					
28	Clinical instructors are not open to discussions and difference in opinions					
	Comments					
29	My clinical placements have been excellent learning experiences					
	Comments					
	In-class teaching					
30	I am able to figure out what is expected of me in most courses					
	Comments					
31	Going to class helps me better understand the material					
	Comments					
32	The quality of instruction I receive in my classes is poor					
	Comments					
33	I receive detailed feedback from faculty members on my work and written assignments					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
34	Faculty members are aware of my level of previous learning and competence					
	Comments					
35	Faculty members are not easily approachable					
	Comments					
36	Faculty members help me set individualized learning goals					
	Comments					
37	Faculty members give me helpful feedback concerning my performance					
	Comments					
38	Faculty are fair and unbiased in their treatment of individual students					
	Comments					
39	Faculty members demonstrate a high level of knowledge in their subject area					
	Comments					
40	Faculty members make appropriate use of modern technology and audio-visual aids to enhance my learning					
	Comments					
41	Faculty members consider cultural and individual differences in students as they teach a course					
	Comments					
42	Faculty members provide adequate feedback about student progress in a course					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
43	Faculty members are usually available after class and during office hours					
	Comments					
44	Faculty members make every effort to assist students					
	Comments					
45	I can freely express my academic and other concerns to faculty members					
	Comments					
46	As a result of my courses, I feel confident about tackling unfamiliar problems					
	Comments					
47	The required written assignments help me improve my writing skills					
	Comments					
48	I am generally given enough time to understand the things I have to learn					
	Comments					
49	Faculty members are very good at explaining things					
	Comments					
50	Faculty members make an effort to understand difficulties I might be having with my course work.					
	Comments					
51	Faculty members try to make their subject interesting.					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
	The program					
52	There is a commitment to academic excellence in this program					
	Comments					
53	The program enhances my analytical skills					
	Comments					
54	The program is designed to facilitate team work among students					
	Comments					
55	The program and faculty members create a positive environment for cultural diversity and cultural tolerance					
	Comments					
56	The program does not enhance my problem solving or critical thinking skills					
	Comments					
57	The workload in this program is reasonable					
	Comments					
58	I usually do not have a clear idea of what is expected of me in this program					
	Comments					
59	I feel a sense of pride about my program					
	Comments					
60	Program and course requirements are often unclear and unrealistic					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
61	This program provides a good variety of courses					
	Comments					
62	Most courses in this program are beneficial and contribute to my professional development					
	Comments					
63	The program has a zero tolerance policy regarding cheating and plagiarism					
	Comments					
64	I am able to experience intellectual growth in the program					
	Comments					
65	Faculty members and clinical instructors are caring and helpful					
	Comments					
66	Overall, the program requirements are reasonable and achievable					
	Comments					
	Culture					
67	Faculty members create a good overall impression					
	Comments					
68	Faculty members behave professionally					
	Comments					
69	The secretaries behave professionally					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
70	Faculty members greet/acknowledge me when they see me					
	Comments					
71	I am proud to be a nursing student in this program					
	Comments					
72	I can freely express my academic and other concerns to the administration					
	Comments					
73	Faculty speak positively of the program in front of students					
	Comments					
74	I feel a sense of belonging here					
	Comments					
75	Faculty members are good role models and motivate me to do my best					
	Comments					
76	Student disciplinary procedures are not fair					
	Comments					
	Support and resources					
77	The administration demonstrates genuine concern for my needs (e.g. ask questions, listen)					
	Comments					
78	The facilities (class rooms, clinical and computer labs) facilitate my learning					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
79	The Faculty of nursing is conveniently located					
	Comments					
80	Class hours are not convenient to me and my learning					
	Comments					
81	The University's student services and resources are useful					
	Comments					
82	Faculty members take the time to listen/discuss issues that may impact my academic performance					
	Comments					
83	Library resources and services are adequate					
	Comments					
84	Required textbooks and other learning materials are readily available at the university bookstore					
	Comments					
85	Channels for expressing student complaints are not readily available					
	Comments					
86	Tutoring services are readily available					
	Comments					
87	Faculty and secretaries take the time and effort to follow through on any requests or problems I have					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
88	The secretaries are caring and helpful					
	Comments					
89	The secretaries do their jobs toward students efficiently					
	Comments					
90	Support at the clinical and computer labs is not readily available					
	Comments					
91	The administration shows concern for students as individuals					
	Comments					
92	The welcome week program helps students to effectively orientate to the program					
	Comments					
93	Computer labs are accessible					
	Comments					
94	Computer labs are adequate and well equipped					
	Comments					
95	The clinical lab is accessible when needed					
	Comments					
96	The clinical lab is well equipped to meet my learning needs					
	Comments					

Item #	Items	strongly irrelevant to the concept	somewhat irrelevant to the concept	undecided	somewhat relevant to the concept	strongly relevant to the concept
97	The clinical lab is spacious and is convenient for effective learning					
	Comments					
98	The clinical labs are not adequately staffed					
	Comments					
99	Clinical lab support is available when needed					
	Comments					

Appendix G

Panel Judge Comments for Face Validity

Q#:	***COMMENTS:***
1	• Depends on knowing for what reason; it's a positive if it is to help students gain the skills and opportunity they require. • Can have a negative effect because it can give preconceived notions of student performance and will affect evaluations. • A lot of instances where the course instructor assumed we were taught something even when we were not or assumed we knew more in depth and didn't. • Similar to question #34. • Variations in expectations should be included.
2	• Similar to question #4. • I am told what is expected of me in clinical courses. • Clinical can be very stress inducing for some students so it's very important that each student know what is and is not expected of them. •
3	• I feel this is the students responsibility to present need to the instructors. • Perhaps change the word 'often' to something specific and measurable (ex. Weekly basis). • Change often to on weekly basis. • 'Often' scratched out on question and added to end of sentence 'on an ongoing basis'. • Place a specific time rather than 'often' (e.g. Every week). • 'Often' scratched out on question and added to end of sentence 'on a weekly basis'. • This is a very important question.
4	• Similar to #2. • Same as question #2; this is a better question. • Similar to, but better than #2. • I feel this is very similar to #2.
5	• Yes there have been past problems with this. In order for students to be satisfied consistency is a must. • State specific things that you want consistent (ex. # of hours on unit, assignments to meet CPES). • Need to have specific instructions especially → time on floor, thoroughness of assignments. • Good question → most will say no • This is extremely relevant. • Very good question. Maybe create more to elaborate on this topic.
6	• Timely = maybe more specific. • Feedback? By the end of the clinical day or week? • #27 is a better question.

