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Considering Stress in a Nursing Student Context: Pre-Admission to Pre-Graduation

Daniel M. Regner
University of Central Florida



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CONSIDERING STRESS IN A NURSING STUDENT CONTEXT: PRE-
ADMISSION TO PRE-GRADUATION

by

DANIEL M. REGNER

A thesis submitted in partial fulfillment of the requirements
for the Honors in the Major Program
in the College of Nursing
and in The Burnett Honors College
at the University of Central Florida
Orlando, Florida

Spring Term, 2018

Thesis Chair: Diane Andrews, PhD

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ABSTRACT

In moderation, stress is a normal response to a perceived challenge which can motivate an individual to perform at their best. Nursing students consistently report a significant amount of stress which has been found to be greater than their non-nursing peers. The purpose of this study is to assess the level of stress reported by second-semester freshman and sophomore students who have declared nursing as a major, compared with the level of stress experienced by junior and senior students who are enrolled in the university's nursing program. Through this comparison, a conclusion can be drawn as to the level of stress experienced while enrolled in a nursing program, with the level of stress prior to being exposed to the challenges presented by the program. It is intended that the outcomes from this study can be utilized to address stress as it relates to a nursing student from pre-admission through graduation.

Keywords: Nursing Student, Stress, Pre-licensure

DEDICATION

For my wife, Emily. Thank you for encouraging me to achieve that which I might never have had thought possible. I am so incredibly grateful for all of the sacrifices that you have made and continue to make.

ACKNOWLEDGEMENTS

I would first like to recognize my committee members Dr. Diane Andrews and Dr. Kelly Allred for their support and guidance through the entirety of the research process. Without each of your expertise and insight, this thesis would not have been possible. Your commitment, time, patience and perseverance are sincerely appreciated.

I would like to thank the UCF College of Nursing for the outstanding opportunity to pursue my education in Nursing under the guidance of a faculty that is truly passionate about the nursing profession. I am incredibly grateful to have had the opportunity to receive such a high-quality education from such a committed cadre of nurse educators.

Lastly, I would like to thank all of the individuals who supported and stood by me to ensure that I had an opportunity to attend nursing school. I could never totally express my gratitude to all of the committed Airmen who stood by and stood up for me. Thank you.

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INTRODUCTION

Stress is an unavoidable, yet necessary component of even the healthiest of lifestyles. In a healthy balance, stress can be beneficial and can even increase an individual's productivity and performance (McEwen, 2008). It is also true that in excess, this experience can be a detriment to one's physical and emotional health (Bartlett, Taylor, & Nelson, 2016). In their pioneering work, Lazarus and Folkman (1984) define stress as a "particular relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her wellbeing" (p. 19). The stressor by this definition would be any perceived overwhelming of one's available resources. The practice of nursing has been associated with high levels of stress (American Nurses Association [ANA], 2011; Cimiotti, Aiken, Sloane, & Wu, 2012; Ko & Kiser-Larson, 2016; Arslan et al. 2015). What is not well understood is when the impact of stress begins. Research suggests that it begins early in one's nursing career, possibly as early as during the pursuit of a nursing degree (Jimenez, Navia-Osorio, & Diaz, 2010; Goff, 2011). In an already stressful career field, understanding the impact of stress in pursuit of a nursing career has merit. There is evidence that stress reducing interventions can promote better coping (Cohen-Katz, Wiley, Capuano, Baker, & Shapiro, 2004; Ratanasiripong, Ratanasiripong, & Kathalae, 2015; Craigie et al., 2016; Mannoichi, 2017; Myers, 2017; Turner & McCarthy, 2017). This research is intended to provide quantitative data related to the relative stress levels experienced by students admitted to a nursing program and students with a declared nursing major. Outcomes are intended to inform nursing educators as to the importance of early identification of stress in those pursuing a nursing degree and those admitted to a nursing

program. Doing so may offer the opportunity to provide this population with stress related coping skills prior to entering the licensed nursing community.

