

# Occupational Stress among Work Force- Engineering Colleges Perspective

C Naga Ganesh



**Abstract:** Contemporary life is full of hassles, deadlines, frustrations, and demands. Due to mammoth changes in business world recruits has become the chief factor for success in many companies and equivalently the stress among the employees also steeply increased which resulted in obligatory life. Teaching field is not an exemption from this circumstances hence all the fields irrespective of their work all are experiencing stress in their professional life and stress has become part of employee's life. It is a recognized fact that a lecturer is a nation draughtsman and a genuine creator of the future, thus a fine lecturer must have a neutral mind to concentrate on the work. The study is conducted to explore the occupational stress factors among engineering college faculty members. The primary data is collected from 120 faculty members who were selected by convenience sampling method. To explore occupational stress factors the collected data is analyzed with help of the principal component analysis and further identified the variance and reliability of the factors loaded. The results highlighted that workload, career growth, relationships and role ambiguity are the key factors of occupational stress.

**Key Words:** Occupational stress, factor analysis, faculty members and engineering college.

## I. INTRODUCTION

A fine teacher is a permanent student. Professor forever and a day he/she should equip his/her skills and knowledge. Parallel to teaching skills and subject knowledge faculty should also learn the new tools and techniques of teaching to confront the new challenges that are faced by students. Nowadays due to augment rivalry in teaching field faculty members are facing stress in their profession.

Generally individuals who encounter stress will probably agree that stress seems to be increasing in today's society and is causing a multitude of social, personal, and psychological problems (Susic 2003).

In the rapid altering world of today, no individual is free from stress and no profession is stress free. Everyone experiences stress, whether it is within the family, business, organization, study, work, or any other social or economical activity. Stress, long considered alien to Indian lifestyle, is now a major health problem / hazard.

Occupational stress is stress associated with individual position of duty. Occupational stress repeatedly shoots from unanticipated responsibilities and forces that are not parallel to the individual's skill sets. If supervisors and employees of equal group fails to extend their support to employee in the organization that leads to enlarge the occupational stress.

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Occupational stress is a status of apprehension that is shaped when someone react to the burden and force that come as of employment, relatives and other exterior means, as well as those that are internally engender from own obligatory demands, commitment and self-criticism.

The terms work stress, job stress or occupational stress is used interchangeably.

## II. LITERATURE REVIEW

**Weing (1991)** suggested that work overload and fluctuation of workload were rated most stressful. In general, perceived level of work stress resulting from work was found to be positively related to mental ill health and job dissatisfaction.

**S Kavitha and Krishna kumar (2012)** they have conducted a study among private engineering college faculty members in salem district to find out the causes of stress. Further conclude that work load and career development shows impact on job satisfaction.

**S.S. Jeyaraju (2013)** aimed to study level of occupational stress among teachers. In his study he highlighted that Inter-role distance, Role ambiguity, Role stagnation, Role stress, and Self-role distance are some of the factors for causing stress in teachers.

**Syed Ali Raza and Muhammad Waqas Arain (2017)** examined occupational stress among faculty members in Hyderabad and identified the Stressors of faculty members are workload, situations at work, and relations with colleagues at work, efforts for students, work for organization benefits, and social acknowledgment with his status.

**Neelam Dhar and Ritu Magotra (2018)** they conducted research in Jammu district among teachers in their survey they identified that group politics, role conflict, under participation and powerlessness and politics are some of the factors which affect occupational stress among teachers.

## III. RESEARCH PROBLEM

Teacher plays a significant role in shaping the society. To perform better in their profession teacher should be intelligent and stress free, because a teacher is the hope for an individual and the nation.

The specific aspects of this study are: What is the source of occupational stress in private engineering college faculty members? What are the factors determining occupational stress among faculty members?

## IV. NEED FOR THE STUDY

Stress within the employees not only affects the physical and mental health of an employee but it also affects their family, students and colleagues. When a qualified teacher is absent it affects negatively on the growth of the organization and nation.

Hence, the particular study is conducted to explore the occupational stress factors among engineering college faculty.