	• Similar to question 21. • Possibly re-word, stating that feedback is given. • Maybe elaborate on exactly what timely means (in front of client, at end of day, two weeks later). Is it related to place?
7	• Independent practice of what? • Independent practice of what? • Might depend on year and experience. • Should allow that by 3rd year. • Not needed. • Independent practice of what? • What is meant by 'independent practice'? In clinical? In the nsg lab? • I feel we as students feel the need to balance independent practice with guidance and support from our instructors. • The clinical meaning is unclear whether it meant lab, hospital, etc.
8	• Not needed. • Almost sounds negative. Maybe re-word. Maybe encourage independent learning. • Circled the word 'responsible' in the question and wrote I'm not sure how this question relates to academic satisfaction. • Clinical placements accommodate students from all of Essex county and surrounding areas. • I like the question with perhaps a different wording, possibly taking initiative. It's worded as thought you're on your own. • Responsible yes, but with appropriate previous teaching. • Very important but re-phrase b/c it sounds like students are largely on their own.
9	• Very good question. Worded nicely. • Same as #7. • Encouragement is not important. • This question is better than item #7. It is more clear. • Independent practice when a lab instructor is present is invaluable.
10	• Do not provide sufficient supervision during… • They do. • I'm not sure it relates to my satisfaction. • Sufficient, may be interpreted differently by different students. Maybe write out when the supervision is necessary. Some students want lots of supervision versus others. • This question is confusing. • Reverse so that this says 'do provide'. I know it's hard to balance the time each instructor gives to each student but it is very important to the student for the instructor to be present and available.
11	• #10 and #11 are the same kind of question. • Same as #10, not needed. • Not at all times but almost.

	• I think #10 and #11 are very similar. If the instructor is available when needed, student feels there's supervision.
12	• That are appropriate for my level of competence. • Plus proper pt load. • This allows for a more comfortable setting and decreases the amount of anxiety.
13	• Not always done. • Research articles. • Although this is important, it would not determine my satisfaction.
14	• Good question but somewhat repetitive. Being prepared and clinically competent means the same thing. • This one is too wordy. Clinical instructors make sure that I am clinically competent before I care for my assigned clients. • It's up to the student to see if they're competent enough. • 'Patients' crossed out and replaced with 'clients'. • 'Patients' crossed out and replaced with 'clients'. More relevant to clients than to me. • #12 and #14. If clinical instructors prepare students well, more patients would seem appropriate for the student's level. • This fosters a higher degree of feeling competent and having confidence.
15	• Irrelevant because we are always required to follow policy and guidelines. • Not sure what alternatives are. • What is a range of alternative approaches? • More relevant to the client. • I'm not sure what is meant by alternative approaches.
16	• Also relevant to the client but provides me with the sense of security as well. • Re-phrase. Define what client care you're talking about and how it relates to CT safety. • This is similar to items #2 and #4. • Very important, increased level of confidence. • This brings reassurance that we are performing our responsibilities appropriately.
17	• They're with you during assessment. • Clinical instructors help me to critically assess my client's needs.
18	• I don't understand. • Not needed. • 'Often' may be too strong. Possibly 'has at times given'. • Often may be too strong. Perhaps make this a question you can write and have students choose 'often', 'never', 'rarely', or 'N/A'. • Ask if that was a part of your clinical experience. • Often may be assuming too much. Maybe use 'has failed to'.
19	• And approachable. • Asking questions about assignments, readings, lectures, or anything that is relevant to nursing course.

	• A question such as 'instructors are approachable for us'. • This will allow students to stay at the degree to which they are comfortable with their instructors.
20	• Underlined 'positive manner' and wrote 'that's good'. • Same as #6. • Maybe say constructive criticism. • Very important.
21	• Clarify formal and informal. • Similar to question #6. • Give examples to define each → formal and informal; because not all students will understand this. • Clarify formal and informal.
22	• 'Staff at the facility'. • Not needed. • Clinical instructors effectively communicate with a clinical sites staff to facilitate my learning. • This is an important item.
23	• That doesn't happen. • Affects me only slightly. • Not needed. • Doesn't really measure student satisfaction. • Needs to be re-worded. • Students want to know that they're not imposing on the clients. Confusing question, maybe word it to show that clients were voluntarily involved in our clinical experience. • This seems more appropriate for a clinical instructor because I don't think students would find it relevant. • Important concept but question is confusing. • Not really relevant to student, more to instructor. Needs to be re-worded.
24	• And are able to accept mistakes as part of learning? Rephrase it to make it sound mistakes are ok. • They should depending on the type of error. • Depends on the type of mistake. • Clinical instructors view my mistakes as part of my learning process. • As long as it doesn't cause harm to the client. Also depends what the error is. • Great question. • Excellent question.
25	• Does this mean during clinical hours or outside clinical hours? • This is similar to item 11. Both are good questions; maybe consider only adding one of them.
26	• Important. • It is important to students that instructors behave professionally.
27	• Good question. • Great question.

