

## **The Effect of Workload on Creativity: An Empirical Study of the Employees of Public Sector Universities of Peshawar, Pakistan**

**Muhammad Khalil Ur Rahman**

*MS-Scholar, Institute of Business Studies and Leadership  
Abdul Wali Khan University, Mardan*

[khalilhr04@gmail.com](mailto:khalilhr04@gmail.com)

**Dr. Shahid jan**

*HOD Department of Management science  
Islamia College University, Peshawar*

**Saqib Shahzad**

*Demonstrator, Institute of Business Studies and Leadership  
Abdul Wali Khan University Mardan*

### **Abstract**

*The aim of this study is to examine the effect of workload on creativity. The study was conducted in the public-sector universities of Peshawar, Pakistan. A sample size of 160 employees was selected using convenient sampling techniques. The data was collected from lecturers, assistant professors, associate professors and professors' level of employees. 160 questionnaires were distributed among these employees out of whom 130 filled questionnaires were received forming percentage of 81.2%. In these filled questionnaires 10 questionnaires were discarded because they were improperly filled while 120 properly filled questionnaires were used for data analysis. Data was analyzed through correlation analysis, reliability analysis and regression analysis. Findings of the study reveal that there is insignificant relationship of workload on creativity in the public-sector universities of Peshawar, Pakistan.*

**Key words:** *workload, Creativity.*

### **1. INTRODUCTION**

Approximately three billion citizens internationally are working and face to a continual and demanding difficulty in the association called workload, which influence workers creativity and effectiveness. Theureau (2002), said that the concept of workload is not new. Nowadays workload has become a subject of renewed interest for researcher and for organization especially in the multinational companies. More especially organization like multinational companies is looking for efficient way to avoid workload. While more instrument is measure the intrinsic aspect of workload for example (Mental workload), they offer a fragmented understanding of the phenomena only. In addition, Oldham (1996), workload is when employees have too much work and feels pressure or disturbance.

Moreover, Slahova (2007), workload is the Work which produces pressure when it become more than an individual's capacity level. Furthermore, Ismail et al., (2009) discussed workload in such a word that the duties and demands which are beyond an individual's ability and job resources (skill, time, ability, and so on). Each of these factors

causes different psychological and physiological response. Creativity is defined by Carl (1966), argued that an autonomous energy which resides in an individual psyche is known as creativity. Researcher also said that in the economy creativity and innovation are key factors for achieving organizational goals. Woodman et al., (1993) stated that creativity is the creation of useful new product, service, ideas, process or procedure. Amabile (1996), defined that the development of ideas about products, services, practices, or procedures that have novel value and useful potentially to each organization directly or indirectly is known creativity. Furthermore, Oldham and Cumming (1996), creativity is some useful novelty that can be applied and can add value to the organizations 'yield or services. Moreover, Slahova et al., (2007) viewed that the "creativity" word started from Latin language which means to form, to beget and to create.

### **1.1 Problem Statement**

From the literature many researchers suggested that workload has negative effect on creativity but at the same time researches have been proved that workload have critical condition to maintain creativity. So, the aim of this study is to find out the effect of workload on creativity in the public-sector universities of Peshawar, Pakistan.

### **1.2 Research Objective**

The purpose of this study is to find out the effect of workload on creativity in the public-sector universities of Peshawar, Pakistan.

### **1.3 Scope of the Study**

This study is conducted in the public-sector universities of Peshawar, Pakistan to find out the effect of workload on lecturers, assistant professors, associate professors and professors.

### **1.4 Significance of the Study**

Workload is one of the persistent problems of an institution. For an institution to flourish, it is required that the employees do work in a workload atmosphere. This leads to decrease employee's efficiency, increase in absenteeism and turnover. In universities especially if the faculty works without any workload then they can deliver better to the followers and also engage themselves actively in research work. Therefore, it is important to find the effect of workload on creativity in the public-sector universities of Peshawar, Pakistan.

## **2. REVIEW OF LITERATURE**

### **2.1 Workload**

Nowadays the major consequences of the employees of the organization especially in the public-sector universities are highly related that will develop a deeper understanding of workload. The concept of workload is not new. Laville (2004), identified that the workload stress concept starts in the early 20<sup>th</sup> century, notably in Amar's research on the physiology of work. Weiner (1982), illustrated that the field of psychology and ergonomics, interest was also shown in the concