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SOURCES, CONSEQUENCES AND COPING STRATEGIES OF STRESS: A RESEARCH ON ACADEMIC STAFF IN TURKEY

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Abstract

Stress not only affects individual's health and performance but also causes many problems in organizations. Little research has been conducted to investigate stress experienced by academic staff. The purpose of this study is to identify sources, consequences and coping strategies of stress and to examine the relationships between sources and consequences of stress and demographics of academics and also job satisfaction. For this purpose, a questionnaire survey was conducted on academics of Mustafa Kemal University in Turkey. The main findings of the research indicated that the stress on academic staff resulted from personal caharacteristics, academic fulfillment and non-work factors. The research results indicated that there is an inverse relationship between stress and job satisfaction level. There were significant differences between males and females in some stress factors. But age was found to have a significant effect on stress level.Lecturer have more stress then counterparts by workload and time pressure because of loading more lectures.

Key words: Stress, sources of stress, stress management, academic staff
JEL Classification: M12

1. INTRODUCTION

Stress is becoming an increasingly important factor in our working lives. Apart from the effect on the suffering employee stress has a negative effect upon the organization. That is they perceive themselves as being unable to cope and not to prossess the necessary skills to combat their stress. Recognizing stress is the first step towards recovery.

There are many factors that cause stress in academic environment. These factor cause academic staff to have mental and physical problems by influencing them negatively. For academic staff to be successful, the negative impacts of these factors must be minimized. This will be possible by identify the sources of stress and reduce their negative impacts. In this study, the sources, consequences and coping strategies of stress are highlighted and presented the results of a survey research conducted on the academic staff.

2. LITERATURE REVIEW

Stress was first studied in terms of Selye's (1970) General Adaptation Syndrome (GAS), presents the concept that the stress cycle begins in the individual with an alarm reaction to some perceived stress agent and then moves to a resistance stage and, finally, to a stage of exhaustion (Cohen, 2001). These theoretical models have guided numerous studies of stress (Cooper and Marshall, 1976; Rasch et al., 1986; Wolverton et al., 1999). Although there are numerous definitions about the meaning of stress (Raitano and Kleiner, 2004:32), stress is defined as a mentally or emotionally disruptive or upsetting condition occurring in response to adverse external influences and capable of affecting physical and psychological health. Stress could be beneficial or detrimental. A beneficial stress (good stress or Eustress) is that level of stress that motivates, makes you creative. The detrimental stress (distress) is that makes you irritable and shortens your life (Rojas and Kleiner, 2001: 86).

The causes of stress can be categorized into extraorganizational, organizational, and group stressors, and individual stressors and dispositions. The work itself can be stressful. Threats to career development and achievement, including threat of redundancy, being undervalued, and unclear promotion prospects, the conflict between home and work and the work impact on personal relationships, physical conditions such as high noise levels, overcrowding in the workplace or a lack of privacy are stressful.

Stress from any source may affect an individual's health and their performance at work. The effects of such stress can create phsically, psychological, or behavioral problems (Ornelas and Kleiner, 2003). Job stress has been related to organization's problems such as absenteeism, turnover, poor job performance, accidents and errors, and alcohol and drug abuse (Williams et al., 2001). It has also been observed an increased risk of work-related diseases and accidents in developing countries that have experienced rapid industrialization (Haratani and Kawakami, 1999).

Coping is the conscious use of cognitive or behavioral strategies to reduce perceived stress. Lazarus and Folkman (1984) described "problem-focused" and "emotion-focused" coping strategies, although Anshel (2000) described "approach" and "avoidance" coping strategies. According to Gmelch (1988), "coping with stress is a holistic and polytechnic proposition". Generally speaking, however, there are two major approaches to dealing with stress: Individual strategy, tend to be more reactive in nature and organizational strategies, more proactive strategies.

It is generally recognised that teaching is a stressful occupation and past research has supported this (Travers and Cooper, 1993). The staff of a higher education institution is a key resource. Academic staffs, in particular, account for a significant component of the budget of higher education institutions and have a major role to play in achieving the objectives of the institution. Consequently, their motivation is crucial in determining the quality of this interface. Academics are not a homogeneous group of professionals. Thus, it would be inappropriate to examine academia stress without regard to the professional

and personal characteristics in academia. There is an increase in the stress experienced by academics would be the result of changes of academic work or the academic working environment. So, thare are extensive literature about stress on academia (Barnes et al., 1998; Doyle and Hind, 1998; Dua, 1994; Gmelch and Burns, 1994; Gmelch et al., 1986; Gmelch, 1988; Wild et al., 2003; Winefield et al. 2002).

3. THE PURPOSE OF RESEARCH

Understanding these sources that contribute to occupational stress and their effects on academic staff will help to implement strategies that can reduce, but, research on stress in the academic environment in Turkey is limited. This research, therefore, is a significant addition to academic staff stress literature by demonstrating the fundamental framework for evaluating the dimensions of the stress in Turkey.