	• Good question. • Very necessary question. • Similar to #6. • Similar to #6 but 27 is better. • Similar to question 6 but this covers more and is more appropriate.
28	• Change to reflect positive, ex. They are open. • The 'not' is somewhat confusing; maybe it's the order of the questions. • This may be a little hard to read and understand.
29	• Can apply to several experiences. • That's a bit broad. Maybe re-phrase it goal oriented. • And relate it to in class learning. • Perhaps too broad. • Which exact clinical experiences? This year? Semester? Kind of hard to sum them up. Some are good, some not so good. • During what time period? First year, second year, or entire time? • However each placement can vary in the degree of excellence and experience. Could be broken down. • Important question but need to be able to differentiate between different clinical experiences. Not all will be positive or negative. • Good question but should be broken down per experience. • A question regarding the organization/planning and advance notice regarding clinical placements should be included. Also regarding distribution between hospital and community. • Perhaps include a question about student satisfaction regarding their clinical placements (ex. Community versus hospital placements).
30	• Maybe make specific to one course. • Change 'most'. • 'Figure out' sounds like we have to look for it; maybe say I know and given what is expected of me.
31	• That's not always the case.
32	• Maybe make question specific to one class. • This would make a student unsatisfied so the concept is relevant. • Define quality, we may not understand this. • Negative tone, could be re-phrased more positively.
33	• That is a yes or no question but does ask you if the feedback is valuable or not. • Important. • With such large numbers of students, this may not be possible and students should consider it their responsibility to seek feedback also (i.e. By appointment).
34	• May not be necessary. • How does this affect me and my satisfaction? Only relevant for my immediate teachers not all faculty members. • Good question. • Similar to question 1.

	• A question should be included regarding collaboration between faculty and clinical instructors. • Should define theory. Professors or not. • Should clearly define that faculty members are in-class professors/instructors. All students should be treated fairly. • More important in clinical setting I think. • Not necessary in classroom setting, more important in clinical setting. Smaller settings. • More important to clinical instructors. What exactly does faculty number mean/include? Not really expected of Profs.
35	• To be satisfied as a student, faculty must be open. • Re-phrase positive. • Better as a positive question. • It is more difficult to learn when a member is unapproachable.
36	• Tougher faculty to do, maybe we can set our own. • How can they do this? • Difficult to do when classes are large. • Not needed. • There isn't one-on-one learning during classes like there are in clinical. I don't feel this is applicable. • Maybe add help me set … 'where appropriate' or 'when approached for assistance' or 'when the Prof. deems necessary'. It is important for satisfaction if wanted. • I don't know if this is realistic unless a student has a need for this or seek it out. • Added 'if needed' to the question and then wrote 'question may be confusing. Don't feel this is possible for everyone in the class'.
37	• Feedback on assignments and tests? • Concerning my performance on assignments. • Feedback on assignments. • Not needed.
38	• How would most students know this? • Good question.
39	• Important.
40	• Excellent. Consider also a variety of teaching techniques as a question. • If modern technology is available. This is really up to the hospital or faculty. Sometimes the school can't help us. • I don't know if this would be very relevant to satisfaction.
41	• Depends on the course being taught. • Not needed. • Maybe say culturally sensitive. Not exactly sure what it is asking.
42	• Feedback about student progress in a course in assignment evaluation. • Student progress is difficult to discuss unless the individual has been seen on a one-on-one basis.

	• Already mentioned in #37. • Similar to #37. • This may be very important for some students, others may not find it relevant.
43	• Office hours more than after class. • I think there should also be a question about how over committed some professors are. This has been important. • Good question. • Especially during office hours. • I think this is very important.
44	• Better than 36 and 37. • More specific? By…in… • I think there should also be a question like faculty should genuine care and concern in my academic progress. • When students make the effort to ask for assistance.
45	• Similar to question about easily approachable. • Perhaps should add 'without feeling like I would be blacklisted by members of the faculty'. • May want to mention that student reps are available for this too. • This allows for openness and honesty.
46	• Not needed. • What problems? • I am not sure I understand the question. Unfamiliar problems with clients or school assignments? • Should include unfamiliar problems in a clinical setting. • This may need to be clarified further (in clinical). • Include going to clinical settings. • Add 'in the clinical setting'. • This may vary with different people due to different personalities.
47	• APA style? • It is my opinion that we should learn how to write in high school and only a small percentage of us will be become researchers and such so I am not in favour of written assignments. • Not really important to me. Include a question classes adequately prepare you for writing papers with APA and lack of APA instruction is an issue. • Not really relevant to student satisfaction in a University program. • I think a better question would be 'the required…help me to better understand clinical situations/practice.
48	• Different individuals learn at a different pace. • More specific. What things? • Will get different results depending on the time students require. • Circled 'things I have to learn' and wrote 'maybe rephrase to… I'm generally given enough time to understand the course content.' • They added 'within time constraints of the course'. I think this is a very individual thing (learning speed) and is also related to effort by the student. I

