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A Statistical Study on Stress Management in Self-Financing Engineering Colleges

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ABSTRACT

Stress affects teaching faculty of these engineering institutions, and now-a-days engineering institutions face stress as a big problem. In the work environment stress occurs due to demand that exceeds the individuals' coping ability, disrupting their psychological equilibrium. A clever understanding of the inter-relationship of the various facets of stress in an engineering institution offers the opportunity for the employers to develop efficient coping strategies to manage the stress level of the employees. There is a lack of extensive research on stress management of higher educational institutions. At the same time, there is an apparent lack of interest towards stress management among self-financing engineering institutions even today. Hence this study seeks to explore the stress management of teaching faculty in self-financing engineering institutions in Kanyakumari District of Tamil Nadu.

Keywords: Engineering College, Higher Education and Stress management.

I. INTRODUCTION

The higher education sector in India has registered a phenomenal growth in recent years. Establishment of many private higher educational institutions has facilitated the growth. These institutions which offer different professional courses have together facilities to cater to the educational needs of an estimated 234 million people in the age group of 15-24. Indian higher education sector is one of the most promising sectors that offers a huge potential for the future. There are now about 19 million students enrolled in higher educational institutions in India. Stress is a term basically used in physical sciences, which means pressure of one object on another. From physical sciences, the term, stress, came to medical sciences and finally to social sciences. As per medical explanation, the term, stress, is the body's general responses to environmental situations. In today's life everyone is striving to manage stress. Stress management has become a hot topic for each and every human being in any given profession. There is a lack of extensive research on stress management of higher educational institutions. At the same time, there is an apparent lack of interest towards stress management among self-financing engineering institutions even today. Hence this study seeks to explore the stress management of teaching faculty in self-financing engineering institutions in Kanyakumari District of Tamil Nadu.

II. STATEMENT OF THE PROBLEM

In the present social conditions the human capital is must for all sectors, because the human capital only can operate all resources. The study is related to stress management and stress is classified into two types namely positive stress and negative stress. Positive stress is useful to the people concerned and negative stress is harmful to the organization and the individual concerned. Stress is a normal part of life. Stress in small degrees is good. It can motivate and help produce more. However, too much of stress can harm mind and body. The teaching faculties of self-financing engineering institutions want to overcome

the stress factors and they can succeed in their endeavour by understanding the impact of stress on them. The teaching faculty members face many problems in their institutions, homes and in personal lives, and such problems make them experience stress. Thus stress management of teaching faculty in self-financing engineering institutions assumes importance and so this study of stress management of teaching faculties in select engineering institutions in Kanyakumari District has been taken up.

III. OBJECTIVES OF THE STUDY

- To present a sound analytical framework of attitude, job satisfaction, and job involvement for the study of stress management.
- To find out the extent of variation among the teaching faculty on their perception of the job-related factors with respect to stress management in self financing engineering institutions.
- To offer suitable suggestions to engineering college teaching staff in the district of Kanayakumari to keep off stress.

IV. SCOPE OF THE STUDY

There is now overwhelming evidence attesting to what many academics have known for years; academia is a highly stressful occupation. In fact, academics throughout the world deal with a substantial amount of ongoing occupational stress. This study is confined to self-financing engineering colleges in Kanyakumari district. The study is focused on the teaching faculties of self-financing engineering colleges.

V. LIMITATIONS OF THE STUDY

- The study is limited to Kanyakumari District only. Hence, the result may not be generalized for other geographical areas.
- The respondents' personal bias may be an uncontrollable factor.
- Constraints on the time and convenience of the researcher in meeting the respondents directly.

VI. METHODS AND MATERIALS

(i) Research design

Research design is the blueprint for descriptive research work that guides the researchers in a scientific way towards the achievement of the objectives. The research instrument used for this study was a self-administrated questionnaire that was circulated to teaching faculty respondents in the form of a survey, and the data collected in this way were the primary data for the analysis. In this phase, based on the review of literature, different questions have been employed to study the stress management of teaching faculty in self-financing engineering institutions in Kanyakumari district.

(ii) Population of the study

The area of this study has a representation of teaching faculty of self – financing engineering institutions in Kanyakumari district. The following table represents the population of the study. Since 3323 teachers are employed in the above engineering institutions, it was found quite unwieldy to select certain percentage of the population as the sample frame. So six engineering institutions were selected from the 31 institutions on the basis of systematic random sampling. Thus six engineering institutions that is 1 by 5th were selected as sample engineering institutions for analyzing stress management.

