

## **The Measurement Model Assessing Factor Examining the Working Environment of Private University of Punjab Via CFA Approach**

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### **Abstract**

This research tries to show the present working environment of the private universities of Punjab and tries to assess the opinion of the faculty about their universities. Faculty of private university has so many responsibilities in addition to teaching activities. Most of the time, faculty is occupied with work assignments, curriculum changes, co-curricular activities, office work, etc. This heavy workload leads to generation of stress. To make this workload a comfortable job, the working environment of the work area plays a relevant role. This study aims to examine the working environment of private universities. The sample unit constitutes the staff from the fifteen private universities of Punjab state. The data has been collected from 496 staff members via random probability method. The exploratory factor analysis is used to extract the desired factors constituting the working environment. The findings obtained after using exploratory factor analysis shows that social, physical and psychological environment is three important aspects which impacts the mindset of faculty members.

### **Key Words**

Working Environment, Social, Psychological, Physical, Factor Analysis.

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### **INTRODUCTION**

Stress is best depicted as a situation where normal requirements exceed the limit concerning the prevailing response by a person and might per-chance

have physical and mental results (Rout & Rout, 1993). Teachers experienced high level of stress due to changes, learning ability of the students and environment (Jenitta, J. N.; and Mangaleswaran, T., 2016). The main factor which has a direct influence on the teachers or faculty are the working conditions, personal problems, workload, curriculum, demands, control, relationships, roles, changes and support and their relationship with demographic and job characteristics (Demjaha, T. A.; Minov, J. *et al.*, 2015). Burden on faculty in private universities has expanded, positions are not any more secure, the innovative multi-faceted nature has made issues for instructor and consistent weight originates from college organization on educators as to every day exercises, thus universities are going under cycle of progress.

The present research paper aims to examine the different factors which combines a forms a working environment of private university. Working conditions has direct impact on job satisfaction of employees which is resulted into the job involvement, employees commitment towards achievement of organizational goal (Shravasti, Raju, R.; and Bhola, Sarang, S., 2015) .

## **REVIEW OF LITERATURE**

Studies on the physical and social characteristics of the workplace have been conducted to provide evidence for the role of specific workplace factors on health. However, the study suggests that social, psychological, and physical aspects of the work environment could contribute to a substantial proportion of hypertension prevalence. These attributes of the workplace could thus be a useful target for improving workforce health. The current workplace regulation has focused primarily on physical hazards and less so on the social aspects and psychological hazards of the workplace, despite substantial evidence in each of these areas demonstrating their influence on workplace health (Rehkopf *et al.*, 2017).

The literature suggests that Work environment has a direct impact on work commitment (Oludeyi, 2015). Oludeyii in his paper has provided a framework about workplace environmental factors and job commitments especially among staff in the ivory towers. The study elaborated that there is a need to make vast changes in human behaviour and it is not enough to use technology with a deeper understanding of human issues or dedicate technology to man's spiritual needs.

Further this studies points towards the requirement of technology that

will reshape behaviour and commitment towards advancement of mankind. R. Shrivasti and Sarang S. Bholra (2015) in their study "Working Environment and Job Satisfaction of Employees in Respect to Service Sector : An Analysis" has grouped the working environment into four different categories namely Physical Environment, Social Environment, Psychological Environment and Job Related Issues. Butt, Khan, Rasli and Iqbal (2012) in a study has found that work and physical environment of hospitals significantly influence nurses commitment to work.

However, Briner, (2000) has provided as a very broad category of factors that encompasses the physical environment (like heat or light) characteristics of the job (complexity of task, workload etc.), organizational features (like culture and history etc.) and aspects of the extra organizational setting (like industry sector, work-home relationships etc.).

The discussion pinpoints that work environment is the sum total of the interrelationship that exists among the employees and the employers. Also the work environment in which the employees work includes the technical, the human and the organisational environment pays a big role in affecting the bonding between the two (employees and the employers.)

This discussion concludes that there is a direct relation between working environment and job performance of employees. It becomes legitimate to study the various factors of working environment in which the employees works into. The literature helps to select the relevant factors from where the final variables can be selected.