	don't think this is worded fairly for faculty.
49	• At explaining things in class. • Their material? The class material? • Circled 'things' and wrote 'maybe think of a better word'. • Maybe say 'are effective instructors; able to answer questions'. • I think that 'things' is too vague (i.e. explaining course concepts, student expectations, and marking schemes of assignments).
50	• It's very important.
51	• That's a big one. Maybe throw in another question about enthusiasm. • Approach with enthusiasm.
52	• As in no child left behind. • Extremely important question. • By whom? Teachers? Students? • Not really relevant for student satisfaction because all programs are usually committed to academic excellence.
53	• Not so sure what you're meaning. • Re-word 'analytical'. • Replace 'analytical skills' with 'critical thinking'. • 'Analytical skills' could be clarified. Some may not understand.
54	• Important. • Not sure this is totally relevant for a student survey regarding satisfaction.
55	• Change tolerance. Sounds negative → accepting. • In a way I think the faculty is putting too much emphasis on this subject. I like cultural diversity but everybody has to forgive a little when becoming a part of a bigger body (society or school). • Crossed out 'and cultural tolerance'. • The word 'tolerance' has a negative tone. • Crossed out 'cultural tolerance'. • Circled 'cultural tolerance' and wrote 'bad question. Sounds horrible. Already asked a question like this'. • Similar to, but better than, #41.
56	• Re-word to positive. Maybe to general? • Negative question. Please rephrase. • Re-word to positive. • Get the same answer from #53. • Similar to #53. Rephrase. The program enhances my problem solving or critical thinking skills.
57	• Hard to ask for only one class because workloads per class are different as a whole. It's a lot. • What is reasonable? Maybe use a word like 'overbearing' versus 'easy'. • 'Manageable' instead of 'reasonable'.
58	• Change to positive. • Redundant to #30. • Repeated #30 but this one states the idea more clearly.

59	• Not needed. They're in the program. How would you learn from their answers? • Very good question. • Not sure if this is profession based or program.
60	• Change to positive. • A bit repetitive #58. • Easier to read in positive. • Use 'clear' and 'realistic' instead. They're less confusing. • Re-word. • Questions #58 and #57 combined. • Very similar to #58 but this one is worded better.
61	• You can't change their courses. Do you really care about their answer? • We have no choice. • Should include a good variety of courses r/t the clinical settings we are placed in. • What is meant by 'good'?
62	• Again r/t program may be better if r/t specific course. • Should add 'contribute to my confidence level going into clinical settings'.
63	• Stating a fact. How are you going to learn from the answers to the questions? • Not enforced properly and fairly. This is a statement, not a question. • Please phrase as a question. • That again is a yes or no question which does not relate to my happiness as a student. • A good topic but rephrase into a survey statement, not a fact. • This appears to be a fact and could be hard to agree or disagree with its affect on satisfaction. • Not really relevant to student satisfaction.
64	• Vague.
65	• I feel you got this answer from previous questions. • Similar to #50 but #50 says it better. • I do not feel this question fits in this category. A better place may be clinical teaching or in-class teaching.
66	• Like question #60. • Replace 'program' with 'course' and replace 'are' with 'maybe were'. • A bit repetitive. • Again, what is 'reasonable'? • Similar to #57 but better.
67	• On who? What kind of impression? • Impression of what? Unclear. • Different members create different impressions. • Question is kind of unclear and I'm not sure if it's relevant to student satisfaction. • To students? Or for the program in general?
68	• Unclear. Is there an ethic mix in the faculty members?

	• Different members behave differently, but overall this is ok. • Demonstrate professionalism.
69	• Most people have little or no contact with secretaries. • How often do we get to see or meet a secretary? • Not necessarily related. • Do many students have contact with the secretaries? • This may not be needed in a student satisfaction survey.
70	• Why is this important to me? • Important for students to realize the + + large number of students in the program.
71	• Similar to question about pride. • Are you really going to learn from this answer? They might have a problem with one aspect at the moment and are going to answer accordingly to that mood. • Same as #59 but better.
72	• Similar to #45. • I don't get this question. • You ask #45. I like #45 better. • Important question. • Another question to address might be regarding the student's knowledge of each faculty member's role and whether or not the student knows who to go to for help. • Also a question should be included regarding knowledge of who administration are and what they deal with.
73	• Realistic speaking is better. • May not be totally relevant to student satisfaction. Rephrase perhaps to look at more faculty member's actions and how this promotes student satisfaction and a positive view of the program for staff and students.
74	• I am not sure that this is relevant to the nursing program specifically. • Almost questions person themselves. Not satisfaction of the program.
75	•
76	• Change to positive. • Negative question. • Remove the word 'not'. • Re-word to positive. • Regarding which violations?
77	• Underlined 'administration' and placed a question mark. • Circled 'example ask questions listen' do you want to include examples? • Also ask if the administration is readily available to address concerns (i.e. when can appointments be made). • May need to clarify administration. I didn't know what this meant or who my level coordinator was or what they were there for.
78	• Facilities facilitate? Use of words. • Should also include the quality and availability of lab equipment and lab

	teaching tools (ex. IV lines working).
79	• The faculty of nursing is conveniently located in a location that is accessible to me. • Not needed. Can't fix a problem if there is one. • What does it matter? • Remove question. It doesn't make sense. • Too who? • Unclear. Remove it. • Not sure if this really determines or affects satisfaction. • Does the faculty refer to only the teachers? Or to the nursing building in relation to the rest of the University? • Depends on where you're coming from.
80	• How are you really going to fix this? It's never going to be convenient for everyone. • Difficult to change. • Remove question. Impossible to make class hours convenient for everyone. • How can you fix that for everyone? • Unclear. Remove it. • Change to positive.
81	• Not specific to nursing. • Need more nursing resources at Leddy. • What student services and resources exactly? • This question should be directed towards usefulness to a student in the nursing program. • Not clear. Maybe an example would clarify the question. • Do we want to evaluate the faculty of nursing resources or the U of W's? • Unclear. Which services? (i.e. Computer centre, nursing lab)
82	• Similar to #77. • I'm not sure what this question means. How or when would these discussions occur? • Similar to #45.
83	• Are adequate for my learning. • Do they have more nursing research articles? Is that what you're asking? • Needs clarification. Do you mean library staff? Nursing books or journals available to us, etc.?
84	• They are always late, sold out, and expensive. Ask questions about textbooks enhancing understanding of cause. • Often late and expensive. • Can you phrase it into a question? • It's not the availability that makes the students happy; it's a low price and a great book that is easily understood. One that would you like to pick up and read. • Hopefully cheaper; lower cost may be important to students. • Are available before classes start.

