

12-2013

# Exploring Self-Efficacy and Stress of Senior Nursing Students who Participate in Progressive Simulation.

Kaitlyn Nora Luckey-Smith  
*East Tennessee State University*

Follow this and additional works at: <https://dc.etsu.edu/honors>



Part of the [Nursing Commons](#)

---

## Recommended Citation

Luckey-Smith, Kaitlyn Nora, "Exploring Self-Efficacy and Stress of Senior Nursing Students who Participate in Progressive Simulation." (2013). *Undergraduate Honors Theses*. Paper 111. <https://dc.etsu.edu/honors/111>

This Honors Thesis - Withheld is brought to you for free and open access by the Student Works at Digital Commons @ East Tennessee State University. It has been accepted for inclusion in Undergraduate Honors Theses by an authorized administrator of Digital Commons @ East Tennessee State University. For more information, please contact [digilib@etsu.edu](mailto:digilib@etsu.edu).

Exploring Self-Efficacy and Stress of Senior Nursing Students who Participate in  
Progressive Simulation Experiences

Thesis submitted in partial fulfillment of Midway Honors Scholars Program requirements

By

Kaitlyn Nora Luckey-Smith

The Honors College

Midway Honors Scholars Program

East Tennessee State University

---

Kaitlyn Nora Luckey-Smith

---

Lisa Davenport, Faculty Mentor

---

Joy Wachs, Faculty Reader

---

Patricia Harnois-Church,  
Faculty Reader

## Abstract

An abstract of the thesis of Kaitlyn Nora Luckey-Smith for The Honors College, Midway Honors Scholars Program at East Tennessee State University.

Thesis Title: Exploring Self-efficacy and Stress of Senior Nursing Students Who Participate in Progressive Simulation Experiences.

According to Bandura (1994), self-efficacy is defined as "the belief in one's capabilities to organize and execute the courses of action required in managing prospective situations" (quoted by Pajaras, 1996, p. 543). Self-efficacy has long been theorized to increase job retention and success after graduation from a nursing program. In this study, the researchers explored whether high fidelity simulation during the senior semester of nursing school increases perceived self-efficacy among nursing students. We also evaluated the impact of stress levels on perceived self-efficacy. The study surveyed 135 senior BSN students from both traditional and accelerated programs at Southeastern Tennessee University using 15 items modified from pre-validated general self-efficacy and stress scales in a 7-point Likert-like scale format.

Results showed that high-fidelity simulation-based training increase perceived self-efficacy over time, with significant increases from pre-simulation scores to post capstone simulation experience scores. Stress levels were not correlated with self-efficacy in the study.

The information gleaned from this study has implications for nursing education and post-graduation job retention. The results suggest that high-fidelity simulation-based education is an effective way to increase self-efficacy in senior nursing students. Significance and limitations of the results are discussed, along with suggestions for future research.

## **“Exploring Self-efficacy and Stress of Senior Nursing Students Who Participate in Progressive Simulation Experiences”**

### **Introduction**

Nursing education is a process by which theoretical and practical frameworks are combined to prepare adult learners for practice as professional nurses (Adams, 1999; Hatlevik, 2012, McNamara, 2000). Nursing education must constantly evolve to meet the needs of students, and provide a solid foundation for subsequent practice (Lindeman, 2000). Clinical education is provided through clinical and simulation experiences, which place students in supported roles with clinical educators and practicing nurses, allowing students to practice in a manner expected upon graduation (Hunsberger, et al., 2000). Many programs introduce an additional component, a senior practicum experience including a one-on-one preceptorship with an experienced nurse in a variety of settings, and simulation with high fidelity mannequins for a specific number of hours (Luhanga, Billay, Grundy, Myrick, & Yongeeyy, 2010). This capstone-type course allows student learners to progress to a level of independence and knowledge that is necessary for the transition to professional nursing (Billett, Cross, Newton, Ockerby, & White 2011, Udliis, 2008;).

However, relatively little empirical evidence about the advantages of this method of nursing education exist (Udliis, 2008). This pilot study examined the value of simulation as part of a senior capstone experience in baccalaureate nursing education. The focus of the study was student perceptions of their preparation for professional practice related to self-efficacy as they progressed through simulation experiences as part of the BSN programs Capstone simulation experience. Additionally, the relationship between stress and self-efficacy was explored.

## Theoretical Framework

### The Concept of Self Efficacy

According to Albert Bandura (1994), self-efficacy is defined as "the belief in one's capabilities to organize and execute the courses of action required in managing prospective situations" (quoted by Pajaras, 1996, p. 543) Simply stated, self-efficacy is the confidence in one's ability to complete a task or reach a goal successfully. Higher self-efficacy is associated with greater self-motivation, commitment to learning and overall success (Sinclair & Ferguson, 2009).

Both motivation and commitment to learning are significant factors in helping new graduate nurses overcome the hurdles of nursing and succeed in the nurse role. However, Carlson, Kotze and Van Rooyen (2005), found that senior nursing students experience low levels of reported self-efficacy and confidence in both skills and the application of theoretical frameworks in clinical practice. One way to increase self-efficacy among nursing students is through high fidelity simulation. "Simulation in nursing provides students the opportunity to expand the boundaries of conventional learning from an instructional paradigm to a blending of modalities that enrich the student experience and provide an avenue for self-determined learning" (Cardoza & Hood, 2012 p. 142-147). As can be seen, simulation, such as that incorporated into the Senior practicum course at a Southeastern Tennessee university's BSN Program, has the potential to increase confidence levels among senior nursing students and ease the transition into professional practice, increasing not only self-efficacy, but also success as a new graduate.

### Benner's Beginner to Expert Theory

Patricia Benner, a noted nursing theorist, posited a model of career development in nursing, the novice to expert model (Benner, 1982; Cash, 1995). This theory stated that, with experience, a beginner could move from a novice position (doing things because they are told) to an experienced caregiver role (understanding the reasoning behind their actions). This framework is one that reflects the process of nursing education. A nursing student moves from a novice position, understanding the basics of assessment and skills, and progresses to a more experienced role, with a better understanding of the assessment process and the theory behind the application of skills. The senior practicum was designed to assist students in a similar way, by providing opportunities for the practice of skills, application of theory and assessment of patients while still in the relatively low-pressure environment of simulation. In the same way that training wheels help a child learn to ride a bike, the mentor moves the student slowly down the continuum of knowledge, toward the ultimate goal of independently caring for patients.

High fidelity simulation mimics the response of patients in the clinical setting. In this way, student nurses move from a position of timidity to one of increased self-efficacy and confidence, with a greater understanding of the current nursing role.