## **OBJECTIVE OF THE RESEARCH**

- To study the demographic profile of the faculty of Private universities of Punjab.
- To identify the various factor affecting the working environment of Private Universities.
- To analyse the opinion of private university faculty regarding the working environment of their respective universities.

## **RESEARCH METHODOLOGY**

The present research is descriptive in nature involves descriptive analysis. Simple random sampling is used to collect sample across different private university. The stratified sampling is adopted for the selection of the

final data. The first stage includes the strata which are based on the criterion of designation of the employees.

Three strata's are made like Professors, Associate professors and Assistant professors. Further the sub strata are framed on the basis of experience. The professors with experience more than 12 years, associate professors with experience more than 9 years and assistant professor with experience of above two years are targeted. This obtained response is expected to be in same proportion like 33.3% respondents from each stratum. But it is observed that due to more experience and higher designation the sample respondent's number with higher rank are low. Also the professor and associate professor are more engaged into higher and multiple duties. Further such people have more confidential information's about the universities too. It was not easy to target these rank respondents. To provide a complete representation of the population , the maximum respondents comes from the assistant professor strata approx eighty percent whereas approx ten percent each comes professor and associate professor strata group.

The scope of the data collection is limited to the private universities of Punjab. A suitable questionnaire has been draft on the basis of the objectives of the study. Standardized scale has been used for the study. The statistical tools used in the study are Factor analysis, KMO and Bartlett's test.

## **DATA ANALYSIS**

### **Demographic Details**

The demographic analysis starts with the analysis of the type of department the employees are working into. There are various streams running in the different private universities. Almost researchers have tried to gather data from the all streams or department in the universities. Questionnaire has been distributed to all departments of private universities. As per the survey conducted, total 496 respondents from 15 different private universities have participated in this research who works across 45 different departments. Maximum streams are same in all universities.

**Table 1**  
**University Details**

University	Frequency	Percent
CU	95	19%
DAV	35	7%
DBU	50	10%
GNA	44	9%
Guru Kashi University	38	8%
LPU	5	1%
RBU	40	8%
RIMT	47	9%
SGGSWU	42	8%
CT University	8	2%
Sant Baba Bhag University	20	4%
Chitkara University	14	3%
Adesh University	10	2%
Akal University	11	2%
SRRDU	37	7%
Total	496	100%

The analysis of the above data it is found that there are total 496 respondents who participated in the study. 95 are from Chandigarh University (Gharuan, Mohali), followed by 50 from DeshBhagat University (Mandi Gobindgarh), 35 from DAV University, (Jallandar,) 44 from GNA University (Phagwara), 47 from RIMT University, 38 from Guru Kashi University (Talwandi Sabo, Bathinda), 40 from RBU (Mohali), 42 from SGGGSWU (Fategarh Sahib), 20 from Sant Baba Bhag Singh (Padhiana, Jalandhar), 14 from Chitkara University, Rajpura, 10 from Adesh University (Bathinda), 11 from Akal University from Bathinda, 37 from Sri Guru Ramdas University of Health Sciences (Amritsar), 8 from CT University (Ludhiana), and 5 from LPU, Phagwara.

After analysing the total teacher's participant across different private universities it is desirable to analyse the demographic details of these respondent teachers. The total respondents 68% are the female employees i.e. 337 and 32% are male employees i.e. 159 who participated in the survey. An educated person

can understand the things going around quickly and easily. There are 283 employees who are postgraduate, 184 are doctorates and reaming 29 have done M.phil. From the age analysis it has been observed that 204 respondents working in the universities are below the age of 30 years, 195 respondents are in age group of 31 to 40 years, 75 respondents are in age of 41 to 50 years, 17 lies in age group of 51 to 60 years and only 5 lies in age group of above 60 years.

Besides it is found that, out of the total employee respondents, 289 are married and 203 are unmarried. Total 398 Assistant Professor have participated in the survey followed by 49 Associate Professor and 49 Professors. From monthly income analysis it has been observed that 272 respondent employees have salary between Rs.21000 to Rs. 40000 per month, followed by 55 respondents with salary between Rs.41000 to Rs.60000. Besides 77 have monthly income above Rs. 60000 per month. Only 92 employees earn income less than Rs. 21000 per month.