85	• Define channels.
86	• Rephrase into a question. • This seems dependent on students learning needs.
87	• More targeted to faculty, not secretaries. • Maybe faculty. I don't know about the secretaries.
88	• Again, not much contact with secretaries. • Please rephrase into a question. • Most people may not even know the secretaries. • Not relevant. • Like #87. • Still not quite sure about secretary questions. • I.e. in posting notes? Need to be more specific. • Not actually a lot of contact.
89	• Not needed. • Do enough students have contact with them to evaluate? • Unclear of their job description exactly. • Need to clarify what the secretaries do. • This question may be all that is needed regarding secretaries. Secretaries may be too specific → faculty or U of W staff may be better. Maybe an example would be helpful. • Clarification of secretaries job description (i.e. Post notes in a timely manner).
90	• Change to positive. • Get rid of 'not'. • Not really clear.
91	• Define administration. • Already stated in another question. • Like #87. • Very similar to #77.
92	• It's not a helpful question. • Never had the orientation welcome week. • Not needed.
93	• Not needed. • Is it a question? • Combine questions #93 and #94. • Eliminate. • When needed. • Similar to #90. • Hours of operation should be included.
94	• Underlined 'well equipped' and wrote 'equipped with things we need'. • Like #93. • Combine questions #93 and #94. • Very similar to #93. Could combine them. • Similar to #93.

	• Software issue should be addressed.
95	• N/A. It is not always open 24 hours. • Combine questions #95 and #96.
96	• Same as #94. • The questions regarding clinical labs and computer labs depend more on if a student utilizes them. A question regarding utilization of them may be more appropriate.
97	• Not needed. Can't change. Size doesn't affect learning. • Convenient for who? Spacious compared to? • Not sure if this question is needed.
98	• #99 is better worded. • Very similar to #90 but #90 says it better.
99	• Similar to #90 and #98. Says it better than #98 but #90 says it better. • #98 and #99 are very similar.
	• Additional questions: do you feel you have a better understanding who the administrators are (i.e. Who the coordinator for 1st, 2nd, 3rd, and 4th years) and who the Dean is? Many people don't know who to go to with questions or problems. Do the variety of clinical placements meet your learning needs?

Appendix H
Revised 48-item Questionnaire

Undergraduate Nursing Students' Academic Satisfaction Scale (UNSASS)

Item # (former item #)	Item
Clinical Teaching	
1	Clinical instructors give me clear ideas of what is expected from me during a clinical rotation
2	Instructions are consistent among different clinical and lab instructors
3	Clinical instructors provide enough opportunities for independent practice in the lab and clinical sites
4	Clinical instructors are available when needed
5	Clinical instructors assign me to patients that are appropriate for my level of competence
6	Clinical instructors encourage me to link theory to practice
7 (46)	Faculty members behave professionally
8	Clinical instructors facilitate my ability to critically assess my clients needs
9	Clinical instructors give me sufficient guidance before I perform technical skills
10	Clinical instructors are approachable and make students feel comfortable about asking questions
11	Clinical instructors give me verbal and written feedback concerning my clinical experience
12	Clinical instructors view my mistakes as part of my learning
13	Clinical instructors demonstrate a high level of knowledge and clinical expertise
14	Clinical instructors provide feedback at appropriate times, and do not embarrass me in front of others (classmates, staff, patients and family members)
15	Clinical instructors are open to discussions and difference in opinions
In-class Teaching	
16 (45)	Faculty members create a good overall impression
17 (49)	I can freely express my academic and other concerns to the administration
18 (61)	The administration shows concern for students as individuals
19	I receive detailed feedback from faculty members on my work and written assignments
20	Faculty members are easily approachable
21	Faculty are fair and unbiased in their treatment of individual students
22	Faculty members demonstrate a high level of knowledge in their subject area

23 (52)	Faculty members are good role models and motivate me to do my best
24	Faculty members provide adequate feedback about student progress in a course
25	Faculty members are usually available after class and during office hours
26	Faculty members make every effort to assist students when asked
27	I can freely express my academic and other concerns to faculty members
28 (55)	Faculty members take the time to listen/discuss issues that may impact my academic performance
29	I am generally given enough time to understand the things I have to learn
30 (58)	Channels for expressing student complaints are readily available
31	Faculty members make an effort to understand difficulties I might be having with my course work.
The Program	
32 (28)	As a result of my courses, I feel confident about dealing with clinical nursing problems
33	There is a commitment to academic excellence in this program
34	The program enhances my analytical skills
35	The program is designed to facilitate team work among students
36	Going to class helps me better understand the material
37 (17)	The program enhances my problem solving or critical thinking skills
38	I usually have a clear idea of what is expected of me in this program
39	This program provides a variety of good and relevant courses
40	Most courses in this program are beneficial and contribute to my overall professional development
41 (18)	The quality of instruction I receive in my classes is good and helpful
42	I am able to experience intellectual growth in the program
43 (44)	Overall, the program requirements are reasonable and achievable
Support and Resources	
44 (54)	The facilities (class rooms, clinical and computer labs) facilitate my learning
45 (47)	The secretaries behave professionally
46 (59)	The secretaries are caring and helpful
47 (60)	Support at the clinical and computer labs is readily available
48 (62)	Computer and clinical labs are well equipped, adequately staffed, and are readily accessible to meet

References

American College Testing (2008a). *About ACT.* Retrieved from http://www.act.org/aboutact/index.html

American College Testing (2008b). *The ACT evaluation/survey service.* Unpublished work.

American Association of Colleges of Nursing (2008). Contributing factors impacting the nursing shortage. Retrieved from http://www.aacn.nch.edu/media/FactSheets/NursingShortage.htm

Appleton-Knapp, S. L., & Krentler, K. A. (2006). Measuring student expectations and their effects on satisfaction: The importance of managing student expectations. *Journal of Marketing Education, 28*(3), 254-264. doi: 10.1177/0273475306293359

Astin, A.W. (1993). *What Matters in College? Four Critical Years Revisited.* San Francisco: Jossey-Bass.