In particular, this study focuses on the following research questions: (1) What dimensions are perceived as stressful by academic staff? (2) What influence do personal attributes have on academic staff stress? (3) Is there relationship between the level of stress and job satisfaction among academic staff? (4) Which sources of stress effect on stress level? (5) What personal and organizational consequences of academic staff stress are? (6) Which strategies are used to cope with stress by academic staff? The main purpose of this study was to provide an initial exploration into the experiences of academic staff with regard to stress. Based on the purpose of the research, the hypotheses were formulated as follows: H_1: There is a significant difference among sources of stress perceived by academic staff. H_2: Stress factors affect the stress level of academic staff, H_3: There is a significant correlation between stress level and job satisfaction, H_4: There is no significant correlation between sources of stress and academic staffs' demographic variables.

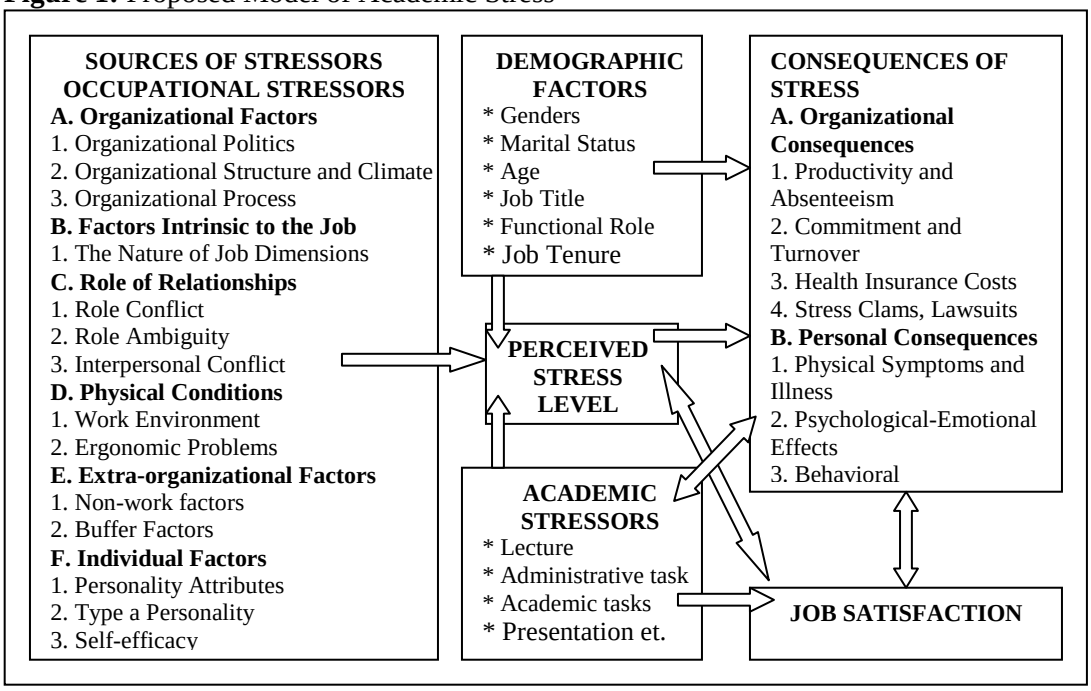
4. THE METHODOLOGY OF THE RESEARCH

In this research, a state university (Mustafa Kemal University) in Hatay, one of provinces of the south of Turkey, was selected as the case, because state universities will, by far, carry the majority of the load of higher education in Turkey. Another important reason of this selection of the area is that Higher Education in Turkey universities has ondergone large organizational change, adding some academic positions (e.g., Lecturer) and a high pressure from large number of students' desire to enter into universities.

In this research, as the total population was 708 academic staff in Mustafa Kemal University, in Turkey. A sampling error of ± 5 percent and a confidence level of 95 percent, we needed to have 249 questionnaires. As used systematic random sampling method, samples were randomly drawn from the local telephone-book of the university. The survey was conducted in February 2007. Questionnaires, together with a covering letter, were distributed to all selected academic staff.

Researchers believe that stress research should not be limited to a single, generic source of stress, but it may be possible to identify specific stress dimensions or stress factors unique to certain professions (Koch et al., 1982; Rasch et al., 1986:422). A conceptual model for this study was developed using items generated and adapted from an extensive stress literature review, as well as from extensive personal academics interviews (Figure 1). As seen Figure 1, the conceptual model demanded a lengthy questionnaire. This study therefore uses a multi-faceted approach to the measurement of stress in higher education.

Figure 1: Proposed Model of Academic Stress



The data were collected by means of a self-administrated questionnaire. The survey questionnaire (Academic Stress Inventory-ASI) was evolved from the Faculty Stress Index-FSI (Gmelch et al., 1984), Department Chair Stress Index-DCSI (Gmelch and Burns, 1991), Occupational Stress Indicator-OSI (Cooper et al., 1988), ASSET (Conti et al., 2006). When developing the questionnaire, existing scales were adopted, modified and extended. Multiple item five-point scales were developed for all the theoretical constructs used in this study. Before administering the questionnaire, a detailed pretest was conducted on some academics working in various Faculties.