### **Stress and Self-Efficacy**

Stress is another important factor of concern when assessing self-efficacy. Zajacova, Lynch and Empenshade (2005) reported a strong correlation between stress, anxiety, and low self-efficacy scores, suggesting that students who have high stress levels experience less confidence and lowered performance abilities (Zajacova, et, al. 2005). For this reason, the researchers collected data regarding stress among students participating in the BSN Senior Practicum course to assess the potential for negative effects of simulation-related anxiety and stress on ability to perform nursing tasks and students perceived self-efficacy

## **Hypothesis**

Students participating in simulation, as a part of a Southeastern Tennessee University's Baccalaureate Nursing Program Senior Practicum course, will have progressively increased self-reported levels of self-efficacy throughout the semester. However, students who report high levels of stress related to simulation-based training are expected to display an inverse relationship with self-efficacy and confidence, providing lower levels of rated confidence in their abilities and self efficacy than students reporting lower levels of stress.

## **Senior Practicum Course Description**

This capstone clinical course is focused on the preparation of nursing students for transition to professional nursing practice and incorporates 192 hours of clinical experience with a nurse preceptor, and 24 additional hours of simulation experiences in the College of Nursing high fidelity simulation laboratory.

## **Method**

### **Subjects and Confidentiality**

The study, conducted from August 2013 to December of 2013, included 133 Bachelor of Science in Nursing (BSN) students in their final semester of a Southeastern Tennessee University's nursing program. Participants were a mixed population of traditional and accelerated students. No exclusionary criteria were necessary and therefore, the population surveyed included participants of both genders and ages 18-53. All students were enrolled in the Senior Practicum course at the time of the study.

Confidentiality was addressed, and no identifying data were collected from the study participants. However, basic demographic information was collected, but only to the extent that such variables might affect ratings. Results were communicated only in aggregated form to avoid any potential of identifying individual respondents.

The survey was administered on a voluntary basis and no student was required to take the survey (See Appendix A). Only the researchers had direct access to survey data. The student researcher did not, at any point, have access to student grades or other aspects of students' performance, and was not present during simulations except when required to be present as a student for individual academic purposes.

121 students responded during the first administration of the survey, with 120 of those students providing demographic information. Of the 120 students, 96 were female, and 24 were male; 87 were in the traditional BSN program, and 33 were in the accelerated BSN program. See Student reports of practicum department assignments (Table 1)

The self-reported age of respondents ranged from 18 to 53, with a mean of 28.2 years. Ages of respondents are presented in the histogram (Figure 1).

*Table 1 Practicum Department*

Department	Frequency	Percent
ED	16	13.2
ICU	26	21.5
Medical/Surgical	27	22.3
OB/L&D	9	7.4
OR	5	4.1
Other	37	30.6
Missing	1	0.8
<b>Total</b>	<b>121</b>	<b>100.0</b>



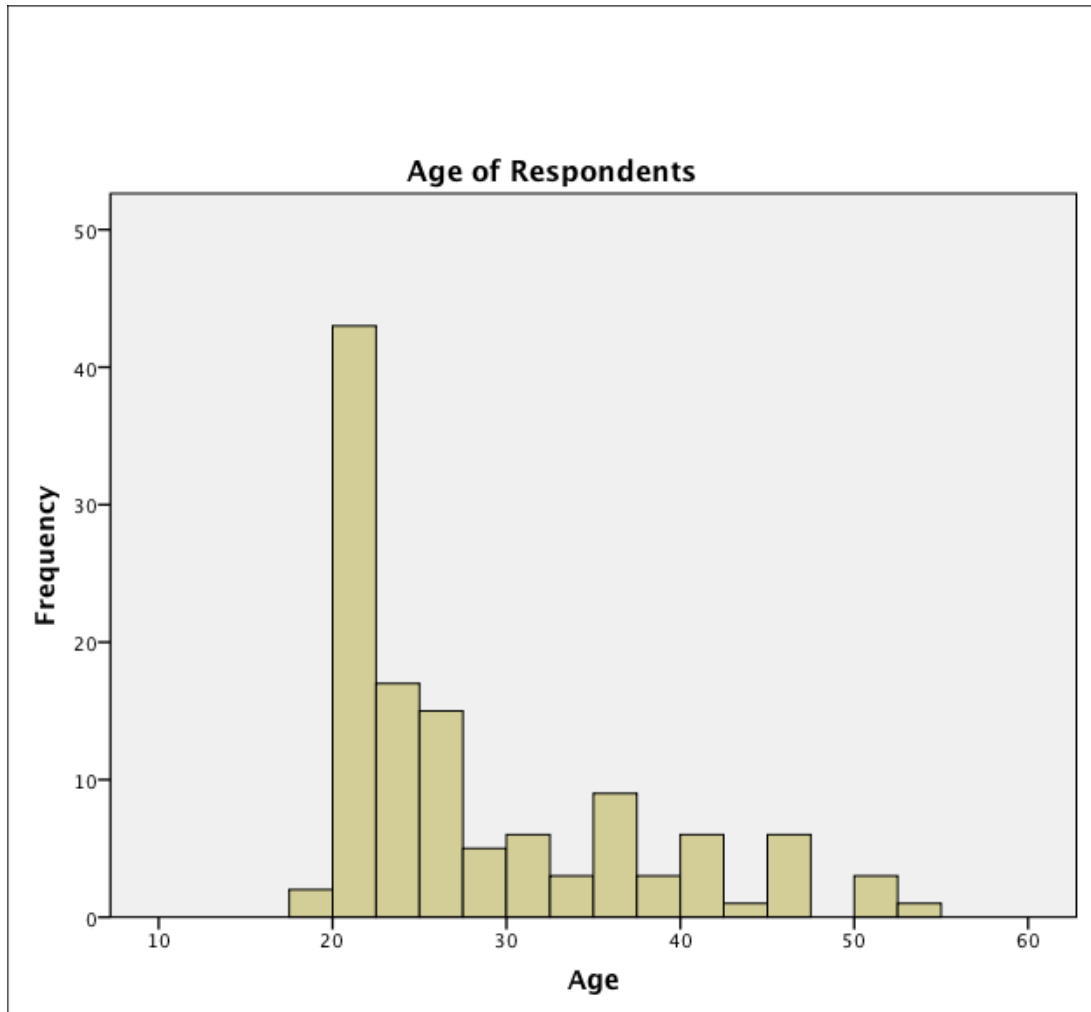


Figure 1. *Age of Respondents.*

## Data Collection and Instrument Development

### Data Collection

Data collection included distribution of a survey about student perceived confidence and self-efficacy four times during the semester. The survey was distributed at the beginning of the semester, at the end of the first simulation experience in September, at the end of the second simulation experience in October and at the end of the capstone simulation experience in November. The initial pre-simulation survey was distributed in both sections of the NRSE 4060

“Transition to Professional Practice” course, with permission from the instructor. In succeeding rounds of survey administration, the surveys were distributed to students by the researchers as they rotated through the various simulation experiences in NRSE 4061 “Senior Practicum”. The number of respondents during each round of the survey administrations is provided in Table 2. The researchers theorize that the low percent of returned surveys during the second administration may be due to a lost survey packet.

Table 2. *Number of completed surveys for each of the four survey administrations.*

Survey Administration Round	Frequency	Percent
First Administration	121	32.1
Second Administration	50	13.3
Third Administration	111	29.4
Fourth Administration	95	25.2
Total	377	100.0

### Instrument Development

The survey instrument was a combination of two previously validated surveys that have been used to assess self-efficacy in nursing education (Taylor & Reyes, 2012; Clark, Owen & Tholcken, 2004), and two items related to stress associated with simulation-based education, based on modified items from the Perceived Stress Scale (Cohen & Janicki-Deverts, 2012; Cohen, Kessler, & Gordon, 1995).