Baykal, U., Sokmen, S., Korkmaz, S., & Akgun, E. (2005). Determining student satisfaction in a nursing college. *Nurse Education Today, 25,* 255-262. doi: 10.1016/j.nedt.2004.11.009

Bloom, K. C., & Hough, C. M. (2003). Student satisfaction with technology-enhanced learning. *Computers Informatic Nursing, 21*(5), 241-246. Retrieved from http//ovidsp.tx.ovid.com/spb/ovidweb.cgi

Boylston, M. T. (2004). Adult student satisfaction in traditional and accelerated RN-to-BSN programs. *Journal of Professional Nursing, 20*(1), 23-32. doi:10.1016/j.profnurs.2003.12.008

Bryant, J. L. (2006). Assessing expectations and perceptions of the campus experience: The Noel-Levitz student satisfaction inventory. *New Directions for Community Colleges, 134,* 25-35. doi: 10.1002/cc.234

Burns, N., & Grove, S.K. (2001). *The Practice of Nursing Research.* Philadelphia: W.B. Saunders.

Canadian Institute for Health Information (2006). *News Release: Numbers of nurses in Canada increasing slightly.* Retrieved from http://secure.cihi.ca/cihiweb/dispPage.jsp?cw_page=media_18oct2006_e

Canadian Nurses Association (2002). *CNA on the issues-Nursing Shortage.* Retrieved from http://www.cna-nurse.caéCNA/issues/hhr/default_e.aspx

Canadian Nurses Association (2005). *Workforce profile of Registered Nurses in Canada.* Retrieved from http://www.cna-aic.ca/CNA/documents/pdf/publications/workforce-profile-2005-e.pdf

Canadian Nurses Association (2008a). *Canada's health system faces another year of nursing student graduate shortfalls.* Retrieved from http://www.cna-nurses.ca/CNA/ news/releases/public_release_e.aspx?id=236

Canadian Nurses Association (2008b). *Nursing education statistics 2006-2007.* Retrieved from http://www.cna-nurses.ca/CNA/documents/pdf/publications/Education_Statistics_Report_2006_2007_e.pdf

Canadian Nurses Association (2009). *Nursing in Canada: RN education.* Retrieved from http://www.cna-aiic.ca/CNA/nursing/education/default_e.aspx

Cleary, M., & Happell, B. (2005). Recruitment and retention initiatives: nursing students' satisfaction with clinical experience in the mental health field. *Nurse Education in Practice, 5,* 109-116. doi: 10.1016/j.nepr.2004.06.001

College of Nurses of Ontario (2008a). *National competencies in the context of entry-level Registered Nurse practice.* Retrieved from http://www.cno.org/docs/reg/41037

_EntryToPracitic_final.pdf

College of Nurses of Ontario (2008b). *Trends in general class new members 2008.* Retrieved from http://www.cno.org/docs/general/43011_TrendsNewMembers.pdf.

Corts, D. P., Lounsbury, J. W., Saudargas, R. A., & Tatum, H. E. (2000). Assessing undergraduate satisfaction with an academic department: A method and case study. *College Student Journal, 34*(3), 399-408. Retrieved from http://vnweb.hwwilsonweb.com/hww/results/results_single_ftPES.jhtml

Creedy, D. K., Mitchell, M., Seaton-Sykes, P., Cooke, M., Patterson, E., Purcell, C., & Weeks, P. (2007). Evaluating a web-enhanced bachelor of nursing curriculum: perspectives of third-year students. *Journal of Nursing Education, 46* (10), 460-467. Retrieved from http://proquest.umi.com/pqdlink?vinst=PROD&fmt=6&startpage=-1&ver=1&vname=PQD&RQT=309&did=1346029871&exp=11-26-2014&scaling=FULL&vtype=PQD&rqt=309&cfc=1&TS=1259350498&clientId=2241

Deeken, J., Webb, P. L., & Taffurelli, V. (2008). We are all winners: training silents to millennials to work as a team. *The Serials Librarian, 54*(3), 211-216. doi: 10.1080/03615260801974149

Douglas, J., Douglas, A., & Barnes, B. (2006). Measuring student satisfaction at a UK university. *Quality Assurance in Education 14*(3), 251-267. doi: 10.1108/09684880610678568.

El Ansari, W., & Oskrochi, R. (2004). What 'really' affects health professions students' satisfaction with their educational experience? Implications for practice and research. *Nurse Education Today, 24*(8), 644-655. doi: 10.1016/j.nedt.2004.09.002

El Ansari, W. (2002a). Student nurse satisfaction levels with their courses: part 1--effects of demographic variables. *Nurse Education Today, 22,* 159-170. doi: 10.1054/nedt.2001.0682

El Ansari, W. (2002b). Student nurse satisfaction levels with their courses: part 2--effects of academic variables. *Nurse Education Today, 22,* 171-180. doi: 10.1054/nedt.2001.0683

El Hassan, K. (2008). Identifying indicators of student development in college. *College Student Journal, 42*(2), 517-530. Retrieved from http://proquest.umi.com/pqdlink?vinst=PROD&fmt=6&startpage=-1&ver=1&vname=PQD&RQT=309&did=810153961&exp=11-26- 2014&scaling=FULL&vtype=PQD&rqt=309&TS=1259351903&clientId=2241

Elliott K. M. (2002). Key determinants of student satisfaction. *Journal of College Student Retention, 4*(3), 271-279. doi: 10.2190/B2V7-R91M-6WXR-KCCR

El-Masri, M. M., & Fox-Wasylyshyn, S. M. (2005). Best practices in research methods: missing data: An introductory conceptual overview for the novice researcher. *Canadian Journal of Nursing Research, 37*(4), 156-171. Retrieved from: http://docserver.ingentaconnect.com/deliver/connect/mcgill/08445621/v37n4/s10.pdf?expires=1282575649&id=58289656&titleid=6601&accname=University+of+Windsor&checksum=A40398A4F102D2D8DB272915E02CC774

Espeland, V., & Indrehus, O. (2003). Evaluation of students' satisfaction with nursing education in Norway. *Journal of Advanced Nursing, 42*(3), 226-236. doi: 10.1046/j.1365-2648.2003.02611.x

Field, A. (2005). *Discovering Statistics Using SPSS.* London: SAGE.