The questionnaire used in the present study consists of five parts. First, demographic and variables was designed for this study in order to obtain information about academic staffs' demographic data, including the academic staff' title, gender, age, personal and family variables, experience or years of service, maritual status, whether or not academic

staffs' partner works, number of children, working hours, total income. Sources of Stress Index (SSI) consisted of 55 items measuring the individuals' perceptions about the sources of stress using a five-point scale (from 1-not at all to 5-extreme). Stress and Satisfaction levels is used to measure the level of stress perceived by academic staff due to the stressors mentioned above and to reveal the current job satisfaction level of them by using five-point scale(from very high-5 to very low-1). Consequences of Stress Index (CSI) consists of 27 items and measures the personal (physical, psychological and behavioral) and organizational effects of stress using the five-point scale (from very high-5 to very low-1). Coping Strategies Scale (CSS) includes 29 items and is based on reviews of the literature on various suggested methods for dealing with stress. The CSS is developed by using the Coping Prefence Scale (Allison, 1997) and scale of Iuzzolino (1986), usinga five-point scale (from 1-never use to 5-very extensively use).

Data were analyzed using the version 11.0 of the SPSS. The internal reliability (Cronbach alpha) coefficients for the 3 main stress-related measures (SSI, CSI and CSS) ranged from 0.9083 to 0.9585, indicating that all measures had a high degree of reliability and construct validity. Factor analysis is used to reduce the items in the sources of stress. The resulting dimensions are used in the subsequent linear multiple regression analysis conducted to develop a model. Correlational analysis was used to examine the bivariate relationships between stress and job satisfaction level. The univariate (ANOVA) method was utilized to test the significance of differences between among demographic categories.

5. THE FINDINGS, ANALYSIS AND EVAULATION

A total of 174 usable completed questionnaires were returned, about 70 percent response rate. Due to a large data set available, it was possible to examine a variety of sub samples; however for this current paper, only the main findings are presented.

5.1. Demographic Characteristics of the Academic Staff

It should be noted that they were predominantly male (72.4 %). 55.2 percent were in the "31-40 years" age group. Approximately 36 percent of the surveyed academic staff is assistant professors, 28.2 percent are lecturer, and 11.5 percent are associate professors. A majority of the respondents (82.8 percent) was married; 74.3 percent of these have 15 or fewer years of married, 62.1 percent had one or two children. Nearly 78 percent of academic staff stated that their wifes are working. Sixty percent had more than ten years of tenure and only 29.3 percent of the academics have some administrative responsibilities. The majority of the respondents (67 percent) work average 9-10 hours per day and 64.4 percent earn 1.500 YTL per month or less. (Table 1)

5.2. Identifying What Stressors of Academic Staff: Descriptive Analysis

Table 2 summarizes the means and standard deviations for the variables in each category for 55 items in the SSI. The range of means was from 3.9195 to 2.0345. As shown in

Table 2, stress item ranked the highest by the academic staff is inadequate salary followed closely by unfair/insufficient performance evaluation, and excessive formalization.

Table 1: Profile of Academic Staff (n=174)

Variable	Categories	f	%	Variable	Categories	f	%
Gender	Male	126	72.4	**Administrative Responsibility**	Yes	51	29.3
	Female	48	27.6		No	123	70.7
Age	<30	20	11.5	**Administration Taks (n=51)**	Departmant Chair	12	23.5
	31-40	96	55.2		Ass. of Dep. Chair	11	21.6
	41-50	37	21.3		Dean	4	7.8
	51>	21	12.1		Principal of Coll.	4	7.8
					Other	20	39.2
Marital Status	Single	30	17.2	**Partner Working (n=144)**	Yes	32	22.2
	Married	144	82.8		No	112	77.8
Length of Marriage (n=144)	<5 years	19	13.2	**Work time Per a Day (average)**	<8 hours	71	40.8
	6-10	38	26.4		9-10	67	38.5
	11-15	50	34.7		11-12	26	14.9
	16-20	16	11.1		13-14	7	4.0
	21-25	7	4.9		15>	3	1.7
	26>	14	9.7				
University Tenure	<5 years	20	11.5	**Children Numbers (n=144)**	None	10	6.9
	6-10	49	28.2		1	34	23.6
	11-15	65	37.4		2	68	47.2
	16-20	23	13.2		3	24	16.7
	21-25	7	4.0		4	6	4.2
	26 >	10	5.7		5	2	1.4
Title	Professor	7	4.0	**Monthly Income**	<1.000 YTL	31	17.8
	Assoc.Prof.	20	11.5		1.001-1.250 YTL	40	23.0
	Assis.Prof.	62	35.6		1.251-1.500 YTL	41	23.6
	Dr.	8	4.6		1.501-1.750 YTL	35	20.1
	Res. Asst.	15	8.6		1.751-2.000 YTL	14	8.0
	Lecturer	49	28.2		2.250-2.500 YTL	13	7.5
	Instructor	13	7.4				

