

Effectiveness of Teaching Stress on Academic Performance of College Teachers in Pakistan

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Abstract

The purpose of this study was to explore the stress level in teaching job at college level in Pakistan. There were two main questions discussed in this study, is there any stress in teaching job if yes what are those and second how stress effect the performance of cadres of college teachers in public and private sectors in Pakistan. Stress in teaching varies to the ranks hold by the teachers and environment where they are working. The study examines all the factors causing the stress for teachers working in different levels and the performance of teachers in terms of out put and the satisfaction level of teachers towards their jobs. A statistical treatment was given to the data gathered from 106 college teachers of public and private sectors selected through stratified sampling technique. The test of regression analysis, t-test, one-way ANOVA and two-way ANOVA were applied. It was found that intrinsic and extrinsic variables have positive effects on academic performance of college teachers. As a result of the study, no statistical difference was noted in academic performance of teachers of boys and girls colleges whereas significant difference was found between academic performance teachers of public and private colleges. There was no statistical significance found at the $p > 0.05$ level of academic performance for different cadres of college teachers and also for their teaching experience. However, there was statistical significance noted at the $p < 0.05$ level in academic performance for the public and private colleges. The interaction effect between cadres of college teachers and their experience was not statistical significant and the main effect for these two factors did not reach the statistical significance. The results of the study are interesting and may help in exploring the possibilities of sharing and generating cross-cultural studies among countries of the region.

Keywords: teaching stress, academic performance, college teaches, regression analysis, ANOVA

Introduction

Stress, in general, and occupational stress, in particular, is a fact of modern day life that seems to have been on the increase. The topic is, therefore, still popular, although it occupies academics' and practitioners' attention now for more than half a century. Numerous studies have explored stress, primarily from the psychological, sociological, and medical perspective. From the business perspective, researchers dealt with the issue of occupational stress, as job/work causes a great deal of stress to contemporary employees. There is a vast amount of research on individual differences involved in the work-stress process. Researchers have studied individual differences in the belief that they influence reactions to objectively stressful events or appraisals of events as being stressful, or they simply add to the variance explained in the stress outcomes (Ganster & Schaubroeck, 1991). In teaching professional, the stress is also being undertaken as influential factor which effects the performance of teachers.

Literature Review

An early analysis came from Kyriacou and Sutcliffe (1978a), who presented a model of teacher stress which conceptualized teacher stress as "a response syndrome mediated by an appraisal of threat to the teacher's self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat" (p. 5). Tollenback, Brenner and Lofgren (1983) introduced "a conceptual model of teacher stress which built upon the one proposed by Kyriacou and Sutcliffe (1978a)". They incorporated neighborhood characteristics in this model as they believed that "the social context of the school influences the frequency of stressors within it" (p. 20). This model was verified partially by later studies (Brenner & Bartell, 1984; Brenner, Sorbom & Wallius, 1985). In the United States, Clark (1980) developed the Teacher Occupational Stress Factor Questionnaire (TOSFQ) to identify five factors: professional inadequacy, teacher-principal professional relationship, collegial relationship, group instruction, and job overload. The construct validity of this instrument was later demonstrated by several studies done in the United States (Foxworth, Karnes, & Leonard, 1984; Moracco, Danford, & D'Arienzo, 1982).

Furthermore, Farber (1984a) assessed the sources of stress of 365 suburban teachers in the United States and found that “excessive paperwork, unsuccessful administrative meetings, and the lack of advancement opportunities in teaching were related to stress”. Smilansky (1984) examined teachers' work satisfaction and reports of job-related stress in some English elementary schools, and he found that “teachers' general satisfaction and stress at work were related mostly to their reported feelings about what had happened within class (such as relations with pupils, the process of teaching, and pupil behavior in school) rather than to administrative or policy questions (such as degree of work autonomy, relations with principals)”. Carpel (1992) examined the causes of stress and burnout in 405 middle- and upper-high school and sixth-form college teachers in one Local Education Authority in England. Role conflict, locus, stability of personality, and anxiety were found to be potential sources of stress and burnout. A more sophisticated analysis was made by Dunham (1992), who defined stress as a process of behavioral, emotional, mental, and physical reactions caused by prolonged, increasing or new pressures that are significantly greater than the availability of “coping” strategies.