BACKGROUND AND SIGNIFICANCE

Stress is a natural experience. However, if stress is experienced in unhealthy amounts, psychological as well as physiologic harm can result (Piotrowski, Hollar, & Wason, 2017). Nurses from inpatient and outpatient settings alike have been consistently identified as a population which experience a significant level of stress (ANA, 2011; Ko & Kiser-Larson, 2016; Arslan et al. 2015).

Stress in the Nursing Profession

In a 2011 survey conducted by the ANA, of 4,614 responses received from registered nurses, the top concern of these professionals was the “effects of stress and overwork” (p. 1). Alone, this is a concerning finding. When coupled with findings that the onset of this stress is during pre-licensure baccalaureate-level nursing programs (Bartlett et al., 2016; Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013; Hensel & Stoelting-Gettelfinger, 2011) this suggests that this stress is not purely work related. Thus, addressing the issue of stress as associated with nursing practice becomes much more critical. The need for research to explore this stress is paramount to the overall health of the nursing profession. The importance of this has been emphasized by one of the largest professional nurse organizations, the ANA, declared 2017 “the year of the healthy nurse” (2017). Under this initiative, each month has been dedicated to focusing on a specific component of nurse health; the entire month of April was dedicated to stress management.

Difference in Stress Levels in Nursing and Non-Nursing College Students

Nursing students have been identified as a population with a disproportionately higher level of stress than in non-nursing college students. In one recent study comparing a sample of

156 nursing students with a sample of 76 non-nursing students, it was demonstrated that nursing undergraduate students experience more stress than their non-nursing peers (Bartlett et al., 2016). This stress can impair an individual's ability to perform academically (Sohail, 2013; Lee, So, & Sung, 2015; Bartlett et al., 2016). Bartlett et al. (2016) found that not only did student nurses experience a greater level of stress than their peers, but also demonstrated that nursing students were more likely to report greater stress, anxiety, and sleep disturbances than those that impact their academic peers.

Sources of Stress in Nursing Students

As previously identified, Lazarus and Folkman's (1984) definition of stress is the perception of one's available coping resources being overwhelmed. Several studies have focused on the specific sources of primary stressors experienced by nursing students in their nursing education (Beck & Srivastava, 1991; Jimenez et al., 2010; Goff, 2011). For example, academic performance (e.g. tests, grades, exams) ranked consistently as one of the top three stressors among each of these studies. Jimenez et al. (2010) and Goff (2011) also found that competition among nursing students to be within the top five stressors experienced by nursing students within each of their respective populations. Among the noted studies, the number one reported stressor varied. Goff (2011) demonstrated within a sample of 53 nursing students that meeting academic and financial deadlines was perceived as a top stressor. This is in contrast with Jimenez et al. (2010) who demonstrated in a sample of 357 nursing students, that a lack of experience when entering the clinical setting was the top stressor. With a clearer understanding of what stressors are most likely to impact nursing students, more interventions can be taken to address the issue of stress in this population.

Nursing Students Considering Attrition

Nursing is a profession that has long struggled with a shortage of qualified professionals. A large focus has been placed on the increased recruitment of students for the nursing profession. These efforts are undermined when admitted students are unable to complete their nursing programs due to issues, including stress, which may impact their academic performance or cause them to consider leaving the study of nursing. At an Australian university, a study of 431 nursing students revealed that 38% of those students reported they considered quitting their nursing studies prior to program completion (Rella, Winwood, & Lushington, 2008). Similarly, in a study focusing on identifying predictors of nursing student stress, Prymachuk and Richards (2007) found that in a sample of 731 nursing students, 59.6% had at one time thought of leaving the nursing program. Given these findings, it suggests that a large proportion of the nursing student population may consider leaving nursing studies at some point due to stress. It is important to determine what is influencing this determination and if related to stress, develop strategies to intervene.