Factors intrinsic to the job (such as inadequate salary, securing financial support for research, and too heavy a workload), organizational factors (such as unfair/insufficient performance evaluation, excessive formalization, bureaucratic rules and uncertain politics, insufficient reward and recognitionn), and non-work factors (such as economic and social life issues) are the most important sources of stress. Family issues, lack of support from co-workers, lack of control over work, too great a variety of occupational work demands, lack of time to keep up to date, lack of opportunity for career advancement, insufficient tarainin programs, unpleasant physical work conditions, are also potentially stressful aspects for academic staff. From Table 2, it can be seen that there were significant differences for the majority of the sources. Thus, these results partly support H_1.

Table 2: The Sources of Stress: The Results of Descriptive Statistics and Factor Analysis

FACTORS	Mean	SD	Loadings	Alpha
F1: Organizational Culture (Eigenvalue=13.84; Variance=10.08%)	**3.444**	**0.771**		
Inadequate guidance/support from superiors	3.454	1.165	0.711	
Bureaucratic rules, uncertain politics and excessive discipline	3.569	1.227	0.707	
Lower levels of autonomy	3.350	1.116	0.685	
Centralization	3.477	1.121	0.664	
Unfair/insufficient performance evaluation	3.816	1.143	0.654	**0.876**
Excessive formalization	3.798	0.991	0.605	
Lack of participation in decision making processes	3.252	1.082	0.561	
Lack of feedback on performance	3.212	1.062	0.554	
Complying with departmental/institutional regulations	3.304	1.072	0.546	
Not to influence the actions and decisions of managers	3.212	1.209	0.533	
F2: Personal Characteristics (Eigenvalue=4.54; Variance=7.35%)	**2.323**	**0.859**		
Lack of group cohesiveness and social support	2.333	1.189	0.797	
Lack of self-efficacy	2.235	1.120	0.713	**0.7952**
Pessimist	2.425	1.159	0.644	
Mid-life crisis	2.034	1.052	0.599	
Type A personality	2.586	1.263	0.535	
F3: Role and Relationships at Work (Eigenvalue=2.59; Variance=6.56%)	**2.666**	**0.835**		
Inadequate authority to match responsibilities	2.919	1.061	0.763	
Conflict with superiors	2.810	1.129	0.725	
Threats of violence/bullying at work	2.936	1.394	0.602	**0.844**
Role conflict	2.436	1.199	0.516	
Role ambiguity	2.149	1.127	0.502	
Too much demands arising from administration	2.701	1.144	0.493	
Co-workers make a hostile demonstration against me	2.712	1.030	0.417	
F4: Academic Fulfillment (Eigenvalue=2.44; Variance=5.97%)	**2.896**	**0.806**		
Preparing manuscripts for publication	2.925	1.235	0.615	
Feeling be responsible for students	3.069	1.238	0.596	
Excessively high self-expectations	2.764	1.156	0.593	**0.820**
Implementing new teaching methods	3.005	1.228	0.590	
Time for teaching preparation	2.603	1.030	0.433	
Giving conference presentations	2.546	1.115	0.420	
Lack of support from co-workers	3.362	1.117	0.415	
F5: Student Interaction (Eigenvalue=1.93; Variance=5.76%)	**2.178**	**0.784**		
Evaluating student performance	2.281	0.988	0.773	
Conflicts with students	2.143	0.988	0.755	**0.793**
Giving class presentation	2.172	1.050	0.671	
Students evaluating teaching	2.114	0.966	0.537	
F: Workload and Time Pressure (Eigenvalue=1.68; Variance=5.15%)	**3.383**	**0.937**		
Excessive workload	3.477	1.146	0.787	**0.762**
Too great a variety of occupational work demands	3.356	1.080	0.741	
Lack of time to keep up to date	3.316	1.186	0.561	
F7: Non-Work Factors (Eigenvalue=1.52; Variance=5.01%)	**3.501**	**0.809**		
Economic (financial) problems	3.517	1.115	0.792	
Monotony at social life	3.166	1.153	0.707	**0.778**
Economic and political state of country	3.546	1.145	0.592	
Job interferes with personal life-Family issues	3.356	1.064	0.568	
Inadequate salary	3.919	1.077	0.434	
F8: Insufficient Training/Reward System (Eigenvalue=1.40; Variance=3.86%)	**3.241**	**0.860**		
Insufficient or poor quality training and development programs	3.293	1.086	0.669	
Low status of occupation	2.931	1.297	0.584	**0.693**
Insufficient reward and recognition	3.534	1.141	0.438	
Tight and unfair control system	3.206	1.231	0.420	
F9: Physical Work Conditions (Eigenvalue=1.32; Variance=3.39%)	**2.991**	**1.048**		**0.680**
Unpleasant/poor physical work environment	3.046	1.206	0.793	

