



Relationship of academic stress with depression, self-efficacy and academic performance among high school students

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ABSTRACT

This study investigated the relationship of academic stress with depression, self-efficacy and academic performance among high school students. Using random stratified sampling technique 120 students with high scores in academic stress (the scores ranging 15 to 30) selected and responded to depression and self-efficacy questionnaires. The data were collected by a scale for assessing academic stress (Sinha, Sharma, and Mahendra, 2001); children's depression inventory (Kovacs, 1992) and General self-efficacy scale (Schwarzer and Jerusalem, 1995). The data were analyzed with Pearson's Moment correlation coefficient and multiple regressions. Results showed a positive correlation between academic stress and depression, a negative correlation of academic stress and depression with self-efficacy and academic performance, a negative relationship between depression and self-efficacy, and a positive relationship between self-efficacy and academic performance. Further, result indicates that there are multiple correlations between the variables and the Beta coefficients showed self-efficacy as a best predictor of academic performance.

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Introduction

Stress is how individual's body response to pressure caused by a particular situation, such as a test, that requires you to adjust or respond. Stress can refer to the stimulus that causes person to react- such as the test. For example, if you feel yourself getting anxious and nervous about a test, the test is a stressor. Your reaction to the test can be thought of as stress. You are worried about the test, and you are exhibiting stress by feeling anxious and nervous (Miller, 2010). Stress is the consequences of person's appraisal processes that is the assessment of personal resources whether or not is sufficient to meet the demands of the environment. According to Lazarus and Folkman (1984) stress is a function of degree of person-environment fit. When our resources are more than adequate to deal with difficult situation, we may feel little stress. When we perceive that our resources will probably be sufficient to deal with event but only at the cost of great efforts, we may feel a moderate amount of stress. But when the individual perceive that his resources are not probably sufficient to meet an environment stressor, he may experience a great deal of stress. Academic stress is a significant source of stress for many students (Hashim, 2003), covering not only examinations but also other academically related stressors such as fear of logging behind in the homework, writing assignment, working on individual and group projects, time pressure, lack of financial support, concern about academic ability, scheduling classes and required motivation to study (Tyrrel, 1992). Some academic stress is normal for students, new stressors may arise because of exposure to new educational concepts for the first time on their life (such as mass media, internet, computer and so on), adjusting to new social setting (for example; change in medium of instruction, changing of residence, migration, peers pressure and shifting from one school to another one) and taking on a larger workload. Too much academic stress can contribute to depression, anxiety and physical illness (including headache and

stomach ulcer) which can in turn negatively affect academic performance (Dedeyn, 2008). In other word, if school-related stress becomes severe, then some youths may refuse to attend school to avoid these unpleasant symptoms (Fink, 2010). Stress may cause a number of problems for individuals such as physical (e.g. lack of sleep, illnesses), psychological (e.g. low self efficacy, depression, and poor academic performance) and psychosomatic (digestive difficulties, headache, etc.) problems.

Cheng and Joshua ((2010) have shown that school is the main source of stress for adolescents, and stress is one of the important factors causing depression.

Academic failure has consistently been found to be associated with depression (Faubert, Forehand, Thomas, and Wiersen, 1990), and depressive mood is associated with academic problems or low academic achievement (Hilsman & Garber, 1995).

Feng and Ren (2009) found that undergraduates' academic stress was positively related to their perceived psychological distress, such as depression; undergraduates' psychological capital was negatively associated with their perceived psychological distress, such as anxiety, and undergraduates' psychological capital moderated the relationship between their academic stress and depression.

Carter, Garber, Ciesla, and Cole (2006) studied peer and academic hassles as predictors of internalizing and externalizing symptoms (such as stress, depression and anxiety) over 4 years in a sample of youth at risk due to maternal depression. Higher stress levels predicted higher youth-reported internalizing symptoms such as depression and anxiety a year later.

MacGeorge et al (2009) in their study show that academic stress is associated with a variety of negative health outcomes such as depression, anxiety and physical illness. They examined the capacity of supportive communication received from friends and family (emotional and informational) to buffer the influence of academic stress on health. Results indicated that the

association between academic stresses and depression decreased as instrumental support increased. Further, lack of emotional support was negatively associated with depression across the levels of academic stress.

