PREDICTING ACADEMIC STRESS BASED ON ACADEMIC PROCRASTINATION AMONG FEMALE STUDENTS

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ABSTRACT

The present study was carried out in order to explain and predict academic stress based on academic procrastination among female students. The study method was correlational. The statistical population consisted of first grade female students of second high school in Kabudrahang in 2014-15. The sample size was estimated to be 210 individuals through Cochran formula. In so doing, multi-stage cluster sampling was employed. Data collection was carried out using Zajacova, Lynch and Espenshade academic stress questionnaire and Savari’s procrastination survey. The results of Pearson correlation coefficient indicated that there is a direct significant relationship between female students' academic stress and the dimensions of intentional procrastination, procrastination caused by physical and mental fatigue, and procrastination caused by disorganization. The results of stepwise multiple regression analysis indicated that in the second step, the dimensions of procrastination caused by mental and physical fatigue and also intentional procrastination can predict and explain 49% of changes in female students' academic stress. Therefore, it can be concluded that students' academic stress will decrease with a drop in their procrastination.

Key words: academic procrastination, academic stress, female student.

Introduction

Academic life experience for most students is specified by coming across an extensive group of stressful factors, which can affect their academic life. Such pressures from education extensively challenge the learners' psychological wellbeing, physical health, and cognitive capacities in conducting their assignments more effectively. Therefore, stresses and pressures caused by education enhance academic stress which transforms their academic performance. However, most researchers that are interested in research field of academic stress have discovered that discrepancy in individuals' preferred patterns of responding to stressors in academic situations can be affected by different factors such as academic procrastination.

Procrastination is a behavioral feature or deficiency which appears as a form of postponement of an assignment or decision making. One of the aspects of procrastination is academic procrastination which has been referred to as a bad habit and a behavioral problem experienced by most students in their regular tasks especially their homework that is supposed to be accomplished at certain time. Evidence indicates that students are faced with numerous challenges in tracking their educational objectives. When these experiences are interpreted as negative, they can have disruptive effect on their motivation and performance.

In other words, some studies have investigated interpersonal factors affecting the learners’ academic performance and highlighted the importance of academic emotions such as academic stress.
Academic stress toward to increasing need for knowledge and the individual’s perception that he does not have enough time to achieve that knowledge\(^{35}\). Academic stress influences the students’ physical-mental health and their capacity to accomplish their assignments\(^{11}\).

Procrastination as a prediction variable is highly important in the present study because it can enhance the volume of the delayed assignments, which in turn increases the level of pressure and academic stress. Procrastination cause the students’ academic assignments not to be accomplished timely, which results in academic stress and academic success failure. It is also important in this regard that unawareness with approaches to deal with academic procrastination can cause the students to be ignorant without their notice, which in turn affects other aspects of their lives; therefore, they will apply procrastination in all tasks of their lives, so they fail to achieve their goals\(^{10}\).

Ignoring academic stress among students can reduce their motivation for success in education because it causes the students to be preoccupied with freedom from pressure caused by education, which impedes the students’ academic success and progress. On the other hand, academic stress reduces the students’ academic efficiency; therefore, academic achievement and success tendency will fail\(^7\).

Most studies carried out on stressors have focused on the effects of such factors on physical and mental health\(^{22}\), for example, studied the effect of daily stress on physical and mental health of 65 female and 47 male teenagers with 10 successive days. They stated that there is a relationship between daily stressors and general health. They also showed that there is a relationship between stressors and daily moods.

Another study of stressors investigated the effects of gender differences on stressors\(^{22}\) studied the role of gender differences in daily stressors or minor stress and the reported symptoms among 135 girls and 127 boys in Hong Kong. The results indicated that girls were more prone to daily stressors, showed more negative moods, and less positive emotions than boys. The relationship between stressors and reports of physical symptoms was stronger among girls than boys\(^{34}\). Studied the mental effects of academic procrastination among students.

