Perceived Stress, Academic Workloads and Use of Coping Strategies by University Students

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The present study aimed to examine perceived stress, academic workloads, and coping strategies used by the students studying under the semester system. It was hypothesized that: there is a positive relationship between academic workload and perceived stress among students; academic workload and perceived stress would predict the type of coping strategies used by the students. The sample included 150 masters’ level science students. Perceived stress scale, a self designed academic workload scale and coping strategies questionnaire (CSQ, Kausar, 2005) were used for assessment. Students completed assessment measures in the presence of researcher. Correlation and regression analyses were used to analyze the data. Positive relationship was found between academic workloads and perceived stress. Academic workload showed positive relationship with active practical coping strategies and negative relationship with active distractive and avoidance coping. Perceived stress had negative relationship with practical coping and negative relationship with avoidance coping. Academic workloads predicted perceived stress among students. The findings have important implications for students in higher education and highlight the importance of counseling in the higher education institutions which in turn may help improve their academic performance.

Key words: Perceived Stress, Academic Workloads, Coping Strategies, University Students

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Students in higher education perceive academic life as stressful and demanding (Wan, 1992; Hammer, Grigsby, & Woods, 1998) and report experiencing emotional and cognitive reactions to this stress, especially due to external pressures and self-imposed expectations (Misra, & McKean, 2000). They report numerous stressors during term-time, including academic demands and social adjustment.

Bean and Hammer (2006) conducted a study to examine students’ perceived level of stress in relation to their academic workload. 55% students reported that they have to ignore one subject for the preparation of the other subject. 42.5% students reported moderate level of stress whereas in 27% stress level was beyond manageable level. Stress-inducing academic demands include grade competition; lack of time and issues relating to time or task management (Macan, Shahani, Dipboye, & Phillips, 1990; Trueman., & Hartley, 1996); they need to adapt to new learning environments (Van-Rooijens, 1986) in terms of the increased complexity of the material to be learned and the greater time and effort required to do so; and the need to constantly self-regulate and to develop better thinking skills, including learning to use specific learning techniques (Fram, & Bonvillian, 2001).

Emotional stress, such as anxiety, students' appraisal of the stressfulness of the role demands and their ability to cope with those demands are also connected to academic stress (Wan, 1992; Talaei, Ardani, & Saghebi, 2008). Ross, Niebling, and Heckert (1999) carried out research to determine the major sources of stress among college students using student Stress Survey consisting of 40 stressful situations. The top five sources of stress reported by students included: change in sleeping habits; vacations/breaks; change in eating habits; increased work load and new responsibilities. In another study, Schneider (2002) suggested that students perceived workload required in college, competition among students and difficulty of the curriculum very stressful. Among top sources of stress for engineering students included: heavy workload in Engineering courses; high level and difficult nature of Engineering curriculum; large amounts of time required to complete assignments; lack of sleep; and competition with classmates for grades and inflexibility of engineering curriculum. Similar results were reported by a research conducted by Polychronopoulou, and Divaris (2009) on students in dental education. Assigned workload, performance pressure, and self-efficacy beliefs constituted the most stress-provoking factors.
Another category that evokes stress is social adjustment, particularly adjusting to university life (Saracoglu, Minden, & Wilchesky, 1989; Abouserie, 1994; Johnson, Batia, & Hauan, 2008) and separating from family and friends. Finally, other constraints include financial pressure (Miech, & Shanahan, 2000) and other technical difficulties. Thus, academic stressors cover the whole area of learning and achieving in and adjusting to a new environment in which a great deal of content must be assimilated in a seemingly inadequate period of time. Since students endeavor to adapt themselves to academic life, positive adaptation and well-being factors are associated with fewer experienced stress symptoms (Van-Rooijen, 1986; Tobin, & Carson, 1994; Andrews, Hejdenberg, & Wilding, 2006).