**Factors Examining Working Environment**

Five point Likert scale is used to record the response regarding factors examining working environment. Factor analysis reduces the variables into fewer factors. These can be termed as beneficial factors.

**Table 2**

**KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.867
Bartlett's Test of Sphericity	Approx. Chi-Square	3644.522
	Df	66
	Sig.	0.000

The value of KMO test is .867 and significance value less than 0.05. Bartlett's test of sphericity tests the hypothesis and its results indicate that variables are related or unrelated. So, factor analysis is being useful for data.

**Table 3**  
**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	6.208	51.730	51.730	6.208	51.730	51.730	3.031	25.260	25.260
2	1.230	10.249	61.980	1.230	10.249	61.980	2.983	24.855	50.116
3	1.121	9.339	71.319	1.121	9.339	71.319	2.544	21.204	71.319
4	.629	5.243	76.562						
5	.583	4.862	81.424						
6	.556	4.629	86.053						
7	.411	3.424	89.478						
8	.375	3.122	92.600						
9	.287	2.393	94.993						
10	.252	2.104	97.096						
11	.181	1.508	98.605						
12	.167	1.395	100.000						

The three factors have been extracted on the basis of the association or correlation of the variables. The extracted factor represents the total of 71.31% variance. The variance for first factors is 51.730%, Second factor is 10.249% and for third factor is 9.339%.

The results of rotated Component Matrix represent the coefficients for the factor loadings which represent the correlation between three factors and the ten variables. On the basis of the association of the various variables with the factors, it has been clubbed together and named accordingly. These are social environment, physical environment and third are psychological environment.

**Table 4**  
**Rotated Component Matrix<sup>a</sup>**

	Component		
	1	2	3
Communication plays a vital role in maintaining healthy social environment	.854		
I receive respect at work	.801		
Friendly and supportive faculty members	.752		
Experiencing good relationship with colleagues	.710		
There are ample number of staff members to maintain the cleanliness of the campus		.773	
Teaching faculty has accessibility to computers labs any time between working hours		.744	
Hygiene factors are being taken care of at my work place		.727	
Proper staff rooms and seating arrangement has been provided to staff members of different department		.680	
I receive appreciation or reward when I perform excellent			.767
I have flexibility in my working hours			.752
My Head and senior faculty members give me freedom work independently.			.727
My senior or other faculty do not criticize me when I implement new skills			.639

Extraction Method : Principal Component Analysis.

Rotation Method : Varimax with Kaiser Normalization.

a. Rotation Converged in 5 Iterations.

The factor loading for first factors Communication plays a vital role in maintaining healthy social environment is .854, I receive respect at work is .801, Friendly and supportive faculty members is .752, Experiencing good relationship with colleagues is .710. It is named as social environment.

Moving next, the factor loadings for second factor variable there are ample number of staff members to maintain the cleanliness of the campus is .773. The cleanliness maintained (not which is maintained by non teaching staff) here indicates that staff members keep their things in sequence and maintain cleanliness of their stuff like organised table, properly arranged



books or study material (covers or using folders), well set lockers or Elmira. Teaching faculty has accessibility to computers labs any time between working hours is .744, Hygiene factors are being taken care of at my work place is .727, and Proper staff rooms and seating arrangement has been provided to staff members of different department is .680. It is named as physical environment.

Lastly, the factors loadings for third factor variable I receive appreciation or reward when I perform excellent is .767, I have flexibility in my working hours is .752, My Head and senior faculty members give me freedom work independently is .727, and My senior or other faculty do not criticize me when I implement new skills is .639. It is named as psychological environment.