Ergonomic problems	2.936	1.202	0.768	
F10: Insufficient Funding and Resources (Eigenvalue=1.24; Variance=3.31%)	**3.592**	**0.975**		
Poor fixtures and fittings	3.454	1.155	0.771	**0.609**
Securing financial support for research	3.729	1.143	0.536	
F11: Job Insecurity and Poor Promotion (Eigenvalue=1.19; Variance=3.02%)	**3.040**	**1.052**		
Lack of job security- or fear of redundancy	2.862	1.423	0.595	0.538
Lack of opportunity for career advancement/promotion	3.218	1.100	0.492	
F12: Insufficient Teamwork among Academics (Eigenvalue=1.15; Variance=2.99%)	**3.040**	**1.154**		
Difficulty in developing teamwork in academic staff	3.040	1.154	0.704	-
F13: Lack of Communication (Eigenvalue=1.10; Variance=2.567%)	**3.448**	**1.017**		
Poor communication and insufficient information	3.448	1.017	0.641	-
F14: Monotonous Job (eigenvalue=1.03; Variance=2.11%)	**2.652**	**0.869**		
Repetitive/Boring work (routine tasks)	2.649	1.181	0.624	0.252
Competitive pressure	2.655	1.115	-0.400	

5.3. Dimensions of Stress Factor Analysis

To reduce the number of stress factor variables, the principal components factor analysis with varimax rotation was performed for the sources of stress scale (Tablo 2). The factor analysis led to the extraction of 14 factors with eigenvalue greater than one, together explained 67.2 percent of the total variance among 55 items (variables), namely acceptance factor loadings 0.40 and above. High communalitly values are recorded for all (ranged form 0.499 to 0.805), Overall the results show that the construct measures are valid. Factor 1 is classified as organizational culture, factor 2 is classified as personal characteristics, factor 3 is classified as role and relationships at work, factor 4 is classified as academic fulfillment, factor 5 is classified as student interaction, factor 6 is classified as workload and time pressure, factor 7 is classified as non-work factors, factor 8 is classified as insufficient training and reward system, factor 9 is classified as physical work conditions, factor 10 is classified as insufficient funding and resources, factor 11 is classified as job insecurity and poor promotion, factor 12 is classified as insufficient teamwork among academics, factor 13 is classified as lack of communication, factor 14 is classified as monotonous job. Although the two items loading on factor 14 were designed to measure monotony and competitive pressure, Cronbach's alpha measurement has revealed that there is little covariation among the two items and so factor is deemed to lack internal consistency. Except Factor 11 and 14, reliability of all of factors ranged 0.610 to 0.876 (Hair et. al. 1998). Reliability of factor 11 and 14, which lacked internal validity, was low, but because the items were conceptually related to stress they were included in the study results. It is clear that the factor results in this study are acceptably robust. The factor solution adopted contains no split loadings and accounts for a relatively high percentage of the total variance, while the factors exhibit sufficient evidence of reliability and item-total correlation, and are capable of conceptual interpretation.

5.4. Stress Factors Effect on Level of Stress-Regression Analysis

In this analysis, 14 stress factors diccussed above entered as independent variables and stress level entered as the dependent variable. There is no multicollinearity among the

independent variables. The linear regression model and t-values indicate that 10 stress factors are statistically significant variables as predictors of the sources of stress. This full model explained 43.4 percent of variance in stress level. The standardized regression coefficient (Beta) showed that personal characteristics is the strongest predictors of stress level, followed by non-work factor, academic fulfillment, role and relationships at work and insufficient training and reward system. The stress factors such as physical work conditions, job insecurity and poor promotion, insufficient teamwork among academic staff are also important predictors of stress level. Although both organizational culture and student interaction dimensions were significantly related to the stress level, they have the least relative importance in explaining that stress level (Table 3).

Table 3: The Results of Linear Multiple Regression Analysis

Predictors Variables (Factors)	**Beta**	**t**	**P**		
F1: Organizational Culture	0.122	2.046	**0.042***		
F2: Personal Characteristics	**0.386**	6.466	**0.000****		
F3: Role and Relationships at Work	0.163	2.727	**0.007****		
F4: Academic Fulfillment	**0.226**	3.780	**0.000****		
F5: Students Interactions	0.126	2.103	**0.037***		
F6: Workload and Time Pressure	0.113	1.896	0.060		
F7: Non-Work Factors	**0.252**	4.219	**0.000****		
F8: Insufficient Training and Reward System	0.162	2.716	**0.007****	Multiple R:	0.658
F9: Physical Work Conditions	0.149	2.492	**0.014***	R Square:	0.434
F10: Insufficient Funding and Resources	0.102	1.716	0.088	Adjusted R	
F11: Job Insecurity and Poor Promotion	0.142	2.385	**0.018***	Square:	0.384
F12: Insufficient Teamwork among Academics	0.139	2.333	**0.021***	F:	8.693
F13: Lack of Communication	0.032	0.540	0.590	Sig.:	0.000
F14: Monotonous Job	-0.028	-0.469	0.640	Durbin	
(Constant)	2.977	56.436	0.000	Watson:	1.811