He advocated that three main approaches could be used to understand the nature of stress in teaching. The first one is analogous to the “engineering” model of stress. There are external pressures exerted on teachers in schools, and teachers have limits to stress. In this approach, stress is a set of causes. The second approach is based on the “physiological” model, which focuses on the forms of reactions taken by teachers in response to these pressures. They may be emotional and bodily manifestations. The third one is the interactional approach that emphasizes the need to identify the sources of stress and the behavior that they adopt to cope with these demands. Before the 1990s, the concept of teacher stress was mainly defined by the cause-and-effect approach. Dunham (1992) has provided new insights by proposing a third emphasis on coping strategies that teachers can adopt to tackle stress problems. The rationale of this approach is that, in order to understand stress, more attention should be given to problem-solving and coping behavior. It is believed that this third approach proposed by Dunham is a constructive line of research that can contribute to policy reform.

One's current stress level may be determined by an interaction among the stress events taking place in the environment, the nature and intensity of resulting emotional responses, and personality characteristics of the individual. The exact nature of the relationships among these three areas is incompletely known. Substantial evidence exists, however, to suggest that stressors from these three sources may potentiate one another, and are at least additive (Derogatis, 1987). It follows that assessment and treatment of persons experiencing high levels of stress may benefit from consideration of these three sources and their possible interactions. A survey of recent studies of teacher stress shows that many identified stressors appear consistently and may be subsumed under the general domains of environmental and personality based stressors. Environmental stressors include student discipline and attitude problems, teacher competence, and teacher-administrator relations. Additional stressors include accountability laws, large classes, low salaries, intense pupil dependence, and declining community support. Sources of personality-induced stressors relate to one's self-perception.

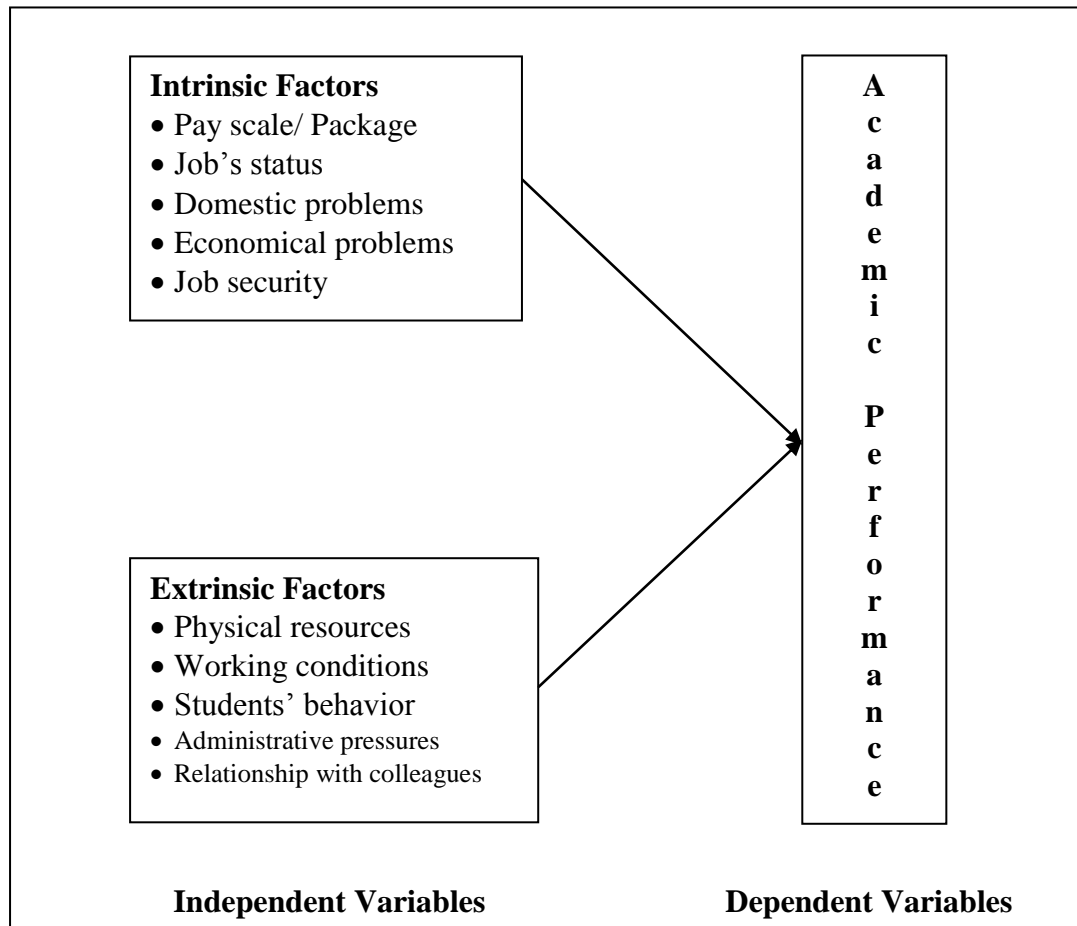
Negative self-perception, negative life experiences, low morale, and a struggle to maintain personal values and standards in the classroom all take their toll (Goodman, 1980; Schnacke, 1982; Schwanke, 1981). There have been found only a few studies in Pakistan in connection of teaching stress and performance of teachers. Safdar (1998) identified five main factors of stress which affect the academic performance of University teachers of management sciences. He noted a significant interaction effect between their mode/nature of appointment as regular or contractual and the workload they are assigned. The result of this study indicated that intrinsic factors have strong influence on University teacher's performance. Ahmad (2001) found a moderate relationship between teaching stress and their performance while conducting a case study in an urban school of Punjab province of Pakistan. A positive co-relation was noted by the researcher among stress related factors and the overall outputs of teachers. The present study was conducted to identify and explore the effects of stress factors of teaching and their academic performance on college teachers.