Stress Experienced by Nursing Students

As several studies conclude, students within baccalaureate level nursing programs do experience a high, sometimes unhealthy, level of stress (Prymachuk & Richards, 2007; Goff, 2011; Reeve, Shumaker, Yearwood, Crowell, & Riley, 2013; Shinde & Hiremath, 2014; Ratanasiripong et al., 2015; Smith & Yang, 2017). Interestingly, one study focusing on health indicators related to nursing program demands, demonstrated within a sample of 437 nursing students that a student's perception that a nursing program is stressful was correlated to higher levels of stress, depression, and anxiety than nursing students who did not have the same

perception (Chernomas & Shapiro, 2013). Another study (n=107) found that nursing students increased their use of maladaptive coping strategies (e.g. alcohol use, feeling sad, ignoring stressors) as they progress through the nursing program (Reeve et al., 2013). Such findings suggest the need for a better understanding of the influence of stress upon nursing students and the potential for development of interventions to address stress in this population.

Relationship of Demographics to Stress

Several studies involving nursing students have explored the relationship between demographic variables and the level of stress experienced by the student (Prymachuk & Richards, 2007; Goff, 2011; Bryer, Cherkis, & Raman, 2013; Chernomas & Shapiro, 2013). One common finding amongst those studies is that gender impacts students' level of stress. Three studies found that women experience a higher level of stress than their male counterparts (Prymachuk & Richards, 2007; Goff, 2011; Chernomas & Shapiro, 2013). According to Evans and Kelly (2004), in a sample of 52 nursing students, younger students were more predisposed to have an emotional response than older students. Given the potential influence of demographics, it is important that demographic data be considered in evaluating the outcomes of the proposed study.

Gap in the Literature

In this review of the literature, the finding that stress does impact nursing students, and that little research has been done relative to stress in students admitted to a nursing program or those pursuing a nursing career, warrants further study. Evaluation of stress across this continuum will provide nursing program administrators with data to inform the design and implementation of strategies to reduce stressors specific to nursing students, as well as the potential early

experience of stress for those students seeking nursing program admission. This study will also generate data that will consider the relative experience of stress within the declared nursing major population by academic year as well as within those admitted to the nursing major. Finally, this study is intended to consider the relative experience of stress between those with a declared nursing major and those admitted to the nursing program. It is intended that this research will garner data to facilitate development of strategies to address the experience of stress associated with nursing education in order to ensure a healthy education experience and develop coping strategies for those entering the nursing profession.

METHODOLOGY

This study utilized a quantitative cross-sectional survey to answer the following research questions:

1. What is the character of stress in pre-nursing major students when compared to students enrolled in the nursing program?
2. What are the sources of stress within these populations?
3. What comparisons can be made within populations related to stress?
4. What comparisons can be made between populations related to stress?

Hypothesis

The primary objective of this study was to explore the comparative levels of stress between students actively enrolled in a baccalaureate level pre-licensure nursing program with undergraduate students who have declared nursing as their major, have completed at least one semester of college, and are also working to accomplish prerequisites for admission to the university's nursing program. For this research design, the following hypothesis has been developed: Students enrolled in a baccalaureate-level nursing program will experience a greater level of stress than their pre-nursing student peers.

Participants

Participants for this study included students who have declared pre-nursing as their major, and students currently enrolled in the baccalaureate nursing program. Students who have declared nursing as their major are be in the process of completing prerequisites with an intent to be admitted into the university's nursing program. These individuals have completed at least one semester of college courses to minimize the potential for acculturation to the college

environment as being a source of stress that has the potential to confound the data. Potential participants were identified from this population through university records of declared nursing major students. Following randomization, selected participants will be recruited via their university e-mail address following all requirements for human subject's protection. The second population was comprised of students which had completed their nursing prerequisites and were actively enrolled in the university's nursing program. Individuals from this population were identified via university records and recruited via their university e-mail address following all requirements for human subject's protection.