High levels of stress can negatively or positively affect a student's self efficacy, depending on how they perceive and internalize stress. Events become stressful when the successful performance of a stress provoking event involves extending oneself over ones perceived capabilities (Smith & Solberg, 2007). Individuals with high levels of self efficacy tend to view the same tasks or situations as challenges while those with low levels of self-efficacy view the same tasks as a threat (Bandura, 1986).when students are able to approach a stressful event as a challenge the amount of effort they put forth increases expanding the likelihood of successfully completing the situation (Smith & Solberg, 2007). Davenport and Lane (2006) found that when students deal with stress by planning improves, their self efficacy beliefs to manage their time, work well in lectures and improved their ability to communicate.

Little and Garber (2004) studied adolescents during the transition from eighth to ninth grade to address the personality-event congruence hypothesis in males and females, speculating that the genders would differ in their achievement and social orientations. They found that girls with high interpersonal orientation were more depressed than boys who are with high interpersonal orientation experienced high levels of peer stressors. Girls also showed higher levels of depressive symptoms in relation to academic hassles compared to boys, regardless of level of achievement orientation.

Eidi Nasiri (2005) studied the relationship between educational stressful factors (e.g. examinations, classroom situation, teachers, and parent's expectations) and academic performance among high school students. Results showed that there is a negative significant correlation between educational stressful factors and academic performance in the 10th grade high school students.

Shields (2001) found an inverse relationship between stress and academic success. As stress increased, grade-point average declined. As stress declined, grade-point average increased. Andrews & Wilding (2004) found negative relationships between stress and academic success among students. They revealed that stress reduced academic success. Many studies have found negative relationship between stress and academic outcomes such as: Petroff (2008); Flook, Repetti, & Ullman. (2005); Zeidner (1992); Dawood (1995) and Struthers, Perry & Menec (2000).

Statement of problem

Many students show poor performance in school because of various types of school stress e.g. academic stress, teachers, friends, time pressures, parents' expectations and bullies (Scott, 2011). This may lead to anxiety, depression, low self-efficacy and poor academic performance in these students. So, this study was an attempt to investigate the relationships of academic stress with depression, self-efficacy and academic performance among high school students.

Need of the study

Unhappiness at school can be caused by a host of factors such as failure to live up to parental expectations, especially if the parents, consider the child's lack of achievement at school to be due to lack of ambition or applications, believe that they have a little control over their academic success, presence of severe discipline at home as a force to hard study, comparison of the student to his peers from the parents, spending much time for computer games and internet and no enough time for doing homework and study, presence of rigid, violent and strict

teachers in schools, That, in turn can be culminate to severe stress, depression, poor academic performance and also drop out. The symptoms of depression begins as the lack of energy, unable to making relationship at home, refuse of social communications, school truancy and abstain of schooling. According to Bandura's theory (1986), people with high self-efficacy that is, those who believe they can perform well- are more likely to view difficult tasks (here difficult academic matters) as something to be mastered rather than something to be avoided. Self-efficacy can have positive influence on the student's motivation, thought patterns and responses, and academic performance. Thus identifying students experience with high academic stress and depression, low self-efficacy and poor academic performance and addressing these variables in practical setting may help students alleviate their experience of academic related stress and have a less stressful and possibly more fulfilling school career (Kimberly & Smith, 2009).

Methodology

Objectives

- 1) To study the relationship between academic stress and depression.
- 2) To study the relationship between academic stress and self-efficacy.
- 3) To study the relationship between academic stress and academic performance.
- 4) To study the relationship between depression and self-efficacy with academic performance.
- 5) To study of multiple correlations between academic stress, depression, and self-efficacy with academic performance.
- 6) Comparison of the above variables with respect to academic grades.

Hypotheses

- 1) There is a significant relationship between academic stress and depression
- 2) There is a significant relationship between academic stress and self-efficacy.
- 3) There is a significant relationship between academic stress and academic performance.
- 4) Depression and self-efficacy have simple correlation with academic performance.
- 5) Academic stress, depression and self-efficacy have multiple correlations with academic performance.
- 6) There are significant differences among the academic grades in academic stress, depression, self-efficacy and academic performance.

Design of the study

The present study is a descriptive study with correlational design in which the simple causal relations of the variables that previously occurred are investigated.

Participant

Using a random stratified sampling technique, students in Behbahan's boys high schools (in Iran) including 120 boys from 10th grade (n=40), 11th grade (n=40) and 12th grade (n=40) were selected as samples for the present study. Initially, 400 high school students were given academic stress scale (ASS) and according to the cutoff point in ASS (mean score 15 and above) 120 students who were high in academic stress were selected. Finally, children depression inventory and self-efficacy scale were performed.