(iii) Construction of the research instruments

The present study is descriptive in nature. To carry out this study, a survey questionnaire method was employed to collect relevant information from the teaching faculty respondents. This involved the collection of data that provided description of individuals, groups or situations. One of the

instruments which the researcher used to collect data for the descriptive study was questionnaire. The teaching faculty survey questionnaires comprise only close–ended questions for the purpose of generating statistical data and they use mainly the five-point likert scale which indicated the stress management in self-financing engineering institutions in Kanyakumari District.

(iv) Pilot study and pre-testing of questionnaire

To determine the construct validity of the instrument, a pilot testing was conducted initially by administering the questionnaire on around 50 members of respondents. One hundred items were pre-tested for their clarity and relevance. The information on their stress was collected from the teaching faculty. The respondents were questioned on their issues relating to their demographic profile, regular working hours and impact of family pressures on their work, expectations from their work roles, to which extent they are satisfied by evaluating the individual initiatives and organization initiatives.

Alpha (Cronbach)

This is a model of internal consistency, based on the average inter-item correlation. The results are presented in suitable hypothesis with relevant interpretations.

Reliability Coefficients

No. of Cases	=	50
No. of Items	=	70
Alpha	=	0.701 (i.e. 70.10%)

(v) Data collection

The primary data were collected by visiting the self-financing engineering institutions. The researcher has adopted systematic random sampling method to select the colleges and convenient non-random sampling method to select the teaching faculty for this study. Self-administrated questionnaires were circulated in the form of a survey to respondents. Overall, 665 teaching faculty samples were chosen from across Kanyakumari District. The respondents were aware that participation in this survey was voluntary in nature and their responses would remain confidential and used for research purpose only.

(vi) Data analysis

In this study, the researcher has adopted quantitative data analysis. Quantitative data analysis is the process of presenting and interpreting numerical data. Questionnaire method of data analysis can be of great value to the researchers who attempt to draw meaningful results from large body of qualitative data.

a. Chi-square Analysis

The Chi square test was used in this study on social science and management for testing the independence of two attributes. It was used to identify the factors influencing the job stress among the teaching faculty members in self-financing engineering institutions.

b. Cluster Analysis

This procedure attempts to identify relatively homogeneous groups of cases based on select characteristics, using an algorithm that can handle large numbers of cases.

VII. ANALYSIS AND INTERPRETATIONS

a. Chi-square Analysis

The results are presented with suitable hypothesis and relevant interpretations. The study factor 'Type A behaviour' considered here.

The Table 1.1 the results of chi-square analysis in terms of coping ability factors, chi-square values, p values and their significance on the type a behaviour.

Table 1. Chi Square values - Coping ability factors verses 'type A behaviour'

Coping ability factor	Chi-square Value	p values	Significant/ Not Significant
Supportive family/friends	0.304	0.859	NS
Hobby	3.947	0.139	NS
Belonging to a social or activity group	4.063	0.131	NS
Practicing an active relaxation technique on a daily basis	1.327	0.515	NS
Do exercise for at least 20 minutes three times a week	8.732	0.013	S
Something 'just for yourself' each week that is really enjoyable	22.366	0.000	S
Have somewhere to go in order to be alone	9.618	0.008	S
Have attended stress management, relaxation, time-management or assertiveness training course	11.181	0.004	S
Showing Type B behaviour	1.840	0.399	NS
Smoking	13.466	0.001	S
Drinking alcohol to relax	10.050	0.007	S
Taking sleeping pills	0.242	0.886	NS
Taking work home	0.395	0.821	NS
Drinking more than 8 cups of caffeinated drinks	5.974	0.050	NS
Showing Type A behaviour	6.252	0.044	S

S – Significant at 5% level (p value<= 0.05); NS – Not Significant at 5% level (p value>0.05)

It is found from the Table 1.1 that the hypothesis is rejected (Significant) in seven cases and in other cases the hypothesis is accepted (Not Significant). It is concluded that doing exercise for at least 20 minutes three times a week, doing something 'just for yourself' each week that is really enjoyable, having somewhere to go in order to be alone, having attended stress-management, relaxation, time-management or assertiveness training course, smoking, drinking alcohol to relax and showing Type A behaviour have significant influence on the stress management of teaching faculty.

b. Cluster analysis

This procedure attempts to identify relatively homogeneous groups of cases based on selected characteristics, using an algorithm that can handle large numbers of cases. However, the algorithm requires specifying the number of clusters. We can specify initial cluster centres if we know this information. In this study, this technique is carried out based on the socio-economic variables and study factor 'level of signs and symptoms of stress'.