### Coping Strategies

Coping strategies are assumed to have two primary functions: managing the problem causing stress and governing emotions relating to those stressors (Folkman & Lazarus, 1980, 1986; Lazarus & Folkman, 1984, Lazarus, 1990). Interpreting their results in terms of this assumption, most studies confirm two major related findings. The first is that a situation is evaluated as stressful, in part, whenever the individual perceives a lower ability to cope with it. The second finding is that stressors perceived as controllable elicit more proactive coping mechanisms (Karasek, & Theorell, 1990) while those perceived as uncontrollable elicit more avoidance strategies (Anshel & Kaissidis, 1997; Compas, Malcarne, & Fondacaro., 1988; Lazarus, 1981; Lazarus & Folkman, 1984; Roecker, Dubow & Donaldson, 1996).

Differences in the conceptualization of coping have led to a number of ways of classifying coping strategies. Lazarus and Folkman (1984) offered a widely used definition of coping, namely: constantly changing cognitive and behavioral efforts to manage specific external or internal demands. Subsequently, Higgins, and Endler (1995) grouped coping strategies into three main classes: task-oriented, emotion-oriented, and avoidance-oriented.

The task-oriented strategy is problem-focused. It involves taking direct action to alter the situation itself to reduce the amount of stress it evokes. In the emotion-oriented strategy, efforts are directed at altering emotional responses to stressors. It also includes attempts to reframe the problem in such a way that it no longer evokes a negative emotional response and elicits less stress (Mattlin, 1990). Finally, avoidance-
oriented coping includes strategies such as avoiding the situation, denying its existence, or losing hope (Lazarus & Folkman, 1984). It also includes the use of indirect efforts to adjust to stressors by distancing oneself, evading the problem, or engaging in unrelated activities for the purpose of reducing feelings of stress (Roth, & Cohen, 1986).

The first two coping strategies involve pro-active efforts to alter the stressfulness of the situation, with the use of emotion-oriented strategies being favored by people whose personality disposition enables them to easily enter into and sustain a state of emotional arousal in response to, or in anticipation of, emotionally-laden events (Melamed, 1994). By contrast, avoidance strategies are characterized by the absence of attempts to alter the situation. The two proactive strategies, namely the task-oriented and emotion-oriented approaches, are associated with better adjustment, as reflected in higher self-rated coping effectiveness and less depression (Causey, & Dubow, 1993; Compas, Malcarne, & Fondacaro, 1988; Moos, 1990; Strutton, & Lumpkin, 1993). Although avoidance-oriented coping may initially be an appropriate reaction to stress, Billings, and Moos (1981) have shown that it is associated with poorer adjustment, and Endler and Parker (1999) have suggested that, in the long run, task-oriented coping is the most efficacious strategy.

**Effects of Academic Stress and Demographics on Coping**

Although a large body of literature has gauged the effects of academic stressors on coping strategies, little research has examined the importance of developing an integrative model, incorporating the effects of the perceived and actual stressor parameters on coping strategies. Though higher education is seeking much attention by policy makers and Government, research investigating factors effecting students’ coping in Pakistan is non-existent.

With respect to the effect of academic stress on coping, the higher education literature shows that students' coping methods are diverse, reflecting personal influences on their coping styles. Students generally report using proactive behavioral methods, such as managing their time, solving specific problems and seeking information and help (Misra, & McKean, 2000; Britton, 1991; Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Collins, Mowbray, & Bybee, 1999). Mattlin (1990) found that students also use cognitive emotion-related behavior,
such as positive reconceptualization of the stress-inducing events, to cope with stress. Besides other factors certain personality types are also considered as a major contributor to student’s perceptions of being anxious about studies and academic performance. Chapell, and colleagues (2005) found that students who are more test anxious got low Grade Point Averages than non anxious students.

Demographic differences in coping styles have been reported by earlier research. Researchers have found that ethnic, cultural (Kim, Won, Liu, Liu, &, Kitanishi, 1997) and even socioeconomic (Cairns, 1989) characteristics influence coping behaviors. Age has also been found as a factor that mediates stress levels. Studies that focused on perceived stress found that it decreases with age (Cohen & Williamson, 1988; Hamarat, Thompson, Zabrucky, Steele, & Matheny, 2001). Kausar and Munir (2004) in their research done on Pakistani adolescents highlighted the importance of family in coping with stress.