Survey

The instrument that was utilized was the Stressors in Nursing Students (SINS) scale (Deary, Watson, & Hogston, 2003). The questionnaire in its entirety is comprised of 43 questions answered on a five-point Likert-type scale. Answers on this scale range from "not at all stressful" (1) to "extremely stressful" (5). These questions examine several items grouped within four categories of stressors specific to students in nursing programs. These categories include clinical, confidence, education, and finance-related stressors. Based on the psychometric analysis of the survey performed by the researchers who developed instrument, only 33 of the 43 survey questions are utilized in the four categories defined above (Deary, Watson, & Hogston, 2003). This instrument has been found to have a Cronbach's alpha internal consistency of ≥ 0.82 across all four factors (Deary et al., 2003). Among the junior and senior year nursing students admitted to the nursing program, the full 43-item survey has been administered. All of the items on the SINS scale, especially those questions related to clinical experiences, are not applicable to pre-nursing students. The Stressors in Students (SIS) scale is a subset of the SINS scale composed of

11 of the 43 questions under two of the four SINS scale categories (education and finance) and is applicable to all students as it omits factors specific to nursing students (Salamonson, Andrew, Watson, Teo, & Deary, 2011). In order to make the comparison between the two populations, the data generated by the two categories applicable to both nursing and pre-nursing students will be analyzed when comparing stress characteristics among nursing and pre-nursing students.

Procedures

Permission for use of the SINS scale has been obtained from its original author (Appendix A). Approval of the University of Central Florida's Institutional Review Board was sought prior to initiation of the study (Appendix B). Upon approval, potential participants were contacted via their university e-mail address with an invitation to participate in the study along with an anonymous survey link. Potential participants were informed of the nature and purpose of the research, assured that their participation in the survey was voluntary and that their anonymity would be protected. Anonymity was protected via the Qualtrics® software by ensuring responses were isolated from personally identifiable information and IP addresses. Furthermore, potential participants were informed that participation in this study would in no way impact their education or standing at the university. Potential participants were invited to follow a link to complete the survey and were informed that in following the link there was no requirement to complete the survey. Instructions accompanying the survey stated that failure to complete the survey would constitute withdrawal from the study. Final submission of the survey via Qualtrics® constituted consent to participate and once submitted there would be no further opportunity to withdraw. As a further precaution, the contact information for the university's

Counseling and Psychological Services office was made available for students in the event that participation in the survey resulted in feelings of stress or anxiety.

Data Management

All surveys were de-identified for storage and reporting purposes. Data from the Qualtrics® survey was entered into the latest version of SPSS statistical software for analysis. Quantitative data was only shared in an aggregate form. Only the investigators have had access to the data files. All data has been stored on password protected computers in locked offices associated with the investigators.

Analysis

Data has been analyzed using descriptive, inferential, and comparative statistics as appropriate to the research questions.

RESULTS

Demographics

Surveys were distributed to 1,278 eligible student emails that were qualified as potential participants on the criteria of their current enrollment status. The survey was distributed to 115 senior year nursing students, 125 junior nursing students, and 1,038 students with a declared nursing major. Of these surveys, a total of 120 (9.4%) completed surveys were returned by students qualified to participate in the survey. The sample population (n=120) was comprised of senior-year (n=30), junior-year (n=42), and pre-nursing students (n=48).

Findings

The response rates for each student population varied significantly as senior-year students had a response rate of 26%, junior-year students had a response rate of 33.6%, and pre-nursing students had a response rate of 4.6%.

Table 1

Summary score data of mean reported stress as a function of stressor subcategory

Stressor Subcategory	Population	<i>n</i>	Mean (<i>M</i>)	Std. Deviation (<i>SD</i>)
Clinical	Pre-Nursing	48	2.8125	.93586
	Junior	42	2.9665	.73944
	Senior	30	2.7124	.76821
Confidence	Pre-Nursing	48	2.4646	.80093
	Junior	42	2.4119	.72084
	Senior	30	2.5267	.67412
Education	Pre-Nursing	48	3.2753	.77578
	Junior	42	3.6905	.62929
	Senior	30	3.3933	.66381
Finance	Pre-Nursing	48	3.0625	.98944
	Junior	42	3.2905	.85335
	Senior	30	3.0267	1.04219
Summary	Pre-Nursing	48	2.9037	.75358
	Junior	42	3.0898	.57587
	Senior	30	2.9148	.64654