Instruments

Scale for Assessing Academic Stress (SAAS): A 30-item self-report measure will be used for assess all possible major indicator of academic stress in terms of their presence or absence. This scale is made by Sinha, Sharma and Mahendra (2001) on a random sample of 400 (Male 200, Female 200)

school student. SAAS measures five independent factors that are five components of academic stress indicating expression of academic stress through different channels: cognitive, affective, physical, social, interpersonal and motivational. All the items under each factor have fairly high loading ranging from 0.60 to 0.85. The subject has to select one out of two alternative responses (yes and no) for each item of the scale. The test-retest reliability of SAAS over the period of one month is 0.88 and split-half reliability is 0.75 indicating adequate reliability of the scale. Internal consistency of the scale is also adequate being in a range of 0.30 and 0.81.

When the pattern of distribution of SAAS scores of all the subjects as analyzed, the mean score was 5.06 with standard deviation of 2.78.

Children's depression inventory: The children's depression inventory (CDI, Kovacs, 1992) is appropriate for children and adolescents aged between 7 to 17 years. The instrument quantifies a range of depressive symptoms, including disturbed mood, problems in hedonic capacity and regulative functions, low self evaluation, hopelessness, difficulties in interpersonal. The CDI consists 27 self report items and each item includes of three choices, (keyed 0 -absence of symptoms, 1-mild symptoms or 2 -definite symptoms), with higher scores indicating high depression. The total scale score can range from 0 to 54. Besides of the total score, the CDI yields scores for five factors or subscales: negative mood, interpersonal problems, and ineffectiveness, anhedonia, and negative self esteem. Among these questions 14 of them are scored directly and 13 of them indirectly. In direct questions score of 0 to the item (a); 1 to the item (b) and 2 to the item (c) are belonged. Indirect questions are scored versus. That is, 2 for item (a); 1 for item (b), and 0 for item (c). Indirect questions are: 2- 5-7-8-9-10-11-13-15-16-18-21-25 and the rests are direct.

Interpretation of the scale: The scores between 0 - 8 refer that the person is healthy. The scores between 9 -19 refer that the person is prone to depression. The score of 20 and over refer to depression.

General self efficacy scale (GSES): The general self efficacy scale (GSE; Schwarzer & Jerusalem (1995) assesses a general sense of perceived self efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. The scale is designed for the general adult population, including adolescents above the age of 12 years old. The GSE consists 10 self report items and each item includes of four choices (keyed 1-not at all true; 2- hardly true; 3-moderately true; 4-exactly true). Sum up the responses to all 10 items to yield the final composite score with a range from 10 to 40.

Reliability: in samples from 23 nations, Cronbach's alpha ranged from .76 to .90, with the majority in the high .80s.

Validity: Criterion related validity is documented in numerous correlation studies where positive coefficients were found with favorable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout and health complaints.

Results:

The following table shows descriptive statistics of the variables.

Finding related to the hypotheses

For assessing hypothesis 1 to 4 the Pearson's Moment coefficient of correlation was used. Results showed a) a positive significant coefficient of correlation between academic stress and depression ($r=0.27$, $p<0.01$); b) a negative significant coefficient of correlation between academic stress and self-efficacy ($r=-0.78$, $p<0.001$); c) a negative significant coefficient of correlation between academic stress and academic

performance ($r=-0.52$, $p<0.001$). d) a negative significant coefficient of correlation between depression and academic performance ($r=-0.35$, $p<0.001$); and e) a positive significant coefficient of correlation between self-efficacy and academic performance ($r=0.66$, $p<0.001$). Findings support all the research hypotheses. Further, results showed a significant negative correlation between depression and self-efficacy ($r=-0.18$, $p<0.01$).

Hypothesis 5: Academic stress, depression and self-efficacy have multiple correlations with academic performance.

To assessment this hypothesis multiple regression was used. To this end, Academic stress, depression and self-efficacy as predictors and academic performance as a criterion variable were entered into the regression equation. Multiple coefficient of correlations between the variables was equal to $R=0.72$, and coefficient of determination was $R^2=0.51$. This means that 51 percent of variance of academic performance is explained based on independent variables. Further, the amount of F-ratio supports multiple coefficient of the variables ($F_{3,116}=40.72$, $p<0.001$). Further, beta regression coefficients indicate self-efficacy is the best predictor of academic performance ($\beta=0.71$, $t=6.79$, $p<0.001$).