To summarize, studies of stress and coping offer only a partial demonstration of the coping strategies employed. In particular, the literature has viewed coping behaviors in relation to either ‘actual’ stress or perceived stress, without endeavoring to determine from which aspect the coping behaviors derive. The present study aimed to investigate various factors which would affect university students’ coping with academic workload particularly with reference to semester system.

Hypotheses

Hypothesis 1. Perceived academic stress, academic workloads are correlated with the types of coping strategies used by the students.

Hypothesis 2. Academic stress perceptions are predicted by academic workloads.

Method

Participants

The target population of the present study was students studying in University of the Punjab, Lahore, Pakistan under a semester system. 150 students were recruited from those science departments who have adopted the semester system. Science departments were selected in order to control for the difficulty level of studies. Moreover, workloads in science departments vary from that of Social sciences, Art and Humanities in terms of experimental work and labs. Those students
were included who were registered in the masters’ programs and were either in their 2nd or 4th semester, for the reason that they had spent fair amount of time in the University. The students were assessed subsequent to their mid-term exams. Demographic characteristics of the participants are given in table 1.

University of the Punjab was established in Lahore in 1882 and is the largest and oldest of all Pakistani Universities and it was the fourth university established in the Indian sub-continent by the British. Initially the university conducted all public examinations but currently the university concentrates more on degree pursuit and postgraduate teaching and research. Over the decades, University of the Punjab has progressed extensively. At present there are almost 62 institutions, departments, constituent colleges, and centers running more than 130 degree, diploma, and certificate programs. On the directives of Higher Education Commission, most of the departments at University of the Punjab have been shifted from annual system to a semester system.

Table 1
*Descriptive Characteristics of The Sample (N=150)*

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>( f ) (%)</th>
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<tbody>
<tr>
<td>Age in Years</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td>20-25</td>
</tr>
<tr>
<td>( M (SD) )</td>
<td>22.16 (1.17)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>65 (65.0)</td>
</tr>
<tr>
<td>Female</td>
<td>35 (35.0)</td>
</tr>
<tr>
<td>Marks in Graduation (total =800)</td>
<td></td>
</tr>
<tr>
<td>350- 467</td>
<td>25 (25.0)</td>
</tr>
<tr>
<td>468- 584</td>
<td>49 (49.0)</td>
</tr>
<tr>
<td>585- 703</td>
<td>8 (8.0)</td>
</tr>
<tr>
<td>GPA in the Previous Semester</td>
<td></td>
</tr>
<tr>
<td>&lt; 3.07</td>
<td>25 (25.0)</td>
</tr>
<tr>
<td>3.07 – 3.35</td>
<td>25 (25.0)</td>
</tr>
<tr>
<td>3.36 – 3.75</td>
<td>24 (24.0)</td>
</tr>
<tr>
<td>3.76 – 4.00</td>
<td>8 (8.0)</td>
</tr>
</tbody>
</table>
Assessment Measures

Assessment in this study comprised three parts: (1) the students' subjective assessment of the stress they experience i.e., perceived stress: (2) assessment of coping strategies used: (3) assessment of academic workloads.

1) Perceived Stress. In accordance with Lazarus's (1990) definition, perceived stress is defined as a condition subjectively experienced by an individual who identifies an imbalance between demands addressed to him/her and the resources available to encounter these demands. It was assessed in terms of the students' subjective experiences of their academic stress. The question was: "Would you please share with us your feelings of stress regarding your academic loads: How much stress do you feel due to your academic studies?" Students were required to answer on a four-point Likert scale from not stressed at all (1) through very much stressed (4).

