

## The Moderating Effect of Social Support on Stress and Academic Performance among Nursing Students

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**Abstract: Background:** For many students in different educational settings, a good academic performance is a challenge. Student's perceived stress may result in academic stress which in turn hinders their academic progress. Social support was found to have a beneficial effect on students' stress, quality of life and academic progress. **The purpose** of this study was to examine the association between perceived stress, academic stress, and academic performance among nursing students. The study also aimed at examining the moderating effect of social support on the relationship between perceived stress, academic stress and academic performance. **Methods:** A sample of 85 nursing students from King Saud Bin Abdul Aziz University for Health Science, Riyadh, KSA was interviewed. In addition to demographic information, Perceived Stress Scale and Perceived Social Support Scale were used to predict the relationship among the study variables. **Design:** A descriptive correlation cross-sectional design was employed to answer four research questions: (1) To what extent do nursing students have perceived stress and academic stress? (2) What level of social support do nursing students have? (3) What are the relationships among perceived stress, academic stress, and academic performance among nursing students? and (4) Does social support moderate the relationship between perceived stress, academic stress, and academic performance?. **Results:** The mean age for students was  $21.7 \pm 1.3$ , the mean number of courses was  $4 \pm 2$ , and the mean academic level was  $5 \pm 2$ . The mean of academic performance as measured by GPA reported as  $3.1 \pm 0.6$ . The majority of students live with their families, had fathers who graduated from high school, and were residents of Riyadh. The sample reported a fairly high level of perceived stress and academic stress, and high level of perceived social support. Perceived stress positively correlated with age ( $r = .40$ ), academic level ( $r = .42$ ), residence ( $r = .82$ ), courses load ( $r = .45$ ) and academic performance ( $r = .60$ ). Social support significantly moderated the relationship between perceived stress, academic stress and academic performance while controlling for confounding variables. **Conclusion:** The current study demonstrated the likelihood that social support plays a protective role with academic performance through moderating the perceived stress level. Findings of this study could be used to improve the quality of social support the student receive, and reduce different stressors that negatively affect academic progress among nursing students. [Hanem F. Mohamed; Reem Khletet and Zainab Al Awany. **The Moderating Effect of Social Support on Stress and Academic Performance Among Nursing Students.** *J Am Sci* 2012;8(12):716-720]. (ISSN: 1545-1003). <http://www.americanscience.org>, 99

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### 1. Introduction

Academic performance among college students, especially nursing students is a challenge. Studies have shown that several factors affect academic achievement among freshman and senior nursing students. Stress and academic stress are main factors associated with academic performance. Stress is defined as a dynamic individual reaction in response to environmental hazards (Evans & Kelly, 2004). Nursing education is a radical period in students' life that has many stressors. Being away from families and friends for those who came from the western region to study nursing in the Central region, the nature of the study as students transferred to more structured academic environment, academic work load and courses requirements, clinical practice, exams, and time restrain are major stressors. A high level of stress is considered to be harmful especially

among those who have limited coping ability (Dzulkifli, & Safree, 2009).

Social support from family and friends has been identified as an essential and powerful component that enhances self-confidence and improves academic outcomes (MacGeorge *et al.*, 2005; Zaleski *et al.*, 1998). Social support refers to the experience of being valued, respected, and loved by the people around us (Gurung, 2006). The amount and quality of perceived social support was found to be positively correlated with good quality of life, mental and physical wellbeing and academic achievement (Ahmed, *et al.* 2010; Holahan, *et al.*, 1995). Lacking social support on the other hand was related to numerous psychological troubles such as stress, anxiety, depression and a feeling of loneliness and poor academic achievement (Dzulkifli, & Safree, 2009; Eskin; 2003, Rosenfeld & Richman, 2003). Despite the emergent body of evidence support the

effect of social support on stress and academic performance among different groups of students, the mechanism of this effect is still not clear. Contradicting data suggests that social support has a negative and/or positive correlation with perceived stress, and academic performance. Understanding the potential moderating or mediating role of social support is crucial in identifying confounding factors and developing intervention to improve students' academic outcomes.

#### **Aim:**

The aim of the present study was twofold, to explore the relationships between perceived stress, academic stress and academic performance among nursing students, and to examine if social support might moderate the relationship between perceived stress, academic stress and academic performance among the same students.

## **2. Methods**

A convenient sample of 85 freshman and senior nursing students at College of Nursing, King Saud Bin Abdul Aziz University for Health Science, Riyadh, Kingdom of Saudi Arabia was interviewed. Using a descriptive correlational cross sectional design, a self-reported questionnaire was used to answer the following research questions:

1. To what extent do nursing students have perceived stress and academic stress?
2. What level of social support do nursing students have?
3. What are the relationships among perceived stress, academic stress, academic performance and demographics?
4. Does social support moderate the relationship between perceived stress, academic stress and academic performance?