Methodology and Data

Two main questions were addressed in the study. One, is there any stress in teaching job if yes what are those and second how stress effect the academic performance of various cadres of teachers in public and private colleges. In first step, Likert questionnaire scaling techniques were employed to get identify the kinds of teaching stress commonly found in Pakistani colleges. The common sources and kinds of stress for college teachers identified during preliminary survey served as independent variables of the theoretical framework. Therefore, the ten independent variables taken for data analysis of the study were viz: (1) economical problems, (2) domestic problems, (3) physical resources, (4) working conditions, (5) student's behavior, (6) relationships with colleagues, (7) administrative pressures, (8) Job's status, (9) Pay scale/package and

(10) Job security. These variables were classified into intrinsic and extrinsic. The intrinsic variables are referred as inherent or natural variables whereas the extrinsic variables are linked with environment or situational variables. In figure 1, the relationship has been shown through an analytical model. The effectiveness of each factor is analyzed on teacher’s academic performance. Therefore, this study is correlational analysis in which the effect of each variable is tested on the dependent variable – teachers’ academic performance. The academic performance of various cadres of college teachers such as Lecturers, Assistant Professors, Associate Professors and Professors were undertaken as dependent variables for the purpose of data analysis through ANOVA test of significance.

Fig.1: Analytical Model of Study



Twenty five items were initially generated. These items are beliefs or opinions of teaching stress. In writing these items, an effort was made to make the opinions or beliefs statements simple and straight forward as possible, without multiple connotations or ambiguity. Diversity of opinions was taken into consideration on all ten independent variables. After refine and pilot testing, eighteen items were retained with half each positive and negative. The scale was administered to random sample of 106 subjects. All of them were College Lecturers, Assistant Professors, Associate Professors and Professors of boys and girls, public and private colleges of twin cities of Pakistan. Five Likert response categories were used in the scale. They were “strongly agree”, “agree”, “uncertain”, “disagree”, and “strongly disagree”. In items keyed positive, “strongly agree” received 5 points, “agree” 4 points, and so on. For negatively-keyed items, the scoring was reversed, that is, “strongly agree” received 1 point, “agree” 2 points, and so on.

The highest possible score for each item was 90 points (5 x 18 items); the lowest was 18. The highest score was interpreted as strongly positive attitudes while the lowest, a strongly negative attitude. The independent variables were quantified on the chosen scale through face validity, content validity and consensus of the study team using an analytical-cum-judgmental technique (Wiseman and Pidgeon, 1970). The reliability coefficient of the scale was found to be 0.71. The data was collected using the stratified sampling techniques by covering teachers of boys/girls and public/private colleges of two adjacent cities of Pakistan. The data was analyzed through using SPSS software to give statistical treatment for multiple regression analysis, t-test, one-way and two-way ANOVA tests.