Notes: Dependent variable: Stress Level, *p<0.05; **p<0.01

5.5. The Relationship Between Stress Factors and Stress and Job Satisfaction Level

The mean of the stress level reported by academic staff was 2.977 and job satisfaction level of them was 3.190. The general perception of stress is slight lower than is the mean of all 55 items on the sources of stress index (3.007). The finding of these results supports existing literature (Oshagbemi, 2000; Johnson et al., 2005; Winefield et al., 2002). It is therefore, not surprising that many of the academic staff that are reporting high stress levels are also reporting low levels of job satisfaction (Table 4). A negative and highly significant correlation between stress and job satisfaction (r= -0.315) was found, indicating an inverse relationship between stress level and satisfaction. Thus, hypotheses H_4, was supported. Also there is significant positive relationship between stress level and stress sources such as personal characteristics (r= 0.386), academic fulfillment (r= 0.226), non-work factors (r= 0.252), insufficient training and reward stystem (r= 0.162) and role and relationships at work (r= 0,163). Level of job satisfaction correlates negatively only one source of stress, namely personal characteristics (r=-0,255).

Table 4: Correlations between Sources of Stress and Level of Stress and Job Satisfaction

Variables	Stress	Job Satisfaction	Reliability (Alpha)
Level of Job Satisfaction	**-0,315****	1	-
Organizational Culture	0,122	0,104	0,877
Personal Characteristics	**0,386****	**-0,255****	0,795
Role and Relationships at Work	**0,163***	-0,204	0,845
Academic Fulfillment	**0,226****	-0,115	0,804
Student Interaction	0,126	-0,67	0,793
Workload and Time Pressure	0,113	0,125	0,762
Non-Work Factors	**0,252****	-0,088	0,764
Insufficient Training and Reward System	**0,162****	-0,120	0,693
Physical Work Conditions	0,149	-0,091	0,681
Insufficient Funding and Resources	0,102	-0,055	0,610
Job Insecurity and Poor Promotion	0,142	0,097	0,539
Insufficient Teamwork among Academics	0,139	0,055	-
Lack of Communication	0,032	0,146	-
Monotonous Job	-0,128	-0,077	0,252

Notes: *p<0.05, **p<0.01

5.6. Differences in Demographics of Academic Staff

The effect of the independent variables (personal and job demographics) on the stress factors, stress and job satisfaction level was examined using univariate and bivariate analysis of variance (Table 5). A significant effect of gender was found in three stress factors namely, organization culture $F(1; 174)=4,028$, $p<0.05$, job insecurity and poor promotion $F(1; 174)=4,596$, $p<0.05$ and lack of communication $F(1; 174)=5,251$, $p<0.05$. Female personnel reported higher degree of stress compared to males on two of the three of stress factors. In terms of job satisfaction and stress level, there are not differences significantly between the two genders. Age was found to have a significant effect on stress level $F(3; 174)=3,593$, $p<0.05$. Younger personnel scored higher on stress level, and according to the post-hoc test (Tukey HSD), significant differences occurred between 30 and younger ages and 51 and over ages.

Academic titles are clustered into 7. Categories based on the ACT of the Higher Education in Turkey (Act No. 2547). Academic titles had highly significant effect on only one dimension of sources of stress, workload and time pressure $F(7; 174)=4,553$, $p<0.001$. Further paired comparisons revealed that titles in the lecturer were significantly more stressed on the workload and time pressure factor than position in all the others. The mean of this dimension of stress sources on Lecturer was found different from research assistant, associate professor and professor according to the post-hoc test (Tukey HSD). Lecturers believe that have high workload and time pressure on them. Despite the fact that the most highly rated sources of stress differed for lecturer, these results indicated that lecturer agreed that problems of high workload and time pressure were the most serious because of high number of lectures loaded on them.

Table 5: Summary of One-Way ANOVA.