#### **Measures**

The study survey included demographic data such as age, academic level, courses load (# of courses for the current semester), residence, and family issues such as whether the students' parents are alive or not, whether their parents are divorced, parents' level of education, with whom the student lives.

Perceived stress was measured using the Perceived Stress Scale (Cohen and Mermeistein, 1983). This scale is a 14 items, 5-points Likert type scale that address feelings and thoughts during the last semester. Response options are: 0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often and 4 = very often, with a higher number indicating a higher level of stress. Academic stress was measured using a single item that asks "My GPA (grade point

average) is a source of constant concern and worry for me? Responses for this question are (1) Strongly disagree, (2) Disagree, (3) Nether agree nor disagree, (4) Agree and (5) Strongly agree. The higher the score, the higher the students' academic stress. Academic performance was assessed using the students' current GPA. Social support was assessed using the Perceived Social Support scale (Zimet *et al.*, 1988). The scale is a 12 items, 5-points Likert type with (1) Strongly Disagree, (2) Disagree, (3) Neither Agree nor Disagree, (4) Agree and (5) Strongly Agree. Total scores range from 1 to 60; with a higher score indicating a greater level of social support.

#### **Data Analysis**

SPSS version 16 was used to analyze the data. Descriptive statistics was used to describe data and answer research questions 1 and 2. Correlation was used to answer research question 3. To answer research question 4, hierarchical regression analysis was performed. Baron and Kenny's (1986) instructions were followed to test the moderation effect of social support on the relationship between perceived stress, academic stress and academic performance while controlling for the confounding variables.

## **3. Results**

The total sample size included 85 nursing students from different levels. The mean age was  $21.7 \pm 1.3$ . The mean for number of courses was  $4 \pm 2$ , and the mean for academic level was  $5 \pm 2$ . The mean for academic performance as measured by GPA reported as  $3.1 \pm 0.6$ . The majority of students live with their families, had fathers who were educated in high school, and were residents of Riyadh. Table 1 displays demographic characteristics of the sample.

**Table 1** Characteristics of the sample

Characteristics	Mean $\pm$ SD
Age	21.7 $\pm$ 1.3
# of courses	4 $\pm$ 2.0
Academic level	5 $\pm$ 2.0
GPA	3.1 $\pm$ 0.6

Research question 1: To what extent do nursing students have perceived stress and academic stress? Descriptive statistics revealed that the majority of students reported a fairly high level of perceived stress; the mean score was  $55.01 \pm 0.69$ . Majority of students strongly agreed that their GPA was a major concern and worry for them, the mean score reported was  $2.68 \pm 0.09$ .

Research question 2: What level of perceived social support do nursing students have?

As descriptive statistics revealed, students reported a fair amount of perceived social support from family and friends as indicated by a mean score of  $44.61 \pm 0.82$ . Table 2 displays mean scores for the study variables.

**Table 2** Mean score for perceived stress, academic stress, and social support

Item	Mean $\pm$ SD
Perceived stress	55.01 $\pm$ 0.69
Academic stress	2.68 $\pm$ 0.09
Social support	44.61 $\pm$ 0.82

**Table 3:** Correlation matrix among study variables

	1	2	3	4	5	6
1. Perceived stress	1	-	-	-	-	-
2. Age	<b>.40</b>	1	-	-	-	-
3. Residence	<b>.82</b>	0.12	1	-	-	-
4. Academic level	<b>.42</b>	0.10	.11	1	-	-
5. Academic performance	<b>.60</b>	.30	.21	.16	1	-
6. Courses load	<b>.45</b>	0.11	0.07	.13	.15	1

Research question 4: Does social support moderate the relationship between perceived stress, academic stress and academic performance among nursing students?

As described by Baron and Kenny (1986), a moderator is a third variable that affects the zero order correlation. Moderation effect exists when a variable affects the direction and/or strength of the relationship between independent and dependent variables. To test the moderation effect of social support on the relationship between perceived stress, academic stress and the outcome variable; academic performance, a series of regression analyses were conducted. Academic performance was regressed to perceived stress, academic stress, social support and interaction term while controlling for confounding

Research question 3: What are the relationships among the study variables; perceived stress, academic stress, academic performance and demographics (age, residence, academic level, and courses load) among nursing students? Correlation analysis confirmed that perceived stress positively correlated with age ( $r = .40$ ), residence ( $r = .82$ ), academic level ( $r = .42$ ), courses load ( $r = .45$ ), and academic performance ( $r = .60$ ) meaning that older students who live in Riyadh and who were in advanced academic levels had higher perceived stress and a slightly better GPA. Table 3 shows a correlation matrix among these variables.

variables (age, residence, academic level, and courses load).