The results of that study indicated that academic procrastination resulted in distraction and preoccupation and delayed assignments, which finally leads to negative mental complications for students, regret, shame, frustration, stress, and other relevant feelings\(^{35}\). Studied the relation between stress and procrastination. The results of that study indicated that procrastination could bring about important concrete consequences such as missing deadlines, missing opportunities, wasting time, and the most important emotional consequences of procrastination like demoralization, increased anxiety, fear and anger, and low motivation\(^{36}\). Investigated students’ procrastination based on anxiety-avoidance model.

The results indicated that fear of evaluating performance by others is the cause of individuals procrastination. According to anxiety-avoidance model, while being faced with a situation, students first evaluate it, and if they are not well equipped with resources to deal with it, their performance will be filled with stress and they try to flee it. In regard with procrastination, this escape indicates postponing stressful assignment as much as possible, which causes a reduction in anxiety as a negative boost and helps to maintain this behavioral pattern\(^{24}\) investigated the relationship between academic procrastination and stress in statistics course.

The study was carried out on 135 graduates in southeast of the USA. The results indicated that there was a significant relationship between academic procrastination and stress in statistics course. The results also indicated that 40-60% of the participants always or almost always used to procrastinate in writing their research papers, studying for exams, and doing their weekly assignments, and academic stress was observed in all of them\(^{33}\) studied the relationship between academic procrastination and exam and learning anxiety among Iranian female students. The results showed that there was a positive significant relationship between test anxiety and academic procrastination, and the former can predict the latter\(^{31}\).

Investigated the effect of test anxiety on students’ academic performance and the instructors as mediators. The results of that study indicated that 30% of the students had symptoms of test anxiety which had disruptive effects on academic performance and students’ success, and the instructors could remarkably reduce anxiety through early intervention and application of supportive strategies\(^{30}\). Investigated the effect of gender on self-efficacy and self-regulation of teenagers and test anxiety. The study consisted of 783 German students whose academic performance was examined. The results of that study indicated that gender differ-
ences had no effect on students’ test anxiety. Moreover, a study was carried out in Iran in which daily stressors were compared and the methods to deal with them among male and female students in Mashhad were considered. The study consisted of 50 female ad 50 male students. The results indicated that there was no significant difference between girls and boys in terms of mean frequency and adversity of daily stressors and the coping methods, and gender had no effect on this issue\(^{(2,3)}\). Investigated personality features, academic stress, and academic performance.

The results of correlation matrix of the variables indicated that there was a positive significant relationship between factors like conscientiousness, extroversion, agreeableness, and conformity and academic performance. There was also a negative significant relationship between neuroticism and academic performance. The results also indicated that there was a positive significant relationship between academic stress and academic performance. Conscientiousness and extroversion had a negative significant relationship with academic stress while a positive significant one with neurotic factors. The results of hierarchical regression analysis showed that personality features of extroversion and neuroticism would explain 5% and 43% of academic stress variance, respectively. They also indicated that personality features of conscientiousness, neuroticism, and academic stress explained 12%, 10%, and 6% of academic performance variance, respectively. The results of the study highlighted the necessity of recognizing the roles of personality features in academic stress experience and the role of personality features and academic stress in academic performance\(^{(5)}\).

Studied the relationship between academic performance, test anxiety, perfectionism, and academic procrastination. Their study consisted of 200 female students from Ahwaz. The results indicated that there was a negative relationship between academic performance and test anxiety\(^{(6)}\) investigated the relationship between general self-efficacy, academic procrastination, academic procrastination, and academic achievement among university students. The results indicated that there was a negative significant relationship between test anxiety, academic procrastination, and academic achievement. However, multivariate variance analysis indicated that there was no significant difference between the groups\(^{(6)}\) studied academic procrastination and predicting factors.

The results indicated that stress was a significant predictor for procrastination. Moreover, the results indicated that students’ perfectionism and education year were not significant predictors for this variable. In addition, there was no significant differences between males and females’ academic procrastination in regard with their fields of study\(^{(3)}\) analyzed the structural pattern of the relationship between coping styles and academic procrastination among university students. The results obtained using structural equation modeling indicated that the final model fit antecedents with data was confirmed. According to the results of the model, problem-focused coping strategies had a reverse significant effect on academic procrastination.