Frand, J.L. (2000). The information-age mindset: changes in students and implication for higher education. *EDUCAUSE review,* September/October, 15-24. Retrieved from

http://www.educause.edu/EDUCAUSE+Review/EDUCAUSEReviewMagazineVolume35/TheInformationAgeMindsetChange/157642

Freeman, J., Hall, E. E., & Bresciani, M. J. (2007). What leads students to have thoughts, talk to someone about, and take steps to leave their institution? *College Student Journal, 41*(4), 755-770. Retrieved from http://findarticles.com/p/articles/mi_m0FCR/is_4_41/ai_n27484163/?tag=content;col1

Gibson, A. (2010). Measuring business student satisfaction: a review and summary of the major predictors. *Journal of Higher Education Policy and Management, 32*(3), 252-259. doi: 10.1080/13600801003743349

Gibson, S. E. (2009). Enhancing intergenerational communication in the classroom: recommendations for successful teacher-student relationships. *Nursing Education Perspectives,30*(1), 37-39. Retrieved from http://proquest.umi.com/pqdlink?index=9&sid=1&srchmode=3&vinst=PROD&fmt=6&startpage=-1&clientid=2241&vname=PQD&RQT=309&did=1654429941&scaling=FULL&ts=1260460565&vtype=PQD&aid=2&rqt=309&TS=1260460589&clientId=2241

Gordon, V. N., & Steele, M. J. (2005). The advising workplace: generational differences and challenges. *NACADA Journal, 25*(1), 26-30. Retrieved from http://www.eric.ed.gov/ERICWebPortal/custom/portlets/recordDetails/detailmini.jsp?_nfpb=true&_&ERICExtSearch_SearchValue_0=EJ808101&ERICExtSearch_SearchType_0=no&accno=EJ808101

Grayson, J. P. (2004). The relationship between grades and academic program satisfaction over four years study. *The Canadian Journal of Higher Education, 34* (2), 1-34. Retrieved from http://proquest.umi.com/pqdlink?vinst=PROD&fmt=6&startpage=-

1&ver=1&vname=PQD&RQT=309&did=810153961&exp=11-26-2014&scaling=FULL&vtype=PQD&rqt=309&TS=1259351478&clientId=2241

Gremler, D. D., & McCollough, M. A. (2002). Student satisfaction guarantees: an empirical examination of attitudes, antecedents, and consequences. *Journal of Marketing Education, 24*(2), 150-160. doi: 10.1177/027753024002008

Guadagnoli, E., & Velicer, W. (1988). Relation of sample size to the stability of component patterns. *Psychological Bulletin, 103*(2), 265-275. Retrieved from: http://ft.csa.com.ezproxy.uwindsor.ca/ids70/resolver.php?sessid=v7o4lu1dtbqfq008ehpviu5ge3&server=csaweb109v.csa.com&check=0a5d5dd27e2b40493976e91b2b781341&db=psycarticles-set-c&key=BUL%2F103%2Fbul_103_2_265&mode=pdf

Health Canada (2007). *Nursing Issues: Education.* Retrieved from http://www.hc-sc.gc.ca/hcs-sss/pubs/nurs-infirm/onp-bpsi-fs-if/2006-educ-eng.php#tphp

Health Force Ontario (2008). *Nursing graduate guarantee for new Ontario graduate nurses.* Retrieved from http://www.heathforceontario.ca/Work/InsideOntario/OntarioNurses/NursingGradGuarantee.aspx

Helgesen, O., & Nesset, E. (2007). What accounts for students' loyalty? Some field study evidence. *International Journal of Educational Management, 21*(2), 126-143. doi: 10.1108/09513540710729926

Hoffman, J. L., & Lowitzki, K. E. (2005). Predicting college success with high school grades and test scores: Limitations for minority students. *The Review of Higher Education 28,* (4), 455-474. Retrieved from: http://muse.jhu.edu.ezproxy.uwindsor.ca/journals/review_of_higher_ education/v028/28.4hoffman.html

Isaac, R. G., Zerbe, W. J., & Pitt, D. C. (2001). Leadership and motivation: The effective application of expectancy theory. *Journal of Managerial Issues, 13*(2), 212-226. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=4828324&site=ehost-live

Kearns, L. E., Shoaf, J. R., & Summey, M. B. (2004). Performance and satisfaction of second-degree BSN students in web-based and traditional course delivery environments. *Journal of Nursing Education, 43*(6), 280-284. Retrieved from http://proquest.umi.com/pqdlink?vinst=PROD&fmt=6&startpage=-1&ver=1&vname=PQD&RQT=309&did=651744991&exp=11-26-2014&scaling=FULL&vtype=PQD&rqt=309&TS=1259350957&clientId=2241

Kerridge, J.R., & Mathews, B.P. (1998). Student rating of courses in HE: further challenges and opportunities. *Assessment & Evaluation in Higher Education, 23*(1), 71-82. doi: 10.1080/0260293980230106

Kinsella, F. E., Williams, W. R., & Green, B. F. (1999). Student nurse satisfaction: implications for the common foundation programme. *Nurse Education Today, 19,* 323-333. Retrieved from http://journals1.scholarsportal.info/tmp/18176132747081949487.pdf