2) Coping Strategies. Coping strategies Questionnaire (CSQ, Kausar, 2001) was used to assess student’s coping. This is a 63 item measure of four types of coping strategies: (a) Active practical coping it is task-oriented coping and it stresses on proactive responses to the stressors; (b) Active –distractive coping- this scale represent coping strategies such as getting indulged in sports, recreational activities and having leisure time in order to distract oneself from the task; (c) Avoidance coping - this represents withdrawal behaviors and the redirection of personal resources towards different paths such as shifting attention to other activities, excessive sleep, turning to drugs etc; (d) Religious coping – getting self involved in religious activities and rituals. The scales for these coping strategies range from 1 (seldom used) to 5 (always used). Higher scores represent a higher usage for a specific coping strategy. This is an indigenously developed tool to assess coping strategies in Pakistani perspective. The questionnaire has been extensively used in coping researcher since its development. Due to varied number of items in four coping scales, scores obtained on these scales were converted to standard score in order to make them comparable.

3) Academic Workloads. Academic workload was assessed on an average weekly basis in terms of: (1) class hours; and (2) study hours
during semesters. Study hours included time spent in the library, in laboratories and at home, to meet academic demands.

4) **Demographic Information Questionnaire.** Information pertaining to students’ age, department, family monthly income, number of siblings was gathered using demographic information questionnaire.

**Procedure**

Heads of the selected departments were contacted at the first step and nature of the study was explained to them for seeking their formal permission for gathering data. After obtaining permission, students were contacted in their class rooms through the teachers nominated by the heads to facilitate data collection. After having fixed time with concerned teacher, assessment was carried out during class times in the researcher’s presence. It took about half an hour for a student to complete research protocols.

**Results**

Data was analyzed using descriptive and inferential statistics. Four coping strategies subscales had varied number of statements therefore in order to make score on different subscales comparable raw score was converted into standard score.

**Table 2**

*Descriptive Statistics of Coping Used by Students (N=150)*

<table>
<thead>
<tr>
<th>Coping</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Practical Coping</td>
<td>22.91</td>
<td>189.82</td>
</tr>
<tr>
<td>Avoidance Focus Coping</td>
<td>19.10</td>
<td>140.87</td>
</tr>
<tr>
<td>Active Distracting Coping</td>
<td>8.84</td>
<td>65.56</td>
</tr>
<tr>
<td>Religious Coping</td>
<td>15.22</td>
<td>112.28</td>
</tr>
</tbody>
</table>
Active practical coping strategies were used the most followed by avoidance focused coping, religious coping and active distractive coping.

To test the first hypothesis Pearson correlation analysis was performed. This allowed examining relationship of types of coping strategies with perceived stress and academic workloads. Total academic workloads were worked out by adding four subtypes of workloads.

Table 3

Relationship between Perceived Stress, Academic Workload, and Coping Strategies (N=150)

<table>
<thead>
<tr>
<th></th>
<th>Active Practical Coping</th>
<th>Active Distractive Coping</th>
<th>Avoidance Coping</th>
<th>Religious Coping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Workload</td>
<td>0.23*</td>
<td>-0.22*</td>
<td>-0.24*</td>
<td>0.02</td>
</tr>
<tr>
<td>Perceived Stress</td>
<td>-0.21*</td>
<td>0.02</td>
<td>0.21*</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*p < 0.01.

It was found that there was positive relationship between academic workload and perceived stress (r = 0.31, p<0.01). Academic workloads showed positive relationship with practical coping strategies and negative relationship with active distractive and avoidance coping. Perceived stress had negative relationship with practical coping and negative relationship with avoidance coping.

To test second hypothesis, regression analysis was performed on perceived academic stress, in order to evaluate the effects of academic work load on perceived stress. An ENTER method was used in regression equation, with perceived stress entered as the dependent variable and variables relating to academic loads entered as independent variables.