Results and Discussion

For the purpose to check relation between dependent and independent variables of the study, regression analysis was carried out. The value of R Square was found to be .987 showing that intrinsic and extrinsic variables have strong (98.7%) effect on academic performance of college teachers. The table value of coefficients came up as positive indicating that intrinsic and extrinsic variables have positive effect on academic performance. The value of intrinsic factors was higher (66.98) than the extrinsic factors (59.29) which means that intrinsic factors have greater influence on academic performance as compared to extrinsic factors. T-test was applied to research questions; is there a mean difference between academic performance of teachers of boys and girls colleges and the public and private colleges exist? The descriptive statistics are given in Table 1. The result of the test showed that no statistically differences exist between academic performance of teachers of boys and girls colleges whereas there is a statistically significant differences noted between academic performance level of public and private colleges. The Levene's test (Table 2) for equality of variances showed that variances between two groups are not equal as significance value (.03) is less than the confidence level, 0.05. The significance

(2-tailed) value is .986 which is greater than .05 indicated that there is no significance difference between the academic performance of teachers of boys and girls colleges. Similarly for the category of colleges, the Levene's test for equality of variances showed that variances among teachers of public and private colleges are same as significance value (.102) is greater than the confidence level, 0.05. The significance (2-tailed) value .012 which is less than .05 showing that there is a significant difference between the academic performance in teachers of public and private colleges. One-way ANOVA was applied to seek the answer to the research question, is there significant difference in academic performance of teachers of various cadres? The descriptive statistics are given in Table 3. The significance value in Levene's test for homogeneity of variances found to be .390 which is greater than the level of significance (.05) showing that no violation is made in respect of assumption of homogeneity of variances. The test of one-way between groups analysis of variances was conducted to explore the effect of teaching stress on academic performance of various cadres of colleges teachers. Subjects were divided into four groups viz: Lecturers, Assistant Professors, Associate Professors and Professors. There was no statistical difference found at the $p > 0.05$ level in academic performance for the four groups: $F(3, 102) = .443, p = .723$ (Table 4).

One-way ANOVA was conducted to seek the opinion of respondents to the research question; is there any significant difference in academic performance of public and private college teachers? The descriptive statistics are given in Table 5. The results showed that significance value in Levene's test for homogeneity of variances found to be .220 which is greater than the level of significance (0.05) meaning that no violation is made in respect of assumption of homogeneity of variances. The one-way ANOVA between groups analysis of variances was conducted to examine the effect of teaching stress on academic performance of public and private college teachers. Accordingly, the subjects were divided into groups of public and private sectors. There was statistical significance noted at the $p < 0.05$ level in academic performance for the two groups $F(1, 104) = 12.872, p = .001$ (Table 6).

One-way ANOVA was also carried out to seek the opinion of respondents to the research question; is there any significant difference in academic performance of college teachers having different teaching experiences? The descriptive statistics are given in Table 7. In this analysis, the significance value in Levene's test for homogeneity of variances found to be .430 which is greater than the level of significance (0.05) indicating that no violation is made in respect of assumption of homogeneity of variances. The one-way ANOVA between groups analysis of variances was conducted to examine the effect of teaching stress on academic performance of year-wise teaching experiences. For this analysis, subjects were divided into four groups viz: teaching experience, less than 10 years, 10 to 20 years, 20 to 30 years and 30 or above years. There was no statistical significance found at the $p > 0.05$ level in academic performance for the four groups $F(3, 102) = 1.394, p = .249$ (Table 8).

A two-way between-groups ANOVA was conducted to explore the effect of cadres of college teachers and years of experiences they possess on their academic performance. The interaction effect between cadres of college teachers and their experience was not statistically significant, $F(3, 100) = .753, p = .645$. The main effect for cadres, $F(3, 102) = .171, p = .916$; and the experience of college teachers possess, $F(3, 102) = 1.671, p = .179$ did not reach the statistical significance (Table 9). The results of the study can be viewed in typical situation of Pakistan and other developing countries of the region. The results showed no statistical difference in academic performance of teachers Gender-wise colleges whereas significant difference was found between academic performance of teachers of public and private colleges.

This indicates that in Pakistani colleges, gender is not an issue and does not make any difference of giving performance whether this is a Girls college or the Boys. However, there is a lot difference in academic performance of public sector and the private sector colleges. The reason may be that in Pakistan, public sector is considered as safe heaven and peoples preferred to teach in public colleges as compared to the private colleges. This situation is reversed in some developed countries. The study also revealed that there was no statistical significance found at the $p > 0.05$ level of academic performance for different cadres of college teachers and also for the teaching experience they possess. However, there was statistical significance noted at the $p < 0.05$ level in academic performance for the public and private colleges. These results are again very interesting from the Pakistanis' point of view.