In particular, general self-efficacy (Chen, Gully & Eden, 2001) has been related to resilience and persistence in nursing students as they pursue their careers (Taylor & Reyes, 2012). The 10-Item General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995) has been

extensively studied in a number of populations, and is reported to be of high content validity, high reliability ( $\alpha=0.76-0.90$ ), and unidimensional (Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002). Items 2, 4, 5, 7, 8, 10-12, 14, and 15 from the English version were revised, according to author instructions, and focused on the purposes of the present study relative to patient care (see Table 3 for the specific item stems).

3 items related to specific efficacy (Items 3, 6 and 13; see Table 3) were derived based on substantial modifications of items from validated scales provided by Artino, et al. (2012) and Clark, Owen & Tholcken (2004). Specifically, items were modified from the 30-Item Self-Efficacy for Clinical Evaluation, developed and validated by Clark, Owen and Tholcken (2001), to enhance clinical evaluations of nursing students. Internal consistency was shown to be very high ( $\alpha=0.98$ ) and validity was based upon content analysis relative to instructional objectives, and by means of confirmatory factor analysis resulting in unidimensionality, as suggested by Anderson and Gerbing (1991).

Additionally, to address specific concerns related to stress that might impact the effectiveness of simulation-based training, two items (Items 1 and 9; see Table 3) were derived based on modification of items from the Perceived Stress Scale (Cohen & Janicki-Deverts, 2012; Cohen, Kessler, & Gordon, 1995).

Modification and adaptation of items from instruments that have previously validated psychometric properties provided a basis for initial assurance of reliability and validity, while collecting data to assess the impact of high-fidelity simulation experiences in the senior practicum. The survey, presented in Appendix A, includes 10 items to assess general self-efficacy related to nursing practice, 3 items to assess self-efficacy in clinical, and 2 items to assess student stress during simulation-based education.

The 15 items were all rated on a 7-point Likert-type scale, with 1 representing strong disagreement with the stem item, and 7 representing strong agreement. The survey also included such demographic information as the Senior Practicum department (ED, ICU, Medical, Surgical, OB, L&D, Etc.), gender, age and BSN Program type to assess the impact of these potentially significant factors on outcome measures.

Although all survey items are modifications of items from previous surveys that demonstrated acceptable item- and scale-specific psychometric properties, Factor Analyses and Scale Reliability Analyses were used (IBM SPSS Statistics Version 20) to ensure that the final inclusion of items in the analysis of data as a summated scale was appropriate.

Initial exploratory factor analysis (EFA) results showed that scale items loaded on two factors, but that the second factor was heterogeneous and included two items that provided significant information with respect to educational course objectives, but did not correlate highly with other items, including with each other. These items (Item 3, “I feel certain I can pass the NCLEX-RN,” and Item 9, “I feel nervous or “stressed” about my ability to perform well in the simulation-based training”) were reserved for separate analysis, but were dropped from further analysis of scale development, in keeping with recommendations offered by Gerbing and Anderson (1988) for scale modification.

Subsequent factor analysis resulted in a summated scale consisting of the 13 remaining items with an internal consistency of  $\alpha=0.94$ , and was unidimensional. The 13 items that contributed to the Nursing Self Efficacy scale developed for this study, along with the factor loadings of the items, are provided in Table 3. The factor loadings for the 13 items that contribute to the Nursing Self Efficacy scale all substantially exceeded the lower boundary of

0.30 to 0.35 suggested by Spector (1992) for concluding that an item loads on a factor. The lowest obtained value for a factor loading was Item 11, with a loading of 0.60.

Spector also noted that a widely accepted standard for internal consistency is that a scale should have an  $\alpha$  greater than 0.70. The obtained value of 0.94 substantially exceeds the threshold.

Table 3. *Items contributing to the Nursing Self Efficacy Scale with their factor loadings.*

Item Number	Item Stem	Loading
1	I feel confident about training that is based upon high-fidelity patient simulation.	0.65
2	Thanks to my resourcefulness, I know how to handle unforeseen situations in a patient care environment.	0.74
4	I can always manage to solve difficult problems when caring for patients if I try hard enough.	0.74
5	If I find myself in trouble when caring for a patient, I can usually think of a solution.	0.80
6	I feel well prepared to function as a nurse.	0.81
7	I am confident that I could deal efficiently with unexpected events and emergencies with patients.	0.82
8	It is easy for me to stick to my aims and accomplish my goals in taking care of patients.	0.78
10	I can usually handle whatever difficult situations come my way.	0.80
11	If a coworker or family member opposes me, I can find the means and ways to address the situation tactfully.	0.60
12	I can solve most problems that arise in patient care if I invest the necessary effort.	0.82
13	I can effectively unite theory with practice.	0.75
14	I can remain calm when facing difficult patient care situations because I can rely on my coping abilities.	0.74
15	When I am confronted with a patient care problem, I can usually find several solutions.	0.83

## Results

Data were analyzed using IBM SPSS Statistics Version 20. For the composite (i.e., summed) Nursing Self-Efficacy scale, the mean was 71.74, Standard Deviation was 8.67,

Standard Error of the Mean was 0.47, and the minimum and maximum scores were 39 and 91, respectively.

Figure 2 provides an Error-Bar graph for the Nursing Self-Efficacy scale associated with repeated administrations of the survey during the progress of NRSE 4061 “Senior Practicum”.

The bars represent two standard errors of the mean.