Kurnool district is the back ward region of Andhra Pradesh and no specific study has conducted on faculty members of private engineering college in this region. The socio economic profile of the respondents is quiet different to rest of Andhra Pradesh. Hence, this study is useful for understating the occupational stress factors of private engineering college faculty.

## V. OBJECTIVES OF THE STUDY

1. To study the concept of occupational stress.
2. To know the socio economic profile of the respondents.
3. To explore occupational stress factors among the engineering faculty members.

## VI. METHODOLOGY

The present study is based on primary data which is collected from 120 respondents through appropriate questionnaire in Kurnool district in the state of Andhra Pradesh. Around 150 questionnaires were distributed to the respondents after validating questionnaires invalid responses were eradicated, a useable sample of 120 respondents were considered for the study. The survey was conducted in the year 2019 (i.e. October to December). The respondents are from select (Autonomous) engineering colleges in Kurnool district. The questions are based on likert type of scale where the range of responses is from – Strongly Agree to Strongly Disagree. The sampling technique adopted for the study is convenience sampling technique. The secondary data is gathered from websites, journals, and books related to occupational stress. Tools used for the study are reliability analysis and dimension reduction factor analysis to group the factors.

## VII. DATA ANALYSIS

The gathered data is analyzed and interpreted with help of SPSS package which is specially meant for social science. For the present study Factor analysis (Principal component analysis) was used to extract the occupational stress factors of engineering faculty members. And reliability analysis is used to check the reliable of the variables selected for study.

**Table -1 KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.695
Bartlett's Test of Sphericity	1551.197
df	105
Sig.	.000

Source : Primary data

**Interpretation:**

The data appropriate for the factor analysis is assessed with Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity. According to KMO and Bartlett's Test if KMO is  $> 0.5$  and Bartlett's Test of Sphericity is  $< 0.05$  the data is suitable for factor analysis. The above table - 1 divulge that KMO value as 0.695 and Bartlett's Test of Sphericity value as 0.00.

Factors determining occupational stress among engineering faculty members has been decided with aid of Kaiser's principle or scree test in factor analysis.

### **Kaiser's principle**

The study has to hold the factors whose eigenvalue is greater than 1. According to this principle the study has explored four factors that are influencing the occupational stress among engineering faculty. The details are provided in the below table-2



**Table -2 Total Variance Explained**

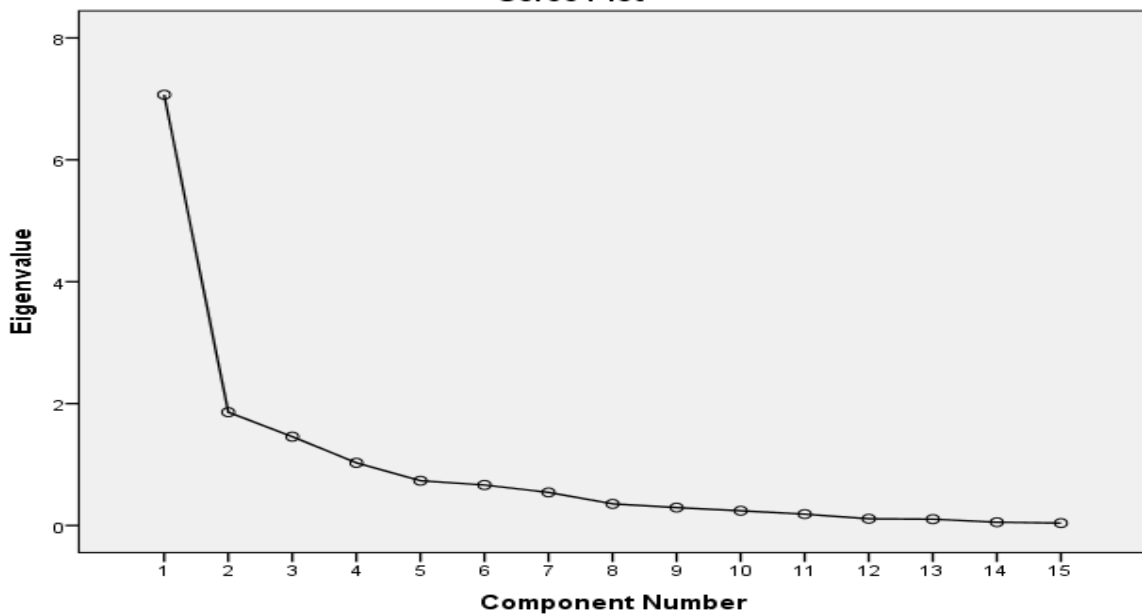
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.068	47.954	47.954	7.068	47.954	47.954	4.389	29.780	29.780
2	1.859	12.614	60.568	1.859	12.614	60.568	3.454	23.433	53.214
3	1.457	9.888	70.456	1.457	9.888	70.456	2.092	14.195	67.409
4	1.028	6.977	77.433	1.028	6.977	77.433	1.477	10.024	77.433
5	.735	4.984	82.417						
6	.665	4.511	86.928						
7	.543	3.684	90.612						
8	.355	2.406	93.018						
9	.294	1.995	95.013						
10	.241	1.636	96.650						
11	.186	1.265	97.914						
12	.110	.749	98.663						
13	.104	.703	99.366						
14	.054	.367	99.733						
15	.039	.267	100.000						

