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Do Stress Levels Differ Between First Semester Nursing Student Early in The Semester
Vs. The End of The Semester?

By

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An Undergraduate Thesis Submitted in Partial Fulfillment
of the Requirements for the
University Honors Scholars Program
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and the
Honors-in Nursing Program
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Background

The recognition of stress in nursing students has prompted nurse educators and nurse researchers to examine the effect of stress on student learning. Findings suggest an inverse relationship between stress and learning; as stress increases, learning decreases. Stress has been defined as a relationship between the person and the environment that is perceived by the individual in excess of his/her resources or wellbeing (Del Prato, Bankert, Grust & Josepg, 2011). According to Yazdani, Rezaei & Pahlavanzadeh (2010) stress can create a barrier for concentration, problem solving, decision-making, and other necessary abilities in learning. This study intends to determine stress levels change over time in nursing students in the Baccalaureate program at East Tennessee State University.

Research Question

Do stress levels differ between first semester nursing students early in the semester vs. the end of the semester?

Literature Review

It has been reported that nursing students experience stress during their studies (Zyga, 2013), and research over the past two decades suggest stress in nursing students has gradually increased over time (Barlett & Taylor, 2016).

In a study which was done twenty years ago, stress levels in nursing students were slightly higher than those enrolled in other health related disciplines such as in Medicine, Pharmacy and Social Work (Beck, Hackett, Srivastava, McKim, & Rockwell, 1997).

Research has shown that stress can influence the academic progress and adaptation of the student by interfering with learning, and adversely affecting academic performance, as well as, clinical practice performance (Chernomas, & Shapiro, 2013); (Zyga, 2013). According to Timmins & Kaliszer (2001) stressors that seem to affect academic performance are ‘fear of failure,’ ‘uncertainty related to performance expectations from written work to clinical practice,’ ‘intense amount of work load,’ ‘lack of free time,’ and ‘interpersonal relationships with teachers,’ for example, perceived insensitiveness to students’ needs. The clinical experience stressors most frequently reported to influence their performance were conflict between ‘ideal’ and ‘real’ and the pressure of time when performing practice tasks, as well as the lack of instruction on how to balance these two concepts of the “ideal” time from the books and the “real” timing to perform these procedures at a hospital pace.

Literature reviews also suggests that nursing students find the combination of academic and clinical demands associated with study to be a major source of stress. More recently the nursing students’ population has more nontraditional students, and therefore, more stressors outside of school, such as families and employment, that influence overall stress levels (Barlett, Taylor & Nelson 2016). A combination of school, clinical practice coping with personal issue, balancing school, work, and personal life were dominant themes of stress levels for nursing students (Chernomas, & Shapiro, 2013). Married students encountered more stressors throughout the semester than unmarried ones (Abasimi, Atindanbila, Mahamah & Gai, 2015). A daily attempt to balance and cope with

the demands of nursing school and personal life seem to be a big determinant factor of stress in nursing students.

Although negative effects of stress have been well documented, it has also been shown that moderate levels of stress may motivate and enhance performance, making the individual work hard. It is the extreme or severe forms of stress that negatively impact students, and efforts should be made to manage (Del Prato, Bankert, Grust & Josepg, 2011). Efforts to manage or reduce severe forms of stress that impact nursing students negatively will be re-addressed later in this thesis.

According to Lo, (2002) In an undergraduate nursing program of three years, first year nursing students experience significantly less transient stress as compared second year students, and students in third year had more positive self-esteem than second year students. It was also found that first year students reported greater stress than students in other years.

Stress is believed to be a major contributor to coronary heart disease, cancer, lung problems, accidental injuries, cirrhosis of the liver and suicide, six of the leading causes of death in the United States (Salleh, 2008). As promoters of health how are we teaching coping skills to remain healthy and cope with stress during nursing school? We should care about how we are contributing to this statistic and how we are addressing it. Chiverton, Votava, & Tortoretti (2003), discuss how health promotion has never been more important than it is today. Nurses in educational settings can promote health by teaching people how to remain healthy. As more people grow in their awareness of

activities that lead to good health and become knowledgeable about their own health status, the general population's health will improve.

Method

Assuming stress levels are elevated in nursing students, the question was posed: Do self-reported stress levels in nursing students change over time from the beginning to the end of the semester?

After receiving institutional review approval (IRB), volunteers from first semester baccalaureate nursing students at East Tennessee State University were recruited to participate in the study. All student volunteers verified they understood that participation was voluntary and that there was no penalty or reward for participating or not participating in the study. The student devised a prescribed ID code that only they would recognize for use in completing the second survey at the end of the semester. Completion and submission of the survey indicated their consent to participate.

The instrument utilized for this survey was Perceived Stress Scale by Mind Garden, Inc. This is a self-reported questionnaire of 10 questions with a scale value from 0 to 4. The higher the score, the higher the perceived stress. The survey was via the platform SurveyMonkey, and was dispensed in class during the spring semester 2017 at the beginning of the course and again 6-8 weeks later the semester. The primary investigator was present during the class meeting to introduce the study and provide encouragement to the students to participate, leaving flyers with the information, link and scan-code to survey. Once flyers were distributed and questions clarified the researcher left the classrooms.