	Independent Variables – t and F Values				
	Gender	**Age**	**Titles**	**Partner Working**	**Working Hours**
Stress Level	2.425	**3,593***	1,244	0,473	1,188
Job Satisfaction Level	0,000	0,955	0,757	0,428	0,650
Organizational Culture	**4,028***	2,129	1,148	0,696	0,147
Personal Characteristics	0,965	0,593	1,186	0,667	1,144
Role and Relationships at Work	0,019	0,320	1,803	1,024	**4,078****
Academic Fulfillment	0,320	1,555	1,571	4,219	2,139
Student Interaction	0,875	0,338	1,645	0,950	0,825
Workload and Time Pressure	3,273	0,167	**4,553****	**4,326****	1,275
Non-Work Factors	0,012	0,871	1,408	1,299	0,921
Insufficient Training and Reward System	0,007	0,897	2,049	0,945	0,512
Physical Work Conditions	3,660	2,381	0,373	1,279	0,824
Insufficient Funding and Resources	0,161	0,981	2,026	0,558	0,928
Job Insecurity and Poor Promotion	**4,596***	0,849	1,727	0,807	0,819
Insufficient Teamwork Among Academics	3,187	0,257	0,942	0,823	0,990
Lack of Communication	**5,251***	1,306	0,710	0,766	0,389
Monotonous Job	0,576	0,431	0,742	**3,445****	0,828

Notes: *$p<0.05$, **$p<0.01$.

A significant effect of whether or not academic staffs' partner works on two dimension of stress factors, academic fulfillment $F(1; 140)=4,219$, $p<0.01$, workload and time pressure $F(1; 140)=4,326$, $p<0.01$ and and monotounus job $F(1; 140)=3,445$, $p<0.01$. Academic staff, who her or his partner works, scored higher on the three of sources of stress compared to their counterparts. Another significant effect on stress factors is working hours of academic staff, founded that working hours effects on role and relationships at work highly significantly, $F(1; 174)=4,078$, $p<0.01$. According to the post-hoc test (Tukey HSD), academic staffs, who are more working hours, scored higher on this of stress factors. However, in terms of stress factors, there are not differences significantly among the other demographics. Also the other demographic factors do not effect stress and job satisfaction level.

5.7. Consequences of Stress

The consequences of the stressors of the mean scores indicated that the most reported effects of stress were the feelings of exhaustion, arthritis-backache-neckache, boredom, lack of motivation, and excessive-chronic anxiety (Tablo 6). Five items with the lowest mean scores were on the withdrawal at work, too much alcohol and smoking, absenteeism, high levels of sick leave, and lack of appetite. Contrary to earlier findings (Murray-Gibbons and Gibbons, 2007), absenteeism was very low. The result indicates that stress especially affects the psychological health of academic staff. On the other hand, the most important organizational consequences of stress are inability to concentrate for work and poor job performance of academic staff.

Table 6: The Consequences of Stress

PERSONAL CONSEQUENCES OF STRESS	Mean	SD
Physical health – Physiological symptoms-Physical wellbeing	**2.9754**	**1.0098**
Feelings of exhaustion	3.5632	1.2088
Arthritis-backache-neckache	3.4540	1.3496
Stomach disorders (ulcer, nausea, gastritis, reflux et al.)	2.9655	1.4381
Headache	2.8678	1.2901
High tension	2.8103	1.4319
Heart-blood disease	2.7471	1.3995
Lack of appetite	2.4195	1.2910
Mental health- Psychological symptoms-Mental wellbeing	**2.9836**	**1.0940**
Boredom	3.1782	1.1911
Lack of motivation	3.1264	1.2840
Excessive-chronic anxiety	3.0747	1.2631
Resentment-moody	2.9885	1.3168
Emotional depression-burnout (emotional exhaustion)	2.9655	1.3295
Feelings of irritability-nervousness	2.8908	1.3620
Changes in self-confidence at work	2.6609	1.2423
Behavioral consequences	**2.5603**	**1.0274**
Sleeplessness (insomnia)	2.8678	1.3342
Aggressive actions	2.5977	1.3468
Overeating	2.4828	1.2293
Too much alcohol and smoking	2.2931	1.4466
ORGANIZATIONAL CONSEQUENCES OF STRESS	**2.5926**	**0.9698**
Inability to concentrate	2.8908	1.2091
Poor job performance/quality and low productivity	2.8678	1.1479
Increases in complaints and demands related to job	2.7126	1.1720
Less effective interpersonal relationships/communication at work	2.6839	1.1369
Decrease in commitment to organization	2.6437	1.1873
Increase conflicts with superiors and co-workers	2.6034	1.1769
High levels of sick leave (sickness absence)	2.4080	1.2813
Absenteeism	2.3678	1.2032
Withdrawal at work	2.1552	1.2649

5.8. Coping Strategies of Stress

The majority of the ranked coping strategies of stress indicate an average that above the theoretical mean of 3.0 on the five-point scale (Table 7). There are many strategies and techniques used by academic staff to decrease the level of stress once this is present. Two CSS items were found to have mean scores greater than 4.0 and an additional 17 items scored greater than 3.5. Community involvement have the highest mean score, followed by self-training and development, approach problems optimistically and objectively, self recognition, talk with family members or close friends, create more positive and self-supportive mental sets, and set realistic goals. On the other hand, the minority of academic staff apply the specialist assistance for coping stress experienced.