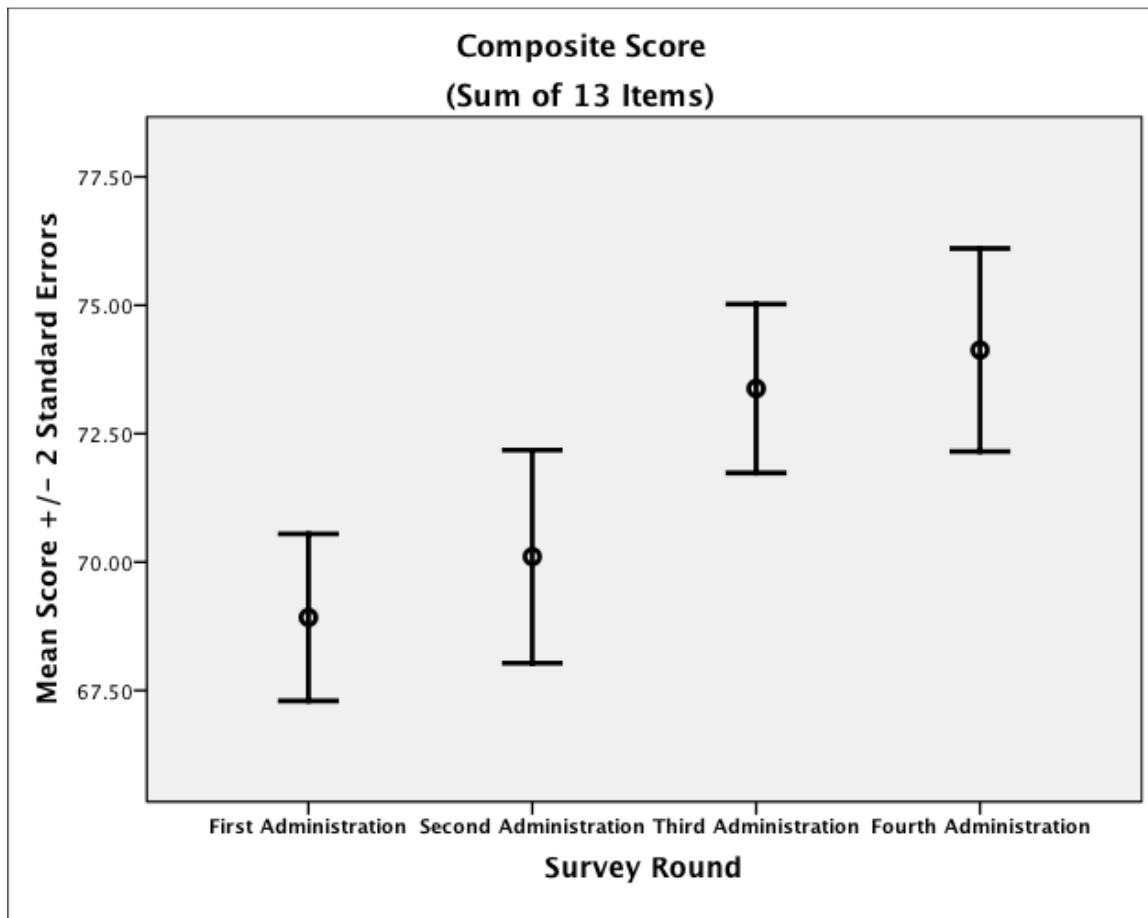


Figure 1. Error Bar Chart for the Composite Scale based upon the sum of the 13 items that contributed to the Nursing Self-Efficacy Scale

A one-way ANOVA was conducted to compare the effect of time in a high-fidelity patient simulation course on nursing self-efficacy among graduating nursing students. Across three administrations of the survey, significant increases in rated nursing self efficacy with the

passage of time was noted ( $F_{(3, 363)}=8.184, p<0.001$ ). Post hoc comparisons using the Tukey HSD test indicated that the mean score for the third administration of the survey ( $M = 73.38, SD = 8.66$ ) and fourth survey administration ( $M=74.13, SD=9.53$ ) were significantly higher than was the score for the first survey administration ( $M = 68.92, SD = 8.75$ ). However, the mean score for the second administration ( $M = 70.11, SD = 7.10$ ) did not significantly differ from the first, third or fourth administrations of the survey, and the third administration did not differ significantly from the fourth administration. Taken together, these results suggest that over time, the exposure to high-fidelity patient simulation experiences do increase rated self-efficacy among senior nursing students. However, the current results suggest that improvements in self efficacy take time to materialize, and that these improvements do not continue to increase progressively beyond the initial impact.

No significant differences were found in the extent to which students changed their rated sense of stress regarding their ability to perform well in simulation-based training as the course progressed. Figure 3 provides a summary for Item 9, “I feel nervous or “stressed” about my ability to perform well in the simulation-based training.”



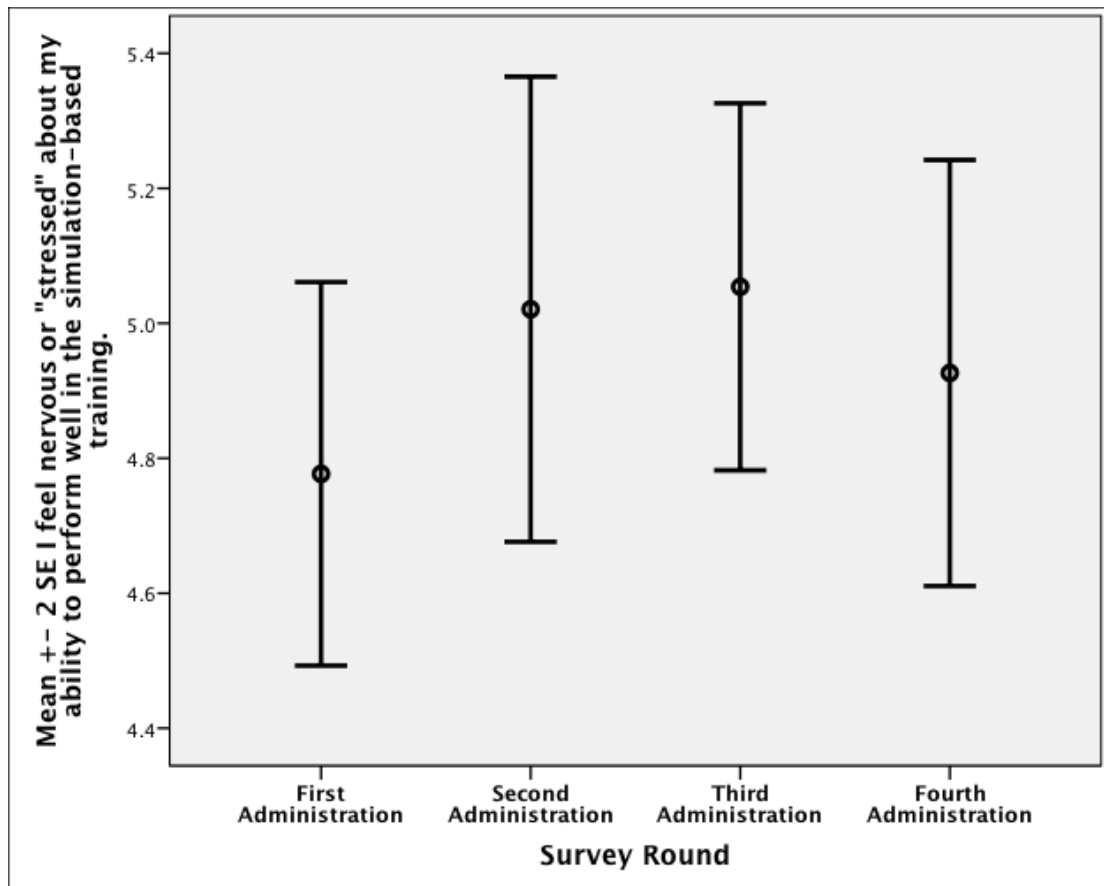


Figure 3. Error Bar chart for Item 9, “I feel nervous or “stressed” about my ability to perform well in the simulation-based training”

By contrast, Item 1, “I feel confident about training that is based on High-fidelity Patient Simulation,” a constituent of the summated Nursing Self Efficacy scale, showed significant increases over the period assessed ( $F_{(3, 370)}=5.44$ ,  $p=0.001$ ). The Tukey HSD test for post hoc comparisons indicated that ratings for the first survey administration were significantly lower than for the second survey administration ( $M=5.08$ ,  $SD=1.15$ ; and  $M=5.63$ ,  $SD=0.76$ , respectively). No significant differences among the second, third and fourth administrations of the survey, were found indicating an initial increase in rated confidence in course methods with exposure, but then no subsequent change.