Moreover, the results indicated that there was no significant difference between male and female students regarding their scores of procrastination\(^{(9)}\). Investigated the role of academic procrastination in the components of self-regulation among high school first graders in Tehran. The results of stepwise regression indicated that the components of internal and external valuation factors, compared to objectives, organization, metacognitive self-regulation strategies, time and space management, self-regulation attempt, significantly predict academic procrastination. The results of independent T-test indicated that there was no significant difference between boys and girls in terms of procrastination while those of multivariate variance analysis proved such difference in some components of self-regulation\(^{(1)}\) studied the relationship between learned helplessness and academic achievement and academic procrastination and test anxiety.

The results of that study indicated that there was a negative significant relationship between learned helplessness and academic achievement while a positive significant relationship between test anxiety and academic procrastination. Moreover, there was a negative significant relationship between test anxiety variables and academic procrastination and academic achievement and a positive significant one between academic procrastination and test anxiety. Path analysis indicated that the proposed pattern for learned helplessness relationship did not have a good fitness with acade-
mic achievement, academic procrastination mediation and test anxiety<sup>(23)</sup>. Investigated the prediction of academic procrastination role based on perfectionism and test anxiety among university students. The results of their study indicated that perfectionism and test anxiety could positively and significantly predict academic procrastination. According to this finding, it can be stated that students’ academic procrastination will increase with an increase in the rate of perfectionism and test anxiety<sup>(25)</sup>. Investigated the prediction of academic procrastination based on cognitive, emotional, motivational, and gender factors. The results of stepwise regression indicated that conscientiousness, neuroticism, flexibility, and commitment could significantly predict academic procrastination. According to this finding, it can be stated that with an increase in neuroticism and flexibility among students, their academic procrastination increases while it drops with an increase in conscientiousness and commitment.

According to what was mentioned above, the major issue in the present study is whether the dimensions of academic procrastination can explain and predict female students’ academic stress or not.

**Methodology**

Based on the study’s problem, the study method was chosen to be correlational. The study population consisted of all first grade female students of second high school in Kabudrahang. The sample size was determined to be 210 using Cochran formula though multi-stage cluster sampling. The study instruments were<sup>(11,6)</sup>. Academic stress was measured using<sup>(11)</sup> which includes 20 items. In this questionnaire, 0 stands for the lowest rate of academic stress while 4 indicates its maximum level. In a study carried out by<sup>(11)</sup> the Cronbach’s alpha for academic stress was 0.95 and for other dimensions was 0.85, 0.83, 0.82, and 0.74, respectively. Moreover, the validity of the questionnaire in the study of<sup>(11)</sup> was calculated to be 0.82 through confirmatory factor analysis<sup>(6)</sup> includes 12 items which measure 3 dimensions of intentional procrastination (items 1 to 5), procrastination caused by mental and physical fatigue (items 6 to 9), and procrastination caused by disorganization (items 10 to 12). Scoring is based on a 5-point Likert scale. The reliability of this questionnaire was reported to be 0.76. Tables, graphs, central tendency and distribution were employed to analyze the study’s data and Pearson correlation and multiple regression analysis were used to examine the study’s hypotheses.

**Results and discussion**

First, the assumptions of the abovementioned tests were examined. Afterwards, academic procrastination and its components were described. The results indicated the mean academic procrastination to be 27.93 and an SD of 10.12 (Table 1).

<table>
<thead>
<tr>
<th>Variable</th>
<th>X</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentional Procrastination</td>
<td>10.47</td>
<td>4.24</td>
</tr>
<tr>
<td>Procrastination Caused by Mental and Physical Fatigue</td>
<td>9.95</td>
<td>4</td>
</tr>
<tr>
<td>Procrastination Caused by Disorganization</td>
<td>7.51</td>
<td>3.15</td>
</tr>
<tr>
<td>Academic Procrastination</td>
<td>27.93</td>
<td>10.12</td>
</tr>
</tbody>
</table>

**Table 1**: Description of academic procrastination and its components among the sample groups.

Data presented in Table 2 describe academic stress in the sample group. The results indicated that the mean academic stress is 31.02 and the standard deviation is 10.24.