Extraction Method: Principal Component Analysis. Source : Primary data

**Scree Test :**

Catell’s proposed that scree plot can be used to graphically determine the optimal number of factor to retain. Based on the scree plot the study has retained four factors. The plot details are as below.

**Figure-1  
Scree Plot**



VIII. RESULTS AND EXPLANATION

Table – 3 Rotated Component Matrix

Variables	Component			
	1	2	3	4
VAR000				.640
VAR000			.681	
VAR000				.706
VAR000	.658			
VAR000	.719			
VAR000		.650		
VAR000	.874			
VAR000			.919	
VAR0009		.682		
VAR0010		.984		
VAR0011		.795		
VAR001	.685			
VAR001	.674			
VAR001	.762			
VAR0015	.634			
Extraction Method: Principal Component Analysis, Rotation Method : Varimax with Kaiser Normalization				
a. Rotation converged in 7 iterations.				

Source: Primary data

**Interpretation:** Table-3 demonstrates the rotated component matrix the important output of the principal component analysis. The coefficients are the factors loading which notify correlation among factors and the fifteen variables (VAR0001 to VAR0015).

From the matrix it is found that coefficients for Factor I (Workload) have high absolute correlations with variables VAR0004, VAR0005, VAR0007, VAR0012, VAR0013, VAR0014, and VAR0015.

Similarly coefficients for Factor II (Career Growth) have high absolute correlation with variables VAR0006, VAR0009, VAR010, and VAR011.

Likewise coefficients for Factor III (Relationships) have high absolute correlations with variables VAR0004, and VAR0008.

Correspondingly coefficients for Factor IV (Role Ambiguity) also have high absolute correlations with variables VAR0001 and VAR0003.

Eventually the principal component analysis highlighted the four factors that are influencing the occupational stress of the engineering college faculty. Hence, The four factors

were named as Component 1: Work load, Component 2: Career Growth, Component 3: Relationship and Component 4: Role ambiguity respectively.

Table-2 clearly shows the occupational stress factors and eigenvalues values. The eigenvalue of components 1, 2, 3, and 4 are > 1 and rest of the component eigenvalue values are < 1 i.e from component 5 to 15 and Figure-1 lucid the scree plot and has retained four factors .

Table: 4 Factors and variance Explained

Factor Name	Variance Explained	
	% of Variance	% of Cumulative
Work Load	47.954	47.954
Career Growth	12.614	60.568
Relationships	9.888	70.456
Role Ambiguity	6.977	77.433

Source: Primary data

**Interpretation:** It May be noted that from the table- 4 based on the variance it is identified that there are four factors namely Work Load, Career Growth, Relationships and Role Ambiguity. And the percent of variance is high for workload with the 47.954 and the percent of variance is low for role ambiguity with 6.977. It is make known that workload is the major factor influencing the occupational stress.

**Factors Loading and Reliability:**

Further the study made use of Cronbach’s alpha test to know the reliability of the factors loaded.