Kress, A. M. (2006). Identifying what matters to students: improving satisfaction and defining priorities at Santa Fe Community College. *New Directions for Community Colleges, 134,* 37-46. doi: 10.1002/cc.235

Liegler, R. M. (1997). Predicting student satisfaction in baccalaureate nursing programs: testing a causal model. *Journal of Nursing Education, 36* (8), 357-369. Retrieved from http://proquest.umi.com/pqdlink?Ver=1&Exp=06-17-1013&FMT=7&DID=23194358&R

McCollough, M. A., & Gremler, D. D. (1999). Guaranteeing student satisfaction: an exercise in treating students as customers. *Journal of Marketing Education, 21*(2), 118-130. doi: 10.1177/0273475399212005

Moe, K., Brockopp, D.A., Walmsley, L.A., Davis, J., Butler, K., Diebold, C., & Maiti, S.R. (2009). A pilot project to evaluate the academic performance, abilities, and satisfaction of second-degree students. *Nursing Education Perspectives, 30*(4), 226-228. Retrieved from: http://web.ebscohost.com.ezproxy.uwindsor.ca/ehost/pdfviewer/pdfviewer?vid=3&hid=107&sid=cf2fd3c5-0faa-448e-9587-3e0d2901089f%40sessionmgr110

Munro, B.H. (2001). *Statistical methods for health care research* (4th ed.). Philadelphia: Lippincott, Williams & Wilkins.

Munro, B. H. (2005). *Statistical Methods for Healthcare Research* (5th ed.). Philadelphia: Lippincott, Williams & Wilkins.

Noel-Levitz (2008a). *Retention tools: Noel-Levitz satisfaction-priorities assessment.* Retrieved from https://www.noellevitz.com/Our+Services/Retention/Tools/

Noel-Levitz (2008b). *Student satisfaction inventory: Reliability and validity.* Unpublished work.

Norman, L., Buerhaus, P. I., Donelan, K., McCloskey, B., & Dittus, R. (2005). Nursing Students assess nursing education. *Journal of Professional Nursing, 21*(3), 150-158. doi: 10.1016/j.profnurs.2005.04.003

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). New York: McGraw Hill.

Oblinger, D. (2003). Boomrs, Gen-Xers & Millennials: understanding the new students. *EDUCAUSE review,* 37-47. Retrieved from http://net.educause.edu/ir/library/pdf/erm0342.pdf

Osborne, J.W. & Costello, A.B. (2004). Sample size and subject to item ratio in principal components analysis. *Practical Assessment, Research & Evaluation, 9*(11). Retrieved from: http://PAREonline.net/getvn.asp?v=9&n=11.

Polit, D. F. (1996). *Data Analysis & Statistics for Nursing Research.* Stamford, Connecticut: Appleton & Lange.

Polit, D.F. & Beck, C.T. (2006). *Essentials of nursing research: Methods, appraisal, and utilization* (6th ed.). Philadelphia: Lippincott Williams & Wilkins.

Polit, D. F., & Beck, C. T. (2007). *Canadian Essentials of Nursing Research* (2nd ed.). Philadelphia: Lippincott Williams & Wilkins.

Satisfaction. (2009). In *Merriam-Webster online dictionary.* Retrieved from http://www.merriam-webster.com/dictionary/satisfaction

Shaw, S. & Fairhurst, D. (2008). Engaging a new generation of graduates. *Education and Training, 50*(5), 366-378. doi: 10.1108/00400910810889057

Stevens, J. (1996). *Applied Multivariate Statistics for the Social Sciences* (3rd ed.). Mahwah, New Jersey: Lawrence Erlbaum Associates.

Stone, A.A., Turkkan, J.S., Bachrach, C.A., Jobe, J.B., Kurtzman, H.S., & Cain, V.S. (Eds.) (2000). *The Science of Self-Report: Implications for research and practice.* Mahwah, New Jersey: Lawrence Erlbaum Associates.

Strage, A. (2008). Traditional and non-traditional college students' descriptions of the "ideal" professor and the "ideal" course and perceived strengths and limitations. *College Student Journal, 42*(1), 225-231. Retrieved from: http://search1.scholarsportal.info.ezproxy.

uwindsor.ca/ids70/view_record.php?id=2&recnum=0&log=from_res&SID=0260858605f7ab83702592275933f162&mark_id=search%3A2%3A0%2C0%2C1

Suhre, J. M., Jansen, E. P., & Harskamp, E.G. (2007). Impact of degree program satisfaction on the persistence of college students. *Higher Education, 54,* 207-226. doi: 10.1007/s10734-005-2376-5

Tabachnick, B. G., & Fidell, L. S. (2001). *Using multivariate statistics* (4th ed.). New York: HarperCollins College Publishers.

Torabi, M., & Ding, K. (1998). Selected critical measurement and statistical issues in health education evaluation and research. *The International Electronic Journal of Health Education, 1*, 26-38. Retrieved from: http://www.aahperd.org/aahe/publications/iejhe/loader.cfm?csModule=security/getfile&pageid=39319

Vroom, V. H. (1995). *Work and Motivation.* San Francisco: Jossey-Bass.

Waltz, C.F., Strickland, O.L., & Lenz E.R. (2005). *Measurement in Nursing and Health Research* (3rd ed.). New York: Springer.

Wefald, A. J., & Downey, R. G. (2009). Construct dimensionality of engagement and its relation with satisfaction. *The Journal of Psychology, 143*(1), 91-111. Retrieved from http://proquest.umi.com/pqdweb?index=0&sid=9&srchmode=2&vinst=PROD&fmt=6&startpage=1&clientid=2241&vname=PQD&RQT=309&did=1615031211&scaling=FULL&ts=1260397705&vtype=PQD&rqt=309&TS=1260397712&clientId=2241

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