**Table 5**  
**Descriptive Statistics**

	Minimum Statistic	Maximum Statistic	Mean Statistic	Std. Deviation Statistic
Social Environment	1.25	5.00	4.0212	.89106
Physical Environment	1.50	5.00	3.9456	.83790
Psychological Environment	1.25	5.00	3.3332	.95928

The mean value for the environment factors has been calculated. The mean value for social environment is 4.02, physical environment is 3.9, and psychological environment is 3.3. It shows that teachers are happy with their social, physical and psychological environment since the mean value is more than average score. This reflects the agreement and satisfaction of teachers towards social, physical and psychological environment of their respective universities.

**RATIONALE BEHIND SELECTION OF SCALE**

The factor loading obtained during the factor analysis technique has clearly stated that the obtained values are much above than the requires threshold i.e. 0.6 Hair *et al.* (2010). This builds the ground for the acceptability of the variables items and the respective factors. The items constituting the social, physical and psychological environment are fair enough to explain the impact on the stress level of private universities employees. Further this is supported by the results of the reliability statistics.

**Table 6**  
**Reliability Statistics for the Environment Factors**

<b>Factors</b>	<b>Cronbach's Alpha Value</b>
Physical Environment	0.834
Psychological Environment	0.804
Social Environment	0.891

This Table highlights the reliability statistics for the extracted environment factors. Cronbach's alpha value is calculated to measure the reliability of the factors. The acceptable value of Cronbach's alpha value should be more than 0.6 (Taber, 2018; Griethuijsen *et al.*, 2015). The Cronbach's alpha value for physical environment is 0.834, psychological environment is 0.804, and social environment is 0.891. The value for all three factors is above 0.8, indicating that the all the extracted factors are highly reliable. Hence it is proved that the extracted factors are reliable because the Cronbach's alpha value is very high and hence these are acceptable. So the final scale selected is reliable.

## **RESULTS DISCUSSION**

The finding of the study indicates the social environment; physical environment and psychological environment are the important factors which constitutes a healthy work environment in private university. The results of the demographic analysis has highlighted maximum faculty working in the universities are below the age of thirty years. Most of the respondent faculty is married. Maximum faculty working in private universities are females. Most of the respondent faculty in private universities are postgraduate and most of them have doctorates degree. The study shows that maximum respondents in the study hold the ranks of Assistant Professor. The income profile of the faculty shows that most of the faculty have salary ranges between rupees twenty one thousand to forty thousand.

The results of the reliability statistics for the extracted environment factors indicate that the Cronbach's alpha value for physical environment is 0.834, psychological environment is 0.804, and social environment is 0.891. The value Cronbach's alpha for all three factors is above 0.8, indicating that the all the extracted factors are highly reliable. From the study it is concluded that for all extracted factors the communality value is above 0.6. So, all extracted factors correlates with each other to great extent.

## **MANAGERIAL IMPLICATIONS OF THE RESEARCH**

Communication plays a vital role in maintaining healthy social environment. Respect at work, friendly supportive faculty members and a good relationship with colleagues represents a sound social environment. It is necessary to maintain a positive atmosphere to raise the productivity of the faculty. Hygiene factors, cleanliness of the campus, proper staff rooms, seating arrangement for staff members of different department, accessibility to computers labs any time between working hours should be taken care at faculty's work place. This create an additional positive impression on the staff mind which is quite helpful maintain a profound physical environment in university campus.

There is still much to understand about physical working conditions in campus communities and level of job commitment of staff therein. The findings of study also imply that appreciation or reward for excellent performance satisfy the faculty members to great level. Further flexibility in working hours and freedom to work independently adds to a healthy psychological environment. Besides, lesser criticism, support of seniors and management while implementing new skills enhances the confidence of the faculty members.

## **CONCLUSION**

This is concluded from this research that teachers are happy with their social, physical and psychological environment. Private university management has set up huge infrastructure to provide the education facility to the society. The management must make available the required materials, methods and tools for their staff. Besides, university management must make sure to design and build a classy infrastructure which creates a positive impact of the faulty and faculty will work smoothly without any unnecessary stress. Hence their productivity will increase. The results of EFA have proven that social, physical and psychological environment is three important aspects which impacts the mindset of faculty members. This reflects the agreement and satisfaction of teachers towards social, physical and psychological environment of their respective universities.

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