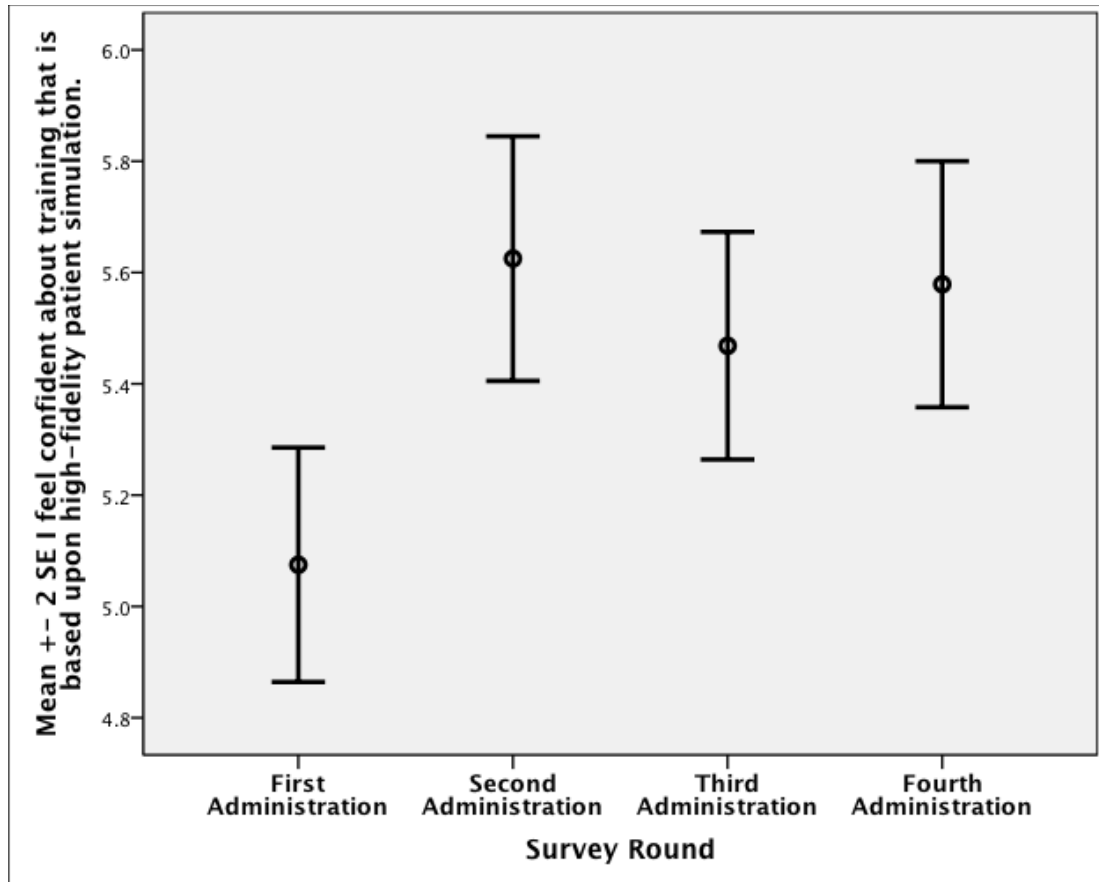


Figure 4. Error Bar chart for Item 1, "I feel confident about training that is based upon High-fidelity Patient Simulation"

Students rated confidence in their ability to pass the NCLEX-RN (Item 3) significantly higher as the course progressed ( $F_{(3, 370)}=6.47$ ,  $p<0.001$ ). Post hoc comparisons using the Tukey HSD test indicated that the mean confidence score regarding the NCLEX-RN for the first survey administration ( $M=5.25$ ,  $SD=1.20$ ) did not significantly differ from the second administration ( $M=5.04$ ,  $SD=1.01$ ), and neither did the mean for the third administration of the survey ( $M = 5.62$ ,  $SD = 1.23$ ) differ significantly from the mean for the fourth survey administration ( $M=5.71$ ,  $SD=0.84$ ). On the other hand, the mean rating of perceived certainty in the ability to pass the NCLEX-RN among students was significantly higher for both the third and fourth administrations of the survey than for either the first or second administrations. This indicates

that as the course progressed, students rated themselves more confident that they could pass the NCLEX-RN. The differences are summarized in Figure 5.