<table>
<thead>
<tr>
<th>Variable</th>
<th>X</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Stress</td>
<td>31.02</td>
<td>10.24</td>
</tr>
</tbody>
</table>

**Table 2**: Description of academic stress in the sample group.

Afterwards, the normality of data distribution was examined. Drawing p-p graph was employed was employed to examine the data distribution normality of academic procrastination and academic stress (Table 3).

<table>
<thead>
<tr>
<th>Prediction Variable</th>
<th>Criterion Variable: Academic Stress</th>
<th>r</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intentional Procrastination</td>
<td></td>
<td>0.576</td>
<td>0.0001**</td>
</tr>
<tr>
<td>Procrastination Caused by Mental and Physical Fatigue</td>
<td></td>
<td>0.678</td>
<td>0.0001**</td>
</tr>
<tr>
<td>Procrastination Caused by Disorganization</td>
<td></td>
<td>0.584</td>
<td>0.0001**</td>
</tr>
</tbody>
</table>

**Table 3**: The relationship between the dimensions of academic procrastination and academic stress among female students.
As for examining the study’s first hypothesis, the results of Pearson correlation coefficient indicates that there is a direct significant relationship between the components of intentional procrastination and academic stress \( (r=0.576, P<0.01) \). Therefore, the first hypothesis is accepted.

As for examining the study’s second hypothesis, the results of Pearson correlation coefficient indicates that there is a direct significant relationship between the components of procrastination caused by mental and physical fatigue and academic stress \( (r=0.678, P<0.01) \). Therefore, the second hypothesis is accepted (Table 4).

As for examining the study’s third hypothesis, the results of modified Pearson correlation coefficient indicates that there was a direct relationship between the components of procrastination caused by mental and physical fatigue and intentional procrastination \( (r=0.459, P<0.01) \). Therefore, the third hypothesis is accepted.

As for examining the study’s fourth hypothesis, the results of multiple regression analysis indicated that based on model 1, the component of procrastination caused by mental and physical fatigue \( (F(2,256)=7.545, P<0.01) \) could predict academic stress among first grade female students of second high school in Kabudrahang. Therefore, the fourth hypothesis was accepted.

\[ \text{Model} \quad \text{Variable} \quad R \quad R^2 \quad A^2 \quad SE \]

<table>
<thead>
<tr>
<th>Model</th>
<th>Variable</th>
<th>R</th>
<th>R²</th>
<th>A²</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Procrastination Caused by Mental and Physical Fatigue</td>
<td>0.678</td>
<td>0.459</td>
<td>0.457</td>
<td>7.545</td>
</tr>
<tr>
<td>2</td>
<td>Intentional Procrastination</td>
<td>0.706</td>
<td>0.498</td>
<td>0.494</td>
<td>7.282</td>
</tr>
</tbody>
</table>

Table 4: Summary of regression model of academic stress based on academic procrastination components among female students. \( n=258 \)

As for examining the study’s third hypothesis, the results of Pearson correlation coefficient indicates that there is a direct significant relationship between the components of procrastination caused by disorganization and academic stress \( (r=0.584, P<0.01) \). Therefore, the third hypothesis is accepted.

As for examining the study’s fourth hypothesis, the results of modified Pearson correlation coefficient indicates that based on model 1, the component of procrastination caused by mental and physical fatigue predicted 0.46 of academic stress variance and based on model 2, the components of procrastination caused by mental and physical fatigue and intentional procrastination predicted 0.49 of academic stress variance among first grade female students of second high school (Table 5).