Table 2

Independent Samples Test Comparing Junior and Senior-Year Nursing Students

Stressor Subcategory	<i>Levene's Test for Equality of Differences</i>		<i>t-test for Equality of Means</i>		
	<i>F</i>	<i>Sig.</i>	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>
Clinical	.086	.770	-1.415	70	.162
Confidence	.235	.629	.684	70	.496
Education	.396	.531	-1.931	70	.058
Finance	2.278	.136	-1.179	70	.242
Summary	.059	.809	-1.208	70	.231

Nursing student versus pre-nursing student stress

As the clinical and confidence subsets were determined to be not-applicable to the nursing students, these two subsets were not used in analysis. It was determined that among the two applicable subsets of finance and education, nursing students reported the highest mean level of stress across both of these subsets (Pre-nursing: M=3.06, M=3.28; nursing enrolled: M= 3.18, M=3.57).

Sources of stress amongst sample populations

The survey questions pertaining to education were consistently reported as the most stressful of all of the four stressor subsets among all student populations (Pre-nursing: M= 3.28; Junior: M=3.69; Senior: M=3.39). Following education, finance was reported as the second highest category of stressor by all student populations (Pre-nursing: M= 3.06; Junior: M=3.29; Senior: M=3.03). For the two subcategories applicable specifically to the students enrolled in the nursing program, the clinical category was reported to be the third highest source of stress amongst junior-year and senior-year nursing student populations (Junior: M=2.97; Senior: M=2.71). In comparison to the other three subsets of stressors, confidence was reported to be the least stressful amongst the enrolled nursing student populations (Junior: M=2.41; Senior: M=2.53).

Comparison of stress within populations

Within the student population enrolled in a nursing program, the juniors reported the highest mean stress among the questions subsets for clinical (M=2.97), education (M=3.69), and financial (M=3.29) related stress, whereas seniors reported the highest amount of stress in the subset of questions associated with confidence (M=2.52).

Comparison of stress between populations

It was determined that the junior-year nursing students reported the highest mean stress (M=3.09) over all survey questions of all of the groups surveyed. Senior-year nursing students narrowly reported the second highest mean overall stress (M=2.91), and pre-nursing students reported the lowest mean overall stress at (M=2.90).

DISCUSSION

The purpose of this study was to explore the characteristics of stress among nursing students and to additionally assess how this stress changes throughout a student nurse's education. The study utilized a standardized survey that was tailored to measuring stressors among nursing student populations (Deary, Watson, & Hogston, 2003) and had also been demonstrated to be effective at measuring characteristics of stress amongst non-nursing students (Salamonson, Andrew, Watson, Teo, & Deary, 2011).

The most unexpected finding of this study was that junior year nursing students reported a higher mean level of stress than senior year nursing students across all categories when the data was analyzed and compared. In light of literature that the transitional period from being a nursing student to becoming a professional nurse was a time of great stress (Watson, et al., 2009), the finding that juniors reported a higher mean level of stress challenged that precedent. There is currently limited evidence that explores the experience comparative level of stress between junior-year and senior-year nursing students, indicating a need for further research on this subject. Another surprising finding was that the senior-year survey participants reported a markedly higher level of stress ($M=2.52$) in response to subset of questions associated with confidence than the junior-year nursing students ($M=2.41$). This finding is in contrast to recent literature on the subject of nursing student confidence that suggests senior- year nursing students have a higher amount of clinical confidence than when compared with their junior-year peers (Van Horn & Christman, 2017). This study also generated data that suggested education was the greatest source of stress among each of the student populations. This finding is corroborated by the findings in related literature (Beck & Srivastava, 1991; Jimenez et al., 2010; Goff, 2011).

This finding could be used in the development of stress management interventions in order to provide coping strategies that would meet the needs of the target populations. The finding that nursing students enrolled in a nursing program reported experiencing a higher level of stress supported the initial hypothesis and was an unsurprising finding when compared with the findings of recent literature (Bartlett et al., 2016).