The teachers of public colleges no matter on what position or have how much experience inherent the effect of stress some how whereas, the stress varies among teachers of private colleges gender-wise and the experience they possess. It can be safely speculated that the public colleges' teachers do not concentrate and take seriously the job that is why the interaction effect between cadres of college teachers and the experience they possess was not statistical significant when measured and the main effect for these two factors did not reach the statistical significant. On the other hand, the performance of private sectors colleges varies among gender-wise and the experience they possess. The results of this study are not supportive to studies conducted by Smilansky (1994), Carpel (1992), Derogatis (1987), Safdar (1998) and Ahmad (2001). Above all, stress has no boundaries and has effect on output of college teachers ultimately affecting the achievement of students.

Conclusion

The teaching stress is found to be one of the factors that influence the academic performance of college teachers. However, this influence is observed deepened in teachers of private colleges of Pakistan. The teachers' community in Pakistan comes under a medium low category. The intrinsic factors are effecting adversely this community. Pakistan can not afford such type of situation especially when the new curriculum (Govt. of Pakistan, 2006) based on standards and benchmarks is at the stage of implementation at national level. These are turning moments and the national teachers' standards demand from the teachers to teach their students in a stress free environment. Further studies and sharing experiences with regional countries may help out Pakistan to overcome this particular phenomenon.

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Table 1: Mean Scores and Standard Deviations of Gender of Public and Private Colleges

Descriptive Statistics	Gender-wise College (N= 106)		Type of College (N= 106)	
	Boys	Girls	Public	Private
N	66	40	55	51
Mean	1.58	1.43	1.31	1.45
Standard Deviation	.498	.501	.466	503

Table 2: Summery Table of significance level between the academic performance of boys and girls colleges in public and private sectors

		Levene's Test For Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
Gender (boys/girls)	Equal Variances assumed	9.570	.003	.021	105	.983
	Equal Variances not assumed			.018	24.256	.986
College Type (Public/ Private)	Equal Variances assumed	2.2770	.102	-2.611	105	.012
	Equal Variances not assumed			-2.982	46.653	.005

Table 3 Mean Scores and Standard Deviations of Cadres of College Teachers

Cadre	N	M	SD
Lecturers	17	50.88	6.660
Assistant Professors	44	49.66	7.758
Associate Professors	37	49.95	7.199
Professors	8	52.63	5.680

Table 4 Analysis of Variance Summary Table of Cadres of College Teachers

Source of variation	Sum of squares	df	Mean Square	F	Significance of F
Between Cadres	70.176	3	23.392	.443	.723
Within Cadres	5389.418	102	52.837		
Total	5459.594	105			

* Significant at .05 level

Table 5: Mean Scores and Standard Deviations of Public and Private College Sectors' Teachers

Sectors	N	M	SD
Public	55	52.47	4.725
Private	51	47.71	8.547

Table 6 Analysis of Variance Summary Table of Public and Private College Sectors' Teachers

Source of variation	Sum of squares	df	Mean Square	F	Significance of F
Between Sectors	601.297	1	601.297	12.872	.001
Within Sectors	4858.297	104	46.714		
Total	5459.594	105			

* Significant at .05 level

Table 7: Mean Scores and Standard Deviations of Teaching Experience of College Teachers

Experience	N	M	SD
Less than 10 years	10	48.80	5.391
10 to 20 years	29	49.24	6.993
20 to 30 years	49	49.90	7.846
More than 30 years	18	53.22	6.227

Table 8: Analysis of Variance Summary Table of Experience of College Teachers

Source of variation	Sum of squares	df	Mean Square	F	Significance of F
Between Experience	215.083	3	71.694	1.394	.249
Within Experience	5244.511	102	51.417		
Total	5459.594	105			

* Significant at .05 level

Table 9: Two-way Analysis of Variance Summary Table of Academic performance of College Teachers

Source of variation	Sum of squares	df	Mean Square	F	Significance of F
Main effects					
Cadre	27.612	3	9.204	.171	.916
Experience	270.143	3	90.048	1.671	.179
Two-way Interactions					
Cadre * Experience	324.473	8	40.559	.753	.645

* Significant at .05 level