Discussion

This study investigated the relationship of academic stress, depression, and self-efficacy and academic performance among high school students. Results showed a positive correlation between academic stress and depression, a negative correlation between academic stress and self-efficacy, a negative correlation between academic stress and academic performance, a negative correlation between depression and academic performance, and a positive correlation between self-efficacy and academic performance.

There are several factors which may leads to academic stress in the students. Number of changes occurs rapidly during the adolescent period namely physical, physiological, psychological, cultural, interpersonal, biochemical and hormonal and so on. If the individual is poorly equipped to handle this crisis he/she may find it extremely difficult to adjust to these rapidly changing events. Each of these factors individually or in combination may result in creating stress in the individual. The individual may experience stress, adjustment problem, anxiety and depression. Further, biochemical and hormonal changes that take place endogenously can lead to increased sexual interest, curiosity and sexual activity (for which individual maybe poorly equipped) may create more anxiety, stress, self doubt and adequacy about himself leading to further increase in stress. Because of activation and release of sexual hormones (estrogen in girls and androgen in boys) may cause the young one to show different types of behavior that represent their gender identity. During this period the bodily changes that occurs (such as face acne, base voice and so on) can have influence their self esteem while comparing themselves with other peers may also lead to development of negative self esteem (ex. I am inadequate, poorly equipped, inferior, etc) which may contribute to severe stress and anxiety about themselves.

According to Hall (1904) adolescent period is accompanied by disturbance and emotional instability, and he attributed this to psychological, physical and physiological changes leadings to confusion and poor self concept. Arnett, 1999; cited by Weiten, 2002 pointed out that adolescents experience stress and disturbance more than any other age group. According to Erikson (1968) psychosocial crisis of this period is ego identity versus identity distortion.

Table 1: Mean and standard deviation of the variables

Grades	10 th		11 th		12 th		Total	
Statistics	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Variables								
Academic stress	18.15	2.48	18	3.71	20.25	3.14	18.80	3.29
Depression	23.75	5.46	20.90	4.49	24.75	6.81	23.13	5.85
Self-efficacy	22.02	2.86	23.20	4.48	20.48	2.62	21.90	3.57
Academic performance	13.69	0.98	14.50	1.23	13.44	0.75	13.88	2.07

Table 2: Pearson;s coefficient of correlations

Variables	Depression	Self-efficacy	Academic performance
Academic stress	0.27 P=0.003	-0.78 P=0.000	-0.52 P=0.000
Depression	1	-0.18 P=0.006	-0.35 P=0.000
Self-efficacy	-0.18	1	0.66 P=0.000

Table 3: Regression summary

Regression model	R	R ²	DF	F	Sig.
Enter	0.72	0.51	3, 116	40.72	0.000

Table 4: regression coefficients

Predictors	Standardized β	t-ratio	Sig.
Academic stress	0/11	0/979	0/330
depression	0/28	4/16	0/000*
academic performance	0/71	6/79	0/000*

*P<0.001

Unsatisfactory solution to this crisis can lead to increased stress, anxiety and depression and will affect their self efficacy to solve this crisis (identity crisis) in an appropriate manner (Weiten, 2002). During this stage of life the young ones are under the influence of peers. This dependency and belongingness to peer group can have negative effects on individual leading to disturbed interpersonal relation with parents which may leads to disturbed emotional relationships, increased aggression, depression, stress and anxiety which in turn may affect their academic performance.

Present study aims at studying the high school children in Iran, because these adolescents are exposed to new subjects for the first time, (e.g. Physics, Chemistry, Geometry, Algebra and so on) and in the process of learning and mastering the subject contents may create new set of stresses and anxieties. Further, type of school (school environment), teacher's factor, and changes in medium instruction, Parental pressures and expectations (to excel in the class) may result in academic stress in the students.

Increased interest and excessive use of computer, internet, mobile, mass media, spending more time for these and less time for academic activity may play an important role in increasing stress and depression.

Adolescence is also the age of schooling. In this period (special between 15-17) students think more about the college, they have to move based on their parents expectations, because most of the parents tend their children enter to the medical science, law and engineering colleges. Therefore, it needs hard efforts from the students to meet the parent's expectations and this may leads to stress in the students. Therefore, the increased stress influences emotional and cognitive processes and may lead to disturbed thinking about self, others, the world and also toward abilities. The consequences of this can be depressed mood, low self-efficacy and poor academic performance.

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