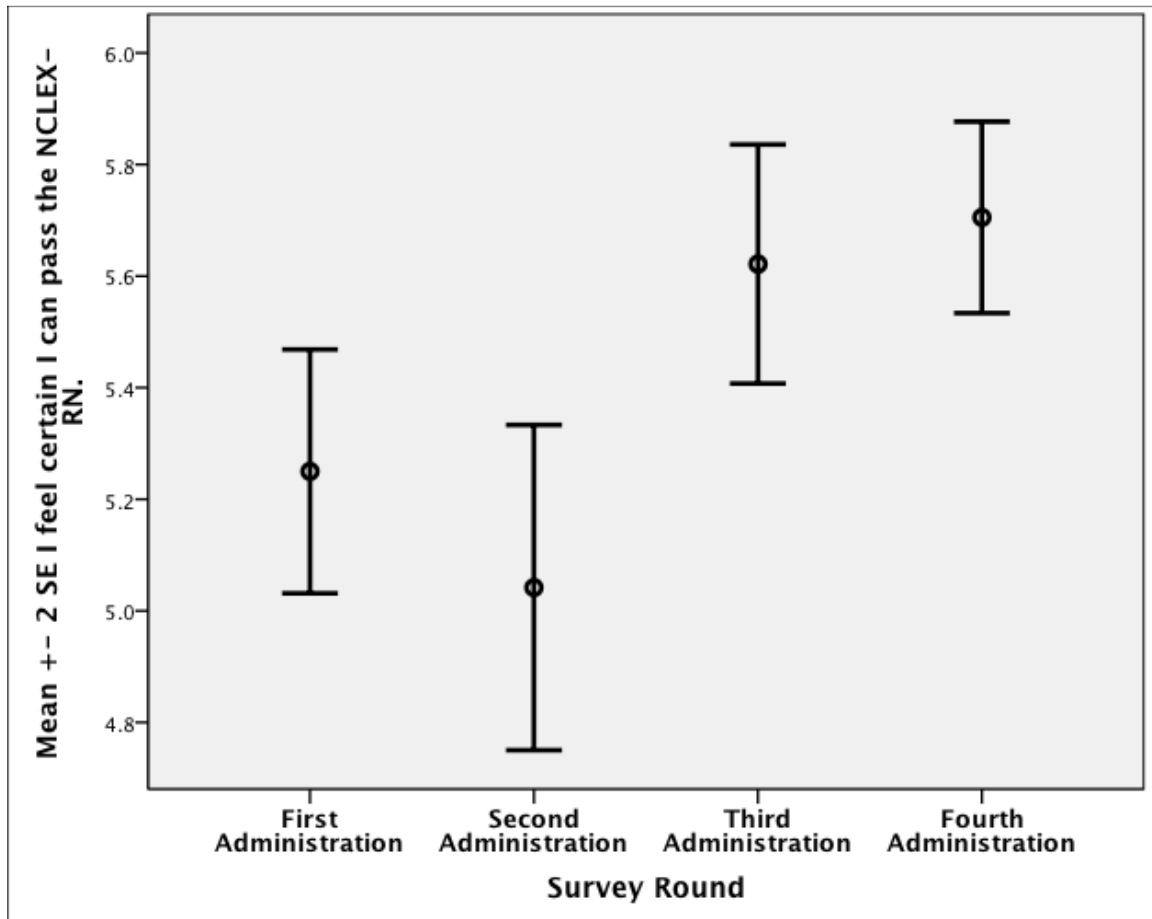


Figure 5. Error Bar chart for Item 3, "I feel certain I can pass the NCLEX-RN"

No significant relationship was found between Item 9 "I feel nervous or "stressed" about my ability to perform well in the simulation-based training" and scores on the composite Nursing Self Efficacy scale. This finding does not support the hypothesized inverse relationship between stress related to simulation-based training and rated levels of self efficacy. However, regression analysis found a significant positive relationship between rated confidence about the ability to pass the NCLEX-RN (Item 3) and scores on the composite Nursing Self Efficacy scale ( $F_{(1,$

$F_{(3, 364)}=101.26, p<0.001$ ). Although not correlated at a level sufficient to contribute to the scale, Item 3 does account for 22% of the variance in composite scores (i.e., Adjusted R-Squared=0.22). This finding indicates a significant relationship between confidence about the ability to pass the licensure exam and perceptions of self efficacy.

Examination of the relationships between the demographic variables collected and composite Nursing Self Efficacy scores did not result in significant relationships associated with age, gender or BSN program affiliation. In contrast with this finding, a significant relationship between the type of unit in which students were practicing during their senior practicum and ratings on the composite score were significant ( $F_{(5, 353)}=2.44, p=0.034$ ), but post hoc tests did not indicate significance for any of the paired comparisons. Figure 6 provides an overview of this relationship.

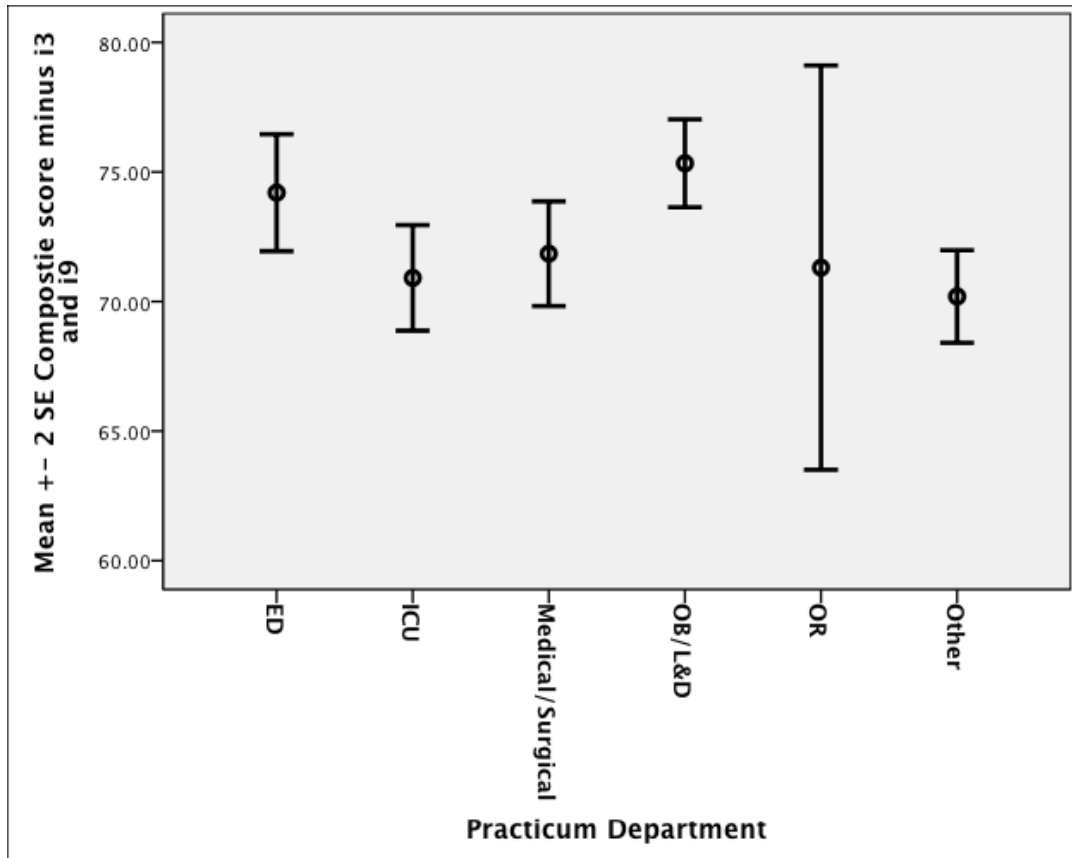


Figure 6. Error Bar chart for relationship between practicum department and Nursing Self-Efficacy scores

## Discussion

This study produced and validated a new Nursing Self-Efficacy Scale for evaluation of Senior Nursing Practicum Course objectives. This scale, and the survey within which the scale was deployed, represent constructive contributions to the assessment of nursing education.

The results of the study were supportive of the hypothesis. The results were consistent with the proposition that self-efficacy can be increased through simulation-based training during the senior semester of the nursing curriculum. The researchers hypothesized that students

participating in simulation-based training would have significantly higher levels of reported self-efficacy and confidence as the semester progressed. Increased mean scores on the composite 13-item Nursing Self-Efficacy Scale developed for this study support this statement. The mean for the fourth administration of the survey (74.13) showed a statistically significant increase in reported self-efficacy from the first administration of the survey (mean= 68.92). Although this increase in self-efficacy supports the study hypothesis, the researchers recognize that it may also be attributed to other extrinsic factors present in the senior semester, including individual departmental practicum experiences, or various intrinsic factors. For example, it may be that cognitive processes associated with preparation for graduation are associated with greater confidence.

One subject of particular note was the increase in mean scores for Item 1 “I feel confident about training that is based on high-fidelity simulation,” which suggests that exposure to the simulation laboratory increases confidence in simulation based training, a finding reflected in Benner’s (1982) “Novice to Expert” theory which suggested that with experience, a beginner can move from a position of novice understanding to one of increased confidence and functional ability.

Also of note was the finding that students placed in labor and delivery and emergency departments for their clinical practicum experience exhibited relatively high overall self-efficacy scores. Although the overall comparison was significant, the lack of post hoc test significance limits the extent to which this finding can be considered comprehensively significant, but the results suggest the potential for those who score high on placement exams (and are therefore more likely to be placed in highly sought after senior practicum departments) have higher self-efficacy. Another potential explanation for this is that students with interest in labor and delivery

or emergency nursing, as noted in senior practicum department requests, may have higher pre-existing self-efficacy and confidence.