<table>
<thead>
<tr>
<th>Model</th>
<th>Change Source</th>
<th>S.S</th>
<th>df</th>
<th>M.S</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>12375.851</td>
<td>1</td>
<td>12375.851</td>
<td>217.403</td>
<td>0.0001**</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>14573.052</td>
<td>256</td>
<td>56.926</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26948.903</td>
<td>127</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>13425.44</td>
<td>2</td>
<td>6712.72</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26968.62</td>
<td>257</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5: The summary of regression analysis of academic stress based on the components of academic stress of female students. \( n=258, P<0.01** \)

As for examining the study’s fourth hypothesis, the results of multiple regression analysis indicated that based on model 1, the component of procrastination caused by mental and physical fatigue \( (F(1,256)=217.403, P<0.01) \) and based on model 2, the components of procrastination caused by mental and physical fatigue and intentional procrastination \( (F(2,256)=126.576, P<0.01) \) could predict academic stress among first grade female students of second high school in Kabudrahang. Therefore, the fourth hypothesis was accepted.

As for examining the study’s first hypothesis, the results of Pearson correlation coefficient indicates that there is a direct significant relationship between the components of intentional procrastination and academic stress \( (r=0.576, P<0.01) \). Therefore, the first hypothesis is accepted.

As for examining the study’s second hypothesis, the results of Pearson correlation coefficient indicates that there is a direct significant relationship between the components of procrastination caused by mental and physical fatigue and academic stress \( (r=0.678, P<0.01) \). Therefore, the second hypothesis is accepted (Table 4).

As for examining the study’s third hypothesis, the results of modified Pearson correlation coefficient indicates that based on model 1, the component of procrastination caused by mental and physical fatigue predicted 0.46 of academic stress variance and based on model 2, the components of procrastination caused by mental and physical fatigue and intentional procrastination predicted 0.49 of academic stress variance among first grade female students of second high school (Table 5).

As for examining the study’s fourth hypothesis, the results of multiple regression analysis indicated that based on model 1, the component of procrastination caused by mental and physical fatigue \( (F(1,256)=217.403, P<0.01) \) and based on model 2, the components of procrastination caused by mental and physical fatigue and intentional procrastination \( (F(2,256)=126.576, P<0.01) \) could predict academic stress among first grade female students of second high school in Kabudrahang. Therefore, the fourth hypothesis was accepted.

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficient</th>
<th>B</th>
<th>SE</th>
<th>Beta</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Procrastination Caused by Mental and Physical Fatigue</td>
<td>1.735</td>
<td>0.118</td>
<td>0.678</td>
<td>14.745</td>
<td>0.0001**</td>
</tr>
<tr>
<td></td>
<td>Stable</td>
<td>11.379</td>
<td>1.33</td>
<td>0.678</td>
<td>8.558</td>
<td>0.0001**</td>
</tr>
<tr>
<td>2</td>
<td>Procrastination Caused by Mental and Physical Fatigue</td>
<td>1.333</td>
<td>0.145</td>
<td>0.521</td>
<td>9.187</td>
<td>0.0001**</td>
</tr>
<tr>
<td></td>
<td>Intentional Procrastination</td>
<td>0.609</td>
<td>0.137</td>
<td>0.252</td>
<td>4.449</td>
<td>0.0001**</td>
</tr>
</tbody>
</table>

Table 6: Regression coefficients of predicting academic stress based on the components of academic procrastination among female students. \( n=258, P<0.01** \)

The results presented in Table 6 and the standardized weight of Beta indicate that based on model 1, a standard deviation of change in procrastination caused by mental and physical fatigue led to 0.68 standard deviation change in academic stress, and based on model 2, a standard deviation of simultaneous change in procrastination caused by mental and physical fatigue and intentional procrastination caused respectively 0.52 and 0.25 standard deviation change in academic stress among first grade female students of second high school in Kabudrahang.

Discussion and conclusion

The results presented for the first hypothesis indicated that there was a direct relationship between intentional procrastination and academic stress among first grade female students of second high school in Kabudrahang. This finding is in agreement with the results presented by \((31,10,1)\).