Table 7: The Coping Strategies of Stress

STRATEGIES TO COPE WITH STRESS	Mean	SD
Community involvement (e.g. coaching, service club membership, etc)	**4.241**	0.943
Self-training and development	**4.028**	0.927
Approach problems optimistically and objectively	**3.994**	1.022
Self recognition	**3.954**	0.911
Talk with family members or close friends	**3.925**	0.973
Create more positive and self-supportive mental sets	**3.913**	0.954
Set realistic goals (recognize job limitations)	**3.890**	1.005
Maintain a sense of humors	3.862	1.016
Maintain good health habits (e.g. eat balanced meals)	3.810	0.999
Socializing (e.g. lunch with others, playing cards, etc.)	3.781	1.186
Behavioral self-control	3.775	0.992
Practice good human relation skills with staff, students and parents	3.775	1.153
Compartmentalize work and non-work life	3.747	1.061
Eat well-balanced	3.632	1.172
Maintain regular sleep habits	3.632	1.245
Work harder (including evenings and weekends)	3.586	1.031
Thinking yourself out of stress-Ignoring stress	3.540	1.062
Resting	3.500	1.046
Engage in active non-work or play activities (e.g. fishing, camping,)	3.500	1.035
Prioritize and use time management techniques	3.287	1.147
Engage in less active non-work or play activities (e.g. movies, read)	3.235	1.200
Take mini-vacations (e.g. weekends away, etc.)	2.994	1.228
Withdrawal physically from the situation (leave the school for a time)	2.965	1.162
Delegate responsibility	2.936	1.193
Engage in activities that support spiritual growth	2.775	1.153
Regular physical exercise (e.g. aerobics, athletics, tennis, walking, etc.)	2.718	1.306
Use relaxation and stress management techniques (meditation, yoga, etc.)	2.712	1.196
Establish office procedures so that visitors are unplanned interruptions	2.390	1.146
Specialist assistance	2.235	1.205

6. CONCLUSIONS, LIMITATIONS AND FURTHER RESEARCH

The study confirms the existence of stress factors for academic staff. Using principal components factor analysis, 14 stress factors were identified, namely organizational culture, personal characteristics, role and relationships at work, academic fulfillment, students interactions, workload and time pressure, non-work factors, insufficient training anad reward system, physical work conditions, insufficient funding and resources, job insecurity and poor promotion, insuffient teamwork among academics, lack of communication, monotonous job.

Results from this study indicate that factors other than demographic characteristics explain a large amount of the variance (67.2 percent) in academic staff' levels of stress. Also, results indicate that academic staff view stressors related to organizational factors as more severe than stressors related to job pressures. The findings show that there is a

negative relationship between stress and job satisfaction. Here results indicated that the most reported effect of stress was the feelings of exhaustion. Among some of the more important techniques are communit involvement and self training and development. These findings have implications for addressing stress in academic staff. The present research adds to the literature on stress and prevention of stress especially in the Turkey context. But, some limitations of this study should be acknowledged to put the findings in context. First, though the sample was large and the response rate fairly high, it was not possible to determine the representativeness of the sample. Second, all measures were based on respondent self-reports raising the possibility of common method variance. Third, a few of the measures had reliabilities below the typically accepted level of 0.60. Fourth, it is not clear the extent to which our findings generalize to academic staff working in other university and in other countries.

The use of subjective measures of stress and job satisfaction level may be complemented in future studies by more objective, quantitive measures to the extent that those are available. Other limitations of the study include the use of an exploratory methodology and a somewhat small sample size, although the size of the entire population is quite small. The emerging issues that should be considered for further study include the following: Even though the present study provides a better understanding of the sources of stress among the academic staff in the Turkey, more in-depth study of the perceived sources of stress needs to be done among larger samples of academics across the country. Further research is also needed to explore the differential effect of the ways to cope with stress and investigate the stress management techniques used by organizations.

With the recognition of stress and its effects, an industry has grown up in “stress management.” (Bland,1999: 44). A radically new approach to the understanding and management of stress is needed to address the massive and increasing effects of the problem. The old ways are not working. According to findins of the research, some suggestions are presented as follows: 1) Become aware of your stressors and your emotional and physical reactions. Notice your distress and don’t ignore it. Don’t gloss over your problems and determine what events distress you. 2) Recognize what you can change, 3) Reduce the intensity of your emotional reactions to stress. Work at adopting more moderate views; try to see the stress as something you can cope with rather than something that overpowers you. Try to temper your excess emotions. Put the situation in perspective. Do not labor on the negative aspects and the “what if’s.”, 4) Learn to moderate your physical reactions to stress. Slow, deep breathing will bring your heart rate and respiration back to normal. Relaxation techniques can reduce muscle tension. 5) Build your physical reserves. 6) Maintain your emotional reserves. 7) Develop some mutually supportive friendships/relationships. 8) Pursue realistic goals which are meaningful to you, rather than goals others have for you that you do not share. 9) Practice time-management. 10) Tray to keep a positive attitude. 11) Communicate with your supervisor.

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