Results

Results were analyzed to test stated hypotheses using statistical techniques from the program SPSS (statistical analytic software). The total number of possible first semester nursing students study responses was 91. As noted on the following graph there was a participation of 57 students the first survey at the beginning of spring semester. There were 11 participants at the second survey, time II at the end of the semester. The test at the beginning of the semester was identified by a number (I), February being the second month of the year. The second test was identified by number (II) and administered approximately 8 weeks later.

The scale utilized to analyze the data was:

- 0=Never
- 1=Almost Never
- 2=Sometimes
- 3=Fairly often
- 4=Very Often

According to Cohen, of the 10 questions in the questionnaire, four need to be analyzed with reverse coding, questions 4, 5, 7 and 8 because they are positively stated items e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0 (Cohen, 1994).

The following table displays the data per question and frequency option selected.

QUESTIONS	OPTIONS/ FRECUENCY				
	Never	Almost Never	Sometimes	Fairly Often	Very Often
1. How often have you been upset	1 (1.8)	10 (17.5)	28 (49.1)	13 (22.8)	5 (8.8)
2. Unable to control things	1 (1.8)	8 (14)	23 (40.4)	19 (33.3)	6 (10.5)
3. Felt nervous	---	1 (1.8)	8 (14)	18 (31.6)	30 (52.6)
4. Felt confident	--	7 (12.3)	26 (45.6)	20 (35.1)	4 (7)
5. Felt things were going your way	--	8 (14)	26 (45.6)	19 (33.3)	4 (7)
6 Found could not cope	2 (3.5)	11 (19.3)	22 (38.6)	14 (24.6)	8 (14)
7. Control irritations	2 (3.5)	7 (12.3)	24 (42.1)	22 (38.6)	2 (3.5)
8. You were on top of things	10 (17.5)	13 (22.8)	23 (40.4)	8 (14)	3 (5.3)
9. Been angered	3 (5.3)	6 (10.5)	19 (33.3)	26 (45.6)	3 (5.3)
10. Felt difficulties	4 (7)	9 (15.8)	16 (28.1)	16 (28.1)	12 (21.1)

To analyze reported stress over time the two time-points were examined. Time I yielded 57 completed surveys and 11 surveys were completed at time II. Only 4 match between time II and time I. There was no-significant difference found between the two time spots.

The significance threshold was set at 0.05. The mean of T-test was 22.30 for the first survey and 24.64 for the second survey, showing a slight difference but not much significance between the two. The p-value is 0.274 which is greater than >0.05 but not relevant enough to be significant at this time.

T-Test

Group Statistics

	Time	N	Mean	Std. Deviation	Std. Error Mean
TotalScore	I	57	22.30	6.748	.894
	II	11	24.64	4.225	1.274

Independent Samples Test

	Levene's Test for Equality of Variances	t-test for Equality of Means								
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TotalScore	Equal variances assumed	2.120	.150	1.104	66	.274	-2.338	2.117	-6.566	1.889
	Equal variances not assumed			1.502	21.342	.148	-2.338	1.556	-5.571	.895

Discussion

As noted above participants were more willing to participate in the survey at the beginning of the semester than at the end of the semester. The reasoning of this is unknown. The data suggested there were no significant differences in the level of stress nursing students reported over an eight-week time frame from early in the semester to the and end of the semester. These data suggest the level of perceived stress by nursing students is a steady factor during their first semester in the nursing program. Bryer & Raman (2013) suggest that the nursing student population is composed of more nontraditional students characterized by being older and married with families, which may add a higher sense of responsibility, a potential stress factor. A limitation of this study was the lack of biographical data such as the students gender, whether the student was married, or had children and the student gender. There was also a poor response participant for the second survey.

Recommendation

This study recommends a larger sample of participants for a future more complete analysis, and including demographic factors such as age, children, marital status, gender, sleep, caffeine use, tobacco use, work status and hours. These demographics may affect the level of perceived stress in nursing students. It would also be of interest to assess the students at various time points throughout the program to detect any change over greater time span.

Summary/Conclusion

The data analysis for the question of this study has shown that there are no significant differences between the stress perceived at the beginning of the semester and the stress perceived at the end of the semester. This leads us to conclude that the level of stress perceived by nursing students is a steady factor during their school semester, although the complete picture of the sources of stress remains unclear. Efforts to eliminate the sources of stress may be unrealistic, given the high demanding nature of nursing work (Barlett, Taylor & Nelson 2016). According to Timmins & Kaliszer (2001), many academic aspects of current nurse education programs appear to cause stress to nursing students. It is recommended that educators responsible for the curriculum design take awareness of the possible emotional consequences towards students of a challenging curriculum. Faculty is greatly encouraged to create an environment that stimulates learning by being perceptive to students' emotions and educational needs (Reeve et al, 2012); (Labrague, 2013). Being perceptive to students' emotions and educational needs provides an opportunity to promote health to the nursing student's population, teaching them coping skills to balance stress factors that they may encounter during their educational experience. By doing this we may not only be able to achieve a better performance but also promote health to future generations.

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