The researchers also hypothesized that students who rated their simulation stress level higher (as evidenced by high scores on item number 9 “I feel nervous or “stressed” about my ability to perform well in simulation based training”) would also have lower levels of reported self-efficacy. This hypothesized relationship was not supported, as no significant relationship was observed between scores on Item 9 and Nursing Self-Efficacy scores. The lack of inverse correlation between stress and self-efficacy directly contradicts a 2005 study by Zajocova, Lynch and Empenshade (2005), which reported a strong correlation between increased stress and decreased self-efficacy. One potential explanation for this result was that item number 9 was a reflected item, which did not show substantial inter-item correlation with a related, positively stated, item (Item 1, which loaded on the factor associated with the Nursing Self-Efficacy scale). It appears that students understood the lack of a presence of stress significantly differently than they did the presence of confidence.

Another result that supported the effectiveness of the seminar course is the finding that as the semester progressed, students reported they were more confident in their ability to pass the NCLEX-RN exam. Further, the increase in confidence was associated with increased reported self-efficacy. Both of these results were objectives of the simulation-based educational approach adopted in the senior seminar. Such confidence, if supported by performance on the NCLEX-RN would represent a valuable educational outcome.

The possibility of causation between increased self-efficacy in simulation-based training and increased confidence in the ability to pass the NCLEX-RN exam was not assessed during this study and would benefit from future evaluation.

No statistically significant differences were noted in reported self-efficacy between male and female study participants, nor were significant differences observed in rated nursing self-efficacy related to the age of participants. No significant differences were identified in self-efficacy between students in the accelerated and non-accelerated BSN programs. These findings suggest that the value of simulation-based educational approaches generalize broadly across demographic groupings.

### **Limitations**

The major limitation of this study was the lack of control over other variables. The role of other activities that are part of the senior year in the baccalaureate nursing program, such as previous healthcare experience, individual experiences in clinical placements and individual experiences in lab, were not controlled. Furthermore, the final simulation rotation had a lower participation rate than previous surveys, leading to a smaller participant pool, which may have affected statistical outcomes.

Future research employing a control group of students receiving lectures as opposed to simulation-based training, and random assignment between the conditions would be an important contribution to generalizing the results of this study.

### **Significance and Summary**

The significance of this study lies in identifying self-efficacy in senior nursing students and the effectiveness of high fidelity simulation in increasing self-efficacy and confidence in nursing students. Increased self-efficacy throughout the course of senior practicum indicates that it is an effective way to increase the self-efficacy of student nurses and thereby potentially increase success on NCLEX-RN and job retention post-graduation. The results of the study indicate that self-efficacy occurs in a stepwise fashion, with small increases in self-efficacy over



a period of time leading to a large increase in overall self-efficacy. The results support the proposition that, in conjunction with the other aspects of senior courses, simulation based training can increase confidence and self-efficacy in senior nursing students.

## References

- Adams, B. (1999). Nursing education for critical thinking: An integrative review. *Journal of Nursing Education, 38*(3), 111-119.
- Anderson, J. C., & Gerbing, D. W. (1991). Predicting the performance of measures in a confirmatory factor analysis with a pretest assessment and their subsequent validity. *Journal of Applied Psychology, 76*, 732-740.
- Artino Jr., A. R., Dong, T., DeZee, K. J., Gilliland, W. R., Waechter, D. M., Cruess, D., & Durning, S. J. (2012). Development and initial validation of a survey to assess students' self-efficacy in medical school. *Military Medicine, 177*(9), 31-37.
- Bandura, A. (1994). Self-efficacy. In V. S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (Vol. 4, pp. 71-81). New York: Academic Press.
- Benner, P. (1982). From novice to expert. The Dreyfus Model of Skill Acquisition. *American Journal of Nursing, 82*, 402-407.
- Cardoza, M.P., & Hood, P.A. (2012) Comparative study of baccalaureate nursing student self-efficacy before and after simulation, *CIN: Computers, Informatics, Nursing, 30*(3), 142-147
- Carlson, S., Kotzé, W., & van Rooyen, D. (2005). Experiences of final year nursing students in their preparedness to become registered nurses. *Curationis, 28*(4), 65-73.
- Chen, G., Gully, S. M., & Eden, D. (2001). Validation of a new general self-efficacy scale. *Organizational Research Methods, 4*(1), 62-83.
- Clark, M., Owen S., & Tholcken, M. (2004). Measuring student perceptions of clinical competence. *Journal of Nursing Education, 43*(12), 548-554.

- Clark, M., Owen, S., & Tholcken, M. (2004). Measuring student perceptions of clinical competence. *Journal Of Nursing Education, 43*(12), 548-554.
- Cohen, S., & Janicki-Deverts, D. (2012). Who's stressed? Distributions of psychological stress in the United States in probability samples from 1983, 2006, and 2009. *Journal of Applied Social Psychology, 42*, 1320-1334.
- Cohen, S., Kessler, R., & Gordon, L. (1995). Strategies for measuring stress in studies of psychiatric and physical disorder. In S. Cohen, R. Kessler, & L. Gordon (Eds.), *Measuring stress: A guide for health and social scientists*. New York: Oxford University Press.
- Gerbing, D. W., & Anderson, J. C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research, 25*, 186-192.
- Hatlevik, I. K. R. (2012). The theory-practice relationship: Reflective skills and theoretical knowledge as key factors in bridging the gap between theory and practice in initial nursing education. *Journal of Advanced Nursing, 68*(4), 868-877.
- Hunsberger, M., Baumann, A., Lappan, J., Carter, N., Bowman, A., & Goddard, P. (2000). Educational innovations. The synergism of expertise in clinical teaching: an integrative model for nursing education. *Journal of Nursing Education, 39*(6), 278-282.
- Lindeman, C. (2000). The future of nursing education. *Journal of Nursing Education, 39*(1), 5-12.
- Luhanga, F., Billay, D., Grundy, Q., Myrick, F., & Yongeyy, O. (2010). The one-to-one relationship: Is it really key to an effective preceptorship experience? A review of the literature. *International Journal of Nursing Education Scholarship, 7*(1), 1-15.
- McNamara, A. (2000). Mind the gap: Transitions in nursing education and care delivery systems. *Nursing Administration Quarterly, 25*(1), 39-50.
- Newton, J. M., Cross, W. M., White, K., Ockerby, C., & Billett, S. (2011). Outcomes of a clinical partnership model for undergraduate nursing students. *Contemporary Nurse: A Journal for The Australian Nursing Profession, 39*(1), 119-127.