In the first step perceived stress was not a significant predictor of academic performance ( $\beta = .05, p = .46$ ). Academic stress was not a significant predictor of academic performance ( $\beta = -.07, p = .58$ ). When the interaction term (perceived stress x social support, academic stress x social support) entered in the next step and controlling for the confounding variables, the model of hierarchical regression explained 28 % of variance on academic performance and showed a significant change indicating that social support has a moderating effect on academic performance depending on its buffering effect on perceived stress and academic stress ( $\beta = -.001, .21, p = 0.02$  and  $.04$ ). Table 4 present results from hierarchical regression analyses.

**Table 4:** Regression test of moderation effect of social support on academic stress, perceived stress and academic performance

Regression	B	SEB	$\beta$	<i>p</i>
Perceived stress	-.007	.009	.05	.46
Academic stress	.046	.058	.07	.58
Social Support x perceived stress	.001	.006	-.001	.02
Social support x academic stress	.001	.001	.21	.04

## 5. Discussion

The present study was conducted to examine the relationship between perceived stress, academic stress, and academic performance among nursing students. In addition, testing if social support had a moderating effect on the relationship between

perceived stress, academic stress and academic performance was also examined. Descriptive, correlation and hierarchical regression analyses were conducted to answer the research questions. Results showed that students reported a fairly high level of perceived stress. This result was supported by

Kumar (2011); Maville & Huerta (1997) who indicated that nursing students reported severe to moderate levels of stress during their course of study. Nursing students in the present study reported high academic stress meaning that their GPA was a source of stress for them most of the time. As anticipated, this results was in accordance with previous research who revealed that regardless of all different kinds of stressors that encounter nursing students during their study, academic stress was always on top of all stressors (Heiman, 2006; Ting, *et al.*, 2006).

Correlations reported a positive moderate to high relationship between perceived stress, academic stress, and academic performance among students in the present study. Although, the relationship was not statistically significant, it means that the high level of perceived stress led to an acceptable GPA. There are many possible reasons for this result. A small sample size may hinder approaching a significant relationship. Cultural and individual characteristics of the study sample could have a role since female students in some cultures, when they leave home and lose some of the support they used to receive from parents and siblings, are expected to be committed and responsible. When they experience stress, they do better because they want to assert to their families that they are responsible. In addition the majority of students in this study were in advanced academic level. By that time they had become more confident, and developed their coping strategies that help them perform well under some degrees of stress. Further, the perceived stress scale collects data on feelings and thoughts during last semester. Students may have problems remembering and end up providing inaccurate data that could affect stress scores.

This result was supported by the work of Shields (2001) who found that higher level of stress was negatively related to GPA in the fall semester, but this effect diminished over time and no relationship between stress and GPA was reported in the winter semester. Similarly, Petrie and Russell (1995) reported that stress had no effect on GPA among minority students. In addition, Dill and Henley (1998) also reported that academic performance was not affected by stress among nontraditional students.

Students in the present study reported a fairly high level of social support from family and friends, and then reported noticeable improvement in their GPA. Social support provided evidence of moderating effect on academic performance through its buffering effect on students' perceived stress, and academic stress when controlling for confounding factors (age, academic level, and number of courses). This result was in correspondence with previous work that stressed the positive and protective effect

of social support on stress, academic achievement and resilience (Safree, & Dzulkifi, 2011; Tuasie, *et al.*, 2007 Zaleski, *et al.*, 1998).

### Limitation

There are a number of limitations that may hinder generalizability of the results of the present study. There are different types of social support that include emotional, instrumental, and informational support. In this study, social support was limited to emotional support that students receive only from family and friends and did not include informational or instrumental support. Also in the present study, the effect of social support from family and friends on perceived stress, academic stress and academic performance was calculated as a whole, it is not clear whether the moderating effect is originating from family support or friends support. Self-reported academic stress and perceived stress rather than a study of behavior may be associated with answering questions in socially desirable way. In addition, the relatively small sample size and the quantitative design are also limitations for the present study.

### Conclusion and Recommendations

Although the effect of social support is mixed, the present study demonstrated the likelihood that social support plays a protective role with academic performance through soothing the effect of students' perceived stress and academic stress. To help improve academic achievement, universities have to create service programs to increase social support from different categories including support from friends and faculties for specific students' groups. Culturally specific interventions based on the hypothesized advantages of social support that address coping strategies and cultural issues are vital to improve students' academic endeavor. Replication that includes more diverse samples with qualitative approach is also recommended.

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