Limitations

There were several limitations within this study. First, a convenience sample was used which only included nursing students from a single campus of one university limiting the generalizability of this study. Although a survey return rate of approximately 30% for each the juniors and seniors, only a survey return rate of 4.6% was achieved for the population of pre-nursing students. This calls into question whether the data generated by the pre-nursing student participants in this study can be used to compare pre-nursing student responses to the nursing students who had a much higher proportion of student-participants. Having utilized a cross-sectional design, this survey collected only a single set of data at one specific time in the education of a single group of nursing students. The significance for the data was generated was determined to be 0.231 which was above the acceptable threshold for the data to be considered statistically significant. Despite this fact, the subset of questions related to education had a measured significance of 0.058 which just narrowly exceeded the threshold for significance. Despite not being statistically significant, this finding still warrants further investigation. The internal consistency of the survey was determined to be excellent as per the calculated Cronbach's alpha value of 0.931.

Nursing Implications

The results of this study lend support to current published literature that nursing students experience a high-level stress during their college education (Pryjmachuk & Richards, 2007; Goff, 2011; Reeve et al., 2013; Shinde & Hiremath, 2014; Ratanasiripong et al., 2015; Smith & Yang, 2017). Further, the data suggested that junior-year nursing students experienced the greatest amount of stress when compared to the senior-year and the pre-nursing students. The literature has demonstrated the effectiveness of the implementation of several different stress-management interventions in reducing nursing student stress (Cohen-Katz et al., 2004; Ratanasiripong, Ratanasiripong, & Kathalae, 2015; Craigie et al., 2016; Mannoichi, 2017; Myers, 2017; Turner & McCarthy, 2017). In combining these strategies with the findings of this study, targeted interventions can and should be put in to place as early as possible in nursing programs and then reinforced throughout the education of nursing students.

Recommendations

Firstly, the researchers recommend that further research be completed into the experience of stress amongst nursing students throughout their educational career in order to improve stress-related outcomes amongst student nurses and nurse professionals alike. In future research conducted on nursing student stress, the researchers would recommend the implementation of a longitudinal design as to determine the levels of stress reported at different times throughout the nursing program. Through the inclusion of a longitudinal design, a more complete assessment would be produced as stress may vary disproportionately over the course of a year for each class of nursing students. In also tracking the experience of individual classes as they progress through their education, a new dimension of analysis would be available as future researchers could

observe how a given class's experience of stress changes. Another recommendation would be to include several different campuses in future research into the experience of nursing student stress as to ensure the data more accurately represents the larger population of nursing students.

As discussed above it is important that stress management programs and trainings be implemented as soon as possible in the education of a nursing student. The researchers would suggest that such interventions be integrated into the curriculum of nursing programs as to ensure all students receive the necessary training to manage the experience of stress in each student's life. Nursing programs should also implement identification policies and protocol to identify and intervene with students who are experiencing an unhealthy level of stress in order to connect these individuals with the necessary resources that are needed. The literature clearly demonstrates that the stress experienced in nursing school does not abate upon entering the nursing profession (ANA, 2011; Arslan et al. 2015; Ko & Kiser-Larson, 2016). Continued evaluation of stress beyond nursing education is warranted for this reason. In light of the fact that stress has also been demonstrated to have negative implications for patient care (Farquharson, et al., 2013; Barbe, Kimble, & Rubenstein, 2018), incorporation of stress management in nursing education and also throughout the nursing profession is essential.

SUMMARY

The experience of stress among nurses is consistently identified to be a pervasive problem throughout the literature. Stress in an unhealthy amount can negatively impact academic performance and health and has also been demonstrated to continue to be an issue among professional nurses as well. Although stress cannot and should not be entirely eliminated from nursing programs, interventions can be implemented to equip students with strategies to manage their stress while receiving their nursing education and into their professional practice. This study has illustrated the experience of stress among pre-nursing, as well as junior and senior-year nursing students during their education. The returned survey data suggested that junior-year nursing students experienced the highest amount of stress overall when compared to pre-nursing and senior-year nursing students, and also that nursing students (juniors and senior-year students) experienced a higher level of stress overall when compared to pre-nursing students. It was also determined that of the four categories of questions (i.e. finance, confidence, clinical, and education), those pertaining to education were reported as the most stressful category consistently across all of the surveyed student populations.