- Pajares, F. (1996). Self-efficacy beliefs in academic settings. *Review of Educational Research*, 66(4), 543-578.
- Scholz, U., Gutiérrez-Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18(3), 242-251.
- Scholz, U., Gutiérrez-Doña, B., Sud, S., & Schwarzer, R. (2002). Is general self-efficacy a universal construct? Psychometric findings from 25 countries. *European Journal of Psychological Assessment*, 18(3), 242-251.
- Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston (Eds.), *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.
- Sinclair, B. & Ferguson, K. (2009) Integrating simulated teaching/learning strategies in undergraduate nursing education. *International Journal of Nursing Education Scholarship*, 6(1), 1-11.
- Spector, P. E. (1992). *Summated rating scale construction*. Newbury Park, California: Sage Publications.
- Taylor, H., & Reyes, H. (2012). Self-Efficacy and Resilience in Baccalaureate Nursing Students. *International Journal of Nursing Education Scholarship*, 9(1), 1-13.
- Udlis, K. (2008). Preceptorship in undergraduate nursing education: An integrative review. *Journal of Nursing Education*, 47(1), 20-29.
- Weaver, A. (2011). High-fidelity patient simulation in nursing education: An integrative review. *Nursing Education Perspectives*, 32(1), 37-40.
- Zajacova, A., Lynch, S. M., & Empenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, 45(6), 677-680.

## **Appendix A**

Survey Packet: Informed Consent, Survey and IRB Approval Letter:

This informed consent is for (Southeastern Tennessee University) College of Nursing (CON) senior (final semester) students who wish to participate in this voluntary research study. The title of the study is “**Exploring Self-efficacy and Stress of Senior Nursing Students Who Participate in Progressive Simulation Experiences**”. It is important that you read this information carefully before deciding whether you would like to volunteer. You must be a final semester CON BSN Student, who is at least 18 years old, in the accelerated or traditional program path to participate.

PURPOSE:

The purpose of this study is to evaluate the role of the CON Senior Practicum course, and more specifically, the associated simulation experiences, in developing self-efficacy in senior nursing students. High self-efficacy scores are associated with increased confidence, job retention and post graduation career success. This study will also explore the effect of stress on self-efficacy in the simulation setting.

DURATION:

The initial survey will take place in the CON 4060 “Transition to Professional Practice” course and three (3) subsequent surveys will occur after each student sections simulation experience as part of the CON “Senior Practicum” course. The student will be asked to complete a short questionnaire/survey, which will take approximately 10-15 minutes.

PROCEDURES:

This is a non-invasive study in which student volunteers will be asked to answer a short survey regarding self-efficacy. The survey consists of 20 questions and participants are asked to rate each item on a 7 point scale, with 1 indicating a strong disagreement and 7 indicating strong agreement with the questions. After completion, participants will place their survey in a prior designated manila envelope, which will be stored in a secure location. The study is conducted on a voluntary basis and participants may choose to opt out of taking the survey at any time without penalty or punishment. You must be at least 18 years old to participate in this research study.

VOLUNTARY PARTICIPATION:

Participation in the study is strictly voluntary and you may choose to opt out of taking the survey at any time before or during the survey. If you choose not to participate, there will be no influence on your grade or academic endeavors

CONTACT FOR QUESTIONS:

If you have any questions or concerns about the study or any of its components, please contact (Researchers).

**Section 1: Survey of General and Clinical Self Efficacy for Students of Nursing**

For each item, please circle the number that best represents your response.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree Nor Disagree	Somewhat Agree	Agree	Strongly Agree
I feel confident about training that is based upon High-fidelity Patient Simulation.	1	2	3	4	5	6	7
Thanks to my resourcefulness, I know how to handle unforeseen situations in a patient care environment.	1	2	3	4	5	6	7
I feel certain I can pass the NCLEX-RN.	1	2	3	4	5	6	7
I can always manage to solve difficult problems when caring for patients if I try hard enough.	1	2	3	4	5	6	7
If I find myself in trouble when caring for a patient, I can usually think of a solution.	1	2	3	4	5	6	7
I feel well prepared to function as a nurse.	1	2	3	4	5	6	7
I am confident that I could deal efficiently with unexpected events and emergencies with patients.	1	2	3	4	5	6	7
It is easy for me to stick to my aims and accomplish my goals in taking care of patients.	1	2	3	4	5	6	7
I feel nervous or "stressed" about my ability to perform well in the simulation-based training.	1	2	3	4	5	6	7
I can usually handle whatever difficult situations come my way.	1	2	3	4	5	6	7
If a coworker or family member opposes me, I can find the means and ways to address the situation tactfully.	1	2	3	4	5	6	7
I can solve most problems that arise in patient care if I invest the necessary effort.	1	2	3	4	5	6	7
I can effectively unite theory with practice.	1	2	3	4	5	6	7
I can remain calm when facing difficult patient care situations because I can rely on my coping abilities.	1	2	3	4	5	6	7
When I am confronted with a patient care problem, I can usually find several solutions.	1	2	3	4	5	6	7

Running Head: Proposal to Evaluate the Impact 1

**Section 2: Demographic Information.**

Previous research has suggested that a number of factors may affect feelings of self efficacy. The information requested below will help the author to interpret how the type of experience, program and personal experience may impact your reported ratings. These data will not be reported in a manner that would allow identification of individuals.

1. In which department is your senior practicum?

ED    ICU    Medical/Surgical    OB/L&D    OR    Other

2. What is your gender?    Female    Male

3. What is your age? \_\_\_\_\_Years.

3. Which BSN Program are you in?

Traditional    Accelerated

**Thank you for your participation in this study!**





East Tennessee State University

Office for the Protection of Human Research Subjects • Box 70565 • Johnson City, Tennessee 37614-1707  
Phone: (423) 439-6053 Fax: (423) 439-6060

IRB APPROVAL – Initial Exempt

August 27, 2013

Kaitlyn Luckey-Smith

RE: Exploring Self-efficacy and Stress of Senior Nursing Students Who Participate in Progressive Simulation Experiences

IRB#: c0813.18e

ORSPA#: n/a

On **August 27, 2013**, an exempt approval was granted in accordance with 45 CFR 46.101(b)(2). It is understood this project will be conducted in full accordance with all applicable sections of the IRB Policies. No continuing review is required. The exempt approval will be reported to the convened board on the next agenda.

- xform New Protocol Submission; Informed Consent Document; Participant Info attached to Survey; Survey; Demographics Collection Form; Pre-existing Scales as references; References; Resume; Protocol Summary

**Projects involving Mountain States Health Alliance must also be approved by MSHA following IRB approval prior to initiating the study.**

Unanticipated Problems Involving Risks to Subjects or Others must be reported to the IRB (and VA R&D if applicable) within 10 working days.

Proposed changes in approved research cannot be initiated without IRB review and approval. The only exception to this rule is that a change can be made prior to IRB approval when necessary to eliminate apparent immediate hazards to the research subjects [21 CFR 56.108 (a)(4)]. In such a case, the IRB must be promptly informed of the change following its implementation (within 10 working days) on Form 109 ([www.etsu.edu/irb](http://www.etsu.edu/irb)). The IRB will review the change to determine that it is consistent with ensuring the subject's continued welfare.

Sincerely,  
Chris Ayres, Chair  
ETSU Campus IRB



Accredited Since December 2005