Regression analysis was performed to examine academic workload as predictor of perceived stress in students. Results are shown in table 4.
Table 4
Regression Analysis Objective Academic Work Load as Predictor of Perceived Stress

<table>
<thead>
<tr>
<th>Predictors</th>
<th>β</th>
<th>T</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Spent in Lab</td>
<td>0.23</td>
<td>2.68</td>
<td>0.05</td>
</tr>
<tr>
<td>Time Spent in Studies at Home</td>
<td>0.34</td>
<td>3.47</td>
<td>0.01</td>
</tr>
<tr>
<td>Time Spent in Project</td>
<td>0.24</td>
<td>2.70</td>
<td>0.05</td>
</tr>
<tr>
<td>Time Spent in Other Related</td>
<td>0.25</td>
<td>2.80</td>
<td>0.05</td>
</tr>
<tr>
<td>Activities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$F = 3.65, p<0.05, R^2 = 0.20, AdjustedR^2 = 0.19$

It was revealed that academic workload predicted students’ perceived academic stress and accounted for 20% of the variance. Time spent in labs, at home, in project and other activities related to academics all emerged as significant predictors of students’ perceived stress.

Discussion
The present study was carried out to examine perceived stress and academic workload among university students. Moreover, relationship between academic workload, perceived stress and coping strategies was also explored. Study was conducted on University students from those science departments who have adopted semester system.

All components of academic workload emerged as significant predictors of stress in students. The students who had been overloaded with academic work in terms of time spent in classes, in labs, working on assignments more stress they felt. Pfeifer, Kranz, and Scoggin (2008) carried out study in and found that more than half of the students rated their current level of stress being the highest in their lives. Students felt confused regarding course expectations and workload.

Another aim of the present study was to examine relationship of perceived stress, academic workload with coping strategies employed by students. There was positive relationship between academic workload and perceived stress among students. Findings from present research are consistent with earlier research. Misra, and McKean (2000) examined relationship between academic stress, anxiety, time
management, and leisure satisfaction among university students. Students were reported to experience anxiety and they used time management and indulged in leisure activities to deal with academic stress. In semester system, stress-inducing academic demands include grade competition; lack of time and issues relating to time or task management (Macan, Shahani, Dipboye, & Phillips, 1990; Trueman, & Hartley, 1996; Johnson, Batia, & Hauan, 2008); they need to adapt to new learning challenging environments (Van-Rooijens, 1986) in terms of the increased complexity of the material to be learned and the greater time and effort required to do so; and the need to constantly self-regulate and to develop better thinking skills, including learning to use specific learning techniques (Fram, & Bonvillian, 2001). In Pakistan, semester system in public sector universities is a recent phenomenon and students are not familiar with this system as in schools and colleges, there is annual system which requires different learning and evaluation skills. One plausible explanation for stress in students could be that University students find semester system more demanding and challenging thereby experience more stress.

In the present study, academic workload showed positive relationship with practical coping strategies and negative relationship with active distractive and avoidance coping. It employs that those students who have more workload use more practical coping strategies whereas those with less workload use more active distractive and avoidance coping. One could argue that extensive workload warrant students to used practical coping such as discussion with fellow students, collecting notes and reading material. With less workload students have time to deploy active distractive coping such as watching movies, visiting friends and indulge themselves in recreational activities.

Another significant finding of the present study was that perceived stress among students had negative relationship with practical coping and negative relationship with avoidance coping. With respect to the effect of academic stress on coping, the higher education literature shows that students' coping methods are diverse, reflecting personal influences on their coping styles. Students generally report using proactive behavioral methods, such as managing their time, solving specific problems and seeking information and help (Misra, & McKean, 2000: Britton, 1991; Lopez, Mauricio, Gormley, Simko, & Berger, 2001; Collins, Mowbray, & Bybee, 1999). Mattlin (1990)
found that students also use cognitive emotion-related behavior, such as positive reconceptualization of the stress-inducing events, to cope with stress.

The present study has very important implications for higher education, as findings indicate presence of stress in students in relation to academic workload. Presence of stress among students studying under semester system warrants provision of counseling services for University students. It is also important that orientation of semester system in the beginning of the academic session is given to the student to familiarize them with learning, evaluation and grading process. Counseling and orientation with newly introduced system may help students cope more effectively with day to day demands of their studies.

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**References**