**Workload:**

The first factor of occupational stress among engineering faculty members is workload. The factor loading and reliability of workload is given in the table 5.

Table -5 Factor Loading and reliability of workload

S.No	Variable	Factor Loading
1	Have to do lot of work in the job. (VAR0004)	0.658
2	Teaching job is more responsible work. (VAR0005)	0.719
3	Faculty like to work only with people whom they like. (VAR0007)	0.874
4	Due to workload faculty can’t maintain good relations with colleagues. (VAR0012)	0.685
5	Have to do such work as ought to be done by others. (VAR0013)	0.674
6	If faculty commit any mistakes related to work higher authority takes action. (VAR0014)	0.762
7	Have to stay over time to finish the work. (VAR0015)	0.634
Reliability Statistics		
Cronbach's Alpha		No. of Items
0.905		7

Source: Primary data

**Interpretation:** The above table demonstrates that factor loading all the variables are > 0.3 and the reliability value is .905 for the 7 variables.

**Career Growth:**

The second factor of occupational stress among engineering faculty members is career growth. The factor loading and reliability of career growth is given in the table 6.

**Table -6 Factor Loading and reliability of career growth**

S.No	Variable	Factor Loading
1.	Career growth in teaching field is very slow. (VAR0006)	.650
2.	Fewer opportunities to improve the career. (VAR0009)	.682
3.	Some time people will look like the low status job. (VAR0010)	.984
4.	Can't improve the knowledge in career due to monotony in the job, and (VAR0011).	.795
Reliability Statistics		
Cronbach's Alpha		No. of Items
.841		4

Source: Primary data

**Interpretation:** The above table makes obvious that factor loading all the variables are > 0.3 and the reliability value is .841 for the 4 variables.

**Relationships:**

The third factor of occupational stress among engineering faculty members is relationships. The factor loading and reliability of workload is given in the table 7.

**Table -7 Factor loading and reliability of relationships**

S.No	Variable	Factor Loading
1.	Have to do work unwillingly owing to certain group. (VAR0004)	.681
2.	Faculty have poor peer relations. (VAR0008)	.919
Reliability Statistics		
Cronbach's Alpha		No. of Items
.722		2

Source: Primary data

**Interpretation:** The above table 7 apparently discloses that factor loading all the variables are > 0.3 and the reliability value is .722 for the 2 variables.

**Role ambiguity:**

The fourth factor of occupational stress among engineering faculty members is role ambiguity. The factor loading and reliability of role ambiguity is given in the table 8.

**Table -8 Factor loading and reliability of role ambiguity**

S.No	Variable	Factor Loading
1.	Role ambiguity in the work. (VAR0001)	.640
2.	Role conflict in work causes stress. (VAR0003)	.706
Reliability Statistics		
Cronbach's Alpha		No. of Items
.712		2

Source: Primary data

**Interpretation:** The above table-8 clearly unveils that factor loading all the variables are > 0.3 and the reliability value is .650 for the 2 variables.

**IX. CONCLUSION**

The present study apparently gives inclusive information about factors affecting occupational stress among engineering faculty members in Kurnool district in the state of Andhra Pradesh. The identified factors which affect the occupational stress are workload, career growth, relationships and role ambiguity which have absolute correlation with the variables. The results of the study tell that teaching profession is also one of the profession which affects from stress. Due to advancements in the education field and competition, faculty are supposed to cope up according to the changes in the environment. Nowadays teaching profession is not only to teach but they should perform other than academics due to this circumstances ultimately it shows impact on work pressure which leads to stress.

According to the findings it is suggested that faculty who are leading their profession in engineering colleges require mulling over about factors which escort the stress. Faculty should triumph over the stress for good environment. College management also ought to take up the stress management techniques which lend a hand for the productivity of the students as well the faculty.

**LIMITATIONS OF THE STUDY**

The present study is merely confined to occupational stress and factors affected stress. Geographically it is limited to only Kurnool district in the state of Andhra Pradesh. Results of the particular study can't be generalized to other faculty members and other engineering colleges. The accurateness of provided facts may owe to change by time and individuals.



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