APPENDIX A

APPENDIX A



Daniel Regner <dregner14@gmail.com>

Request for Permissions to Use Stress in Nursing Students Scale

2 messages

Daniel Regner <dregner14@knights.ucf.edu>
To: r.watson@hull.ac.uk
Cc: Diane Andrews <diane.andrews@ucf.edu>

Fri, Jul 21, 2017 at 10:35 AM

July 21, 2017

Daniel McCoy Regner
UCF College of Nursing
12201 Research Parkway, Suite 300
Orlando, FL 32826

Dear Dr. Watson:

I am an undergraduate student at the University of Central Florida, in Orlando, Florida (USA) pursuing my BSN with Honors in the Major recognition. The additional requirement for Honors recognition stipulates that I undertake a faculty supervised thesis. Dr. Diane Andrews is my faculty supervisor. My intent is to evaluate stress as perceived in students with a declared nursing major (freshman and sophomore) and those admitted to the nursing major (junior and senior) at one university. I hope to contrast stress within and between populations.

I have extensively reviewed the 43 item *Stress in Nursing Students Scale*. I am seeking your permission to use that instrument to survey admitted nursing majors. I would like to use the four-item scale in that population as clinical and confidence factors are important dimensions for students in clinical practice. As I will also be surveying students with a declared nursing major, I would request permission to modify the SINS scale to the two-factor, 11-item *Stress in Students* scale you reported in conjunction with Salamonson et al in 2011. This will allow within population analysis of stress in potential nursing students who have yet to experience clinical practice and between population analysis by isolating the items associated with the SIS scale from admitted students completing the larger instrument.

I look forward to your response.

All the best,

Daniel McCoy Regner
Student, UCF College of Nursing
(518) 577-3926

Roger Watson <R.Watson@hull.ac.uk>
To: Daniel Regner <dregner14@knights.ucf.edu>
Cc: Diane Andrews <diane.andrews@ucf.edu>

Fri, Jul 21, 2017 at 12:09 PM

Dear Daniel

You are welcome to use and to modify in any way you choose - there is no copyright. Just one point - which only occurred to us after our first publication using it - strictly it should be called the Stressors in Nursing Students scale.

Good luck

Roger

APPENDIX A

Roger Watson PhD RN FRCN FAAN
Editor-in-Chief, *Journal of Advanced Nursing*
Professor of Nursing, University of Hull, UK
Tel: +441482 464525
Follow me on Twitter @rwatson1955
mobile: +447808480547
"The plural of anecdote is not data"

From: Daniel Regner [Dregner14@knights.ucf.edu]
Sent: 21 July 2017 15:35
To: Roger Watson
Cc: Diane Andrews
Subject: Request for Permissions to Use Stress in Nursing Students Scale

[Quoted text hidden]

To view the terms under which this email is
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<http://www2.hull.ac.uk/legal/disclaimer.aspx>

APPENDIX B

APPENDIX B



University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Determination of Exempt Human Research

From: **UCF Institutional Review Board #1
FWA00000351, IRB00001138**

To: **Diane Randall Andrews and Co-PI: Daniel Regner**

Date: **December 05, 2017**

Dear Researcher:

On 12/05/2017, the IRB reviewed the following activity as human participant research that is exempt from regulation:

Type of Review: Exempt Determination
Project Title: Considering Stress in a Nursing Student Context: Pre-Admission to Pre-Graduation
Investigator: Diane Randall Andrews
IRB Number: SBE-17-13590
Funding Agency:
Grant Title:
Research ID: N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the [Investigator Manual](#).

This letter is signed by:

A handwritten signature in black ink, appearing to read "Patria Davis".

Signature applied by Patria Davis on 12/05/2017 12:55:12 PM EST

Designated Reviewer

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