Hypothesis: Socio-economic factors associated on level of signs and symptoms of stress don't influence the clusters.

The Table 1.2 describes the results of ANOVA for each socio-economic classification on the level of signs and symptoms of stress considered.

Table 2. ANOVA for socio-economic factors relating to the level of signs and symptoms of stress

Socio-economic factors relating to the level of signs and symptoms of stress	F	p-value	Significant / Not Significant
Designation	0.302	0.740	NS
Age	0.145	0.865	NS
Gender	0.458	0.633	NS
Marital status	3.159	0.043	S
Education qualifications	3.789	0.023	S
Work experience	2.022	0.133	NS
Type of family	1.637	0.195	NS
No. of family members	3.637	0.027	S
Annual income	0.898	0.408	NS
A1	0.903	0.406	NS
A2	75.313	0	S
A3	224.501	0	S
A4	418.910	0	S
A5	577.013	0	S
A6	658.060	0	S
A7	67.631	0	S
A8	710.286	0	S
A9	428.245	0	S
A10	341.070	0	S
A11	225.081	0	S
A12	308.321	0	S
A13	407.459	0	S
A14	214.708	0	S
A15	124.249	0	S
A16	43.699	0	S
A17	12.689	0	S
A18	2.763	0.064	NS

Source: Primary Data

From the above Table 1.2, we conclude that maximum of the variables influence the clusters excluding the variables such as designation, age, gender, work experience, type of family, annual income , easily irritated by people or trivial event (A1) and feel tired most of the time (A18) in the stress management of teaching faculty. The Table 1.3 describes the results of final clusters for each socio-economic classification factors of respondents on the level of signs and symptoms of stress.

Table 3. Final cluster centres for socio-economic factors relating to the level of signs and symptoms of stress

Socio-economic factors relating to the level of signs and symptoms of stress	Cluster		
	1	2	3
Designation	1.34	1.27	1.29
Age	1.15	1.13	1.16
Gender	1.41	1.40	1.44
Marital status	1.77	1.66	1.75
Educational qualifications	2.06	2.08	1.97
Work experience	2.85	3.08	2.91
Type of family	1.60	1.66	1.58
No. of family members	1.51	1.48	1.70
Annual income	2.50	2.44	2.37
A1	2.55	2.58	2.66
A2	3.55	2.34	2.57
A3	4.11	1.97	2.62
A4	4.57	1.94	2.88
A5	4.59	1.74	2.97
A6	4.59	1.70	2.95
A7	3.15	1.51	2.02
A8	4.50	1.43	3.13
A9	4.40	1.53	2.97
A10	4.26	1.59	3.17
A11	4.28	1.92	3.17
A12	4.32	1.82	3.31
A13	4.54	1.78	3.04
A14	4.36	2.17	3.04
A15	4.24	2.47	2.97
A16	3.19	2.10	2.43
A17	2.92	2.40	2.51
A18	3.25	3.52	3.42

It reveals that the samples are classified into 3 heterogeneous groups with respect to socio-economic factors relating to the level of signs and symptoms of stress. The first cluster teaching faculty members are grouped based on their opinion relating to high level of signs and symptoms of stress and they fall under the umbrella of designation (Assistant Professor), age (below 30), gender (male), marital status (unmarried), educational qualifications (PG degree), work experience (1-3 years), type of family (nuclear) members in the family (4 members), annual family income (2-3 lakh) and this group has signs and symptoms of stress almost all the time.

The second cluster teaching faculty members are grouped based on their opinion relating to moderate level of signs and symptoms of stress and they fall under the umbrella of designation (Assistant Professor), age (below 30), gender (male), marital status (married), educational qualification (PG degree),

work experience (3-5 years), type of family (nuclear), members in the family (less than 3), annual family income (1-2 lakh) and this group has signs and symptoms of stress some time.

The final cluster teaching faculty members are grouped based on their opinion relating to low level of signs and symptoms of stress and they fall under the umbrella of designation (Assistant Professor), age (below 30), gender (male), marital status (unmarried), educational qualification (PG degree), work experience (3-5 years), type of family (joint) members in the family (four members), annual family income (1-2 lakh) and this group has signs and symptoms of stress most of the time.

VIII. CONCLUSION

The present condition of the teaching faculty is conducive and it helps enrich the coping behaviour of teaching faculty and enhance to uplift the engineering institutions and teaching faculty together to conquer the sky. If all the suggestions are properly carried out by the teaching faculty and the engineering institutions then the stress level of the teaching faculty will definitely come down which may result in organizational growth and will create a healthy organizational climate.

IX. REFERENCES

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