Some researchers concluded procrastination is an effective factor in increased academic stress, Ferrari, Mc Cowen, and Johnson\(^{(1)}\) considered procrastination as the purposeful and permanent postponement of beginning of assignment completion to the threshold of experiencing stress and anxiety.
Moreover, procrastination was defined as postpone-ment of what is necessary to achieve a goal (28; 30). In intentional procrastination, students intentionally postpone their assignments in a way that their studies progress very slowly, or they prefer to do other tasks so that they can accomplish their assignments. Moreover, due to having enough time for educational issues, they postpone them⁶⁰.

Therefore, according to the results presented for the first hypothesis, it can be stated that intentional procrastination is an effective factor on academic stress, such that students postpone their assignments intentionally; therefore, educational issues progress slowly or the students prefer to do other tasks than their homework. They postpone their homework and finally due to having insufficient time, they will not have a good performance.

The results of the second hypothesis indicated that there was a direct relationship between procrastination caused by mental and physical fatigue and academic stress among first grade female students of second high school in Kabudrahang. This finding is in line with the one reported by²⁶,²¹.

In procrastination caused by mental and physical fatigue, students feel they do not have necessary energy to accomplish and complete their assignments or are too tired to continue doing their homework. Moreover, during accomplishing their assignments, they doubt their capacities. Therefore, they always feel that they never do their homework correctly, which can create grounds for procrastination⁶⁰.

According to the results of the second hypothesis; therefore, it can be concluded that in procrastination caused by mental and physical fatigue, students feel they don’t have enough energy to accomplish their assignments correctly or feel tired while doing their homework; therefore, the think they never do their homework correctly, which finally results in an increase in academic stress.

The results of the third hypothesis indicated that there was a direct relationship between procrastination caused by disorganization and academic stress among first grade female students of second high school in Kabudrahang. This finding is in agreement with those of the studies carried out by²⁴,³,⁴,⁵. For example²⁴ studied the mental effects of academic procrastination among students. The results of that study indicated that academic procrastination caused distraction and preoccupation, which finally causes negative internal consequences for the students, regret, shame, frustration in one-self, stress, and other emotions. The students might have problems in making decision about an assignment or have thought about one and have planned to start doing it; however, they had not performed accordingly.

Moreover, it is possible that they have not considered doing an assignment and have not planned for it at all, but they remember they have to do it in the last minute; therefore, they do not have enough time to accomplish it. In this case, they start their assignment helplessly, which does not lead to good results in most cases²⁸. According to the results presented for the third hypothesis, it can be stated that procrastination caused by disorganization causes distraction and preoccupation with quit assignments, which reduces concentration in doing homework or studying for exams and affects the individual’s successful performance, which finally brings about negative internal consequences for the students, and regret, shame, frustration, and stress will be resulted. Students may have problems in making decisions for their assignments, or they might have planned for accomplishing an assignment but have not performed accordingly until the deadline comes. Moreover, it is possible that they have not thought about or planned for an assignment at all (lack of time management) and remember it in the last minute when the deadline has come. In this case, they start doing their assignments hopelessly while a large portion of the assignment has left, which causes academic stress and unfavorable results in most cases.

The results presented for the fourth hypothesis academic procrastination can predict and explain academic stress among first grade female students of second high school in Kabudrahang. This finding is in agreement with those of the studies carried out by²⁴,³,⁵,³³. Although procrastination is not always problematic, it can bring about unfavorable and irreversible consequences by impeding progress and achieving the goals²⁵,²⁸ defined academic procrastination as the dominant and permanent tendency of the learners to postpone their educational activities, which is always associated with anxiety. A well-known example of procrastination is postponing lessons until the night before exams, which causes anxiety and haste among the students.

Studies have indicated that procrastination does not necessarily mean inefficiency. It can be due to simple or boring assignments. Moreover, it can be because of the joy that an individual obtains from working under stress²⁵. According to the
results presented for the fourth hypothesis, it can be claimed that academic procrastination can be defined as the students’ dominant and permanent tendency to postpone their educational activities, which is always associated with stress. A well-known example of procrastination is postponing lessons until the night before exams, which causes anxiety and haste among the students, and the idea of having insufficient time to do assignments or study causes the students not to be able to perform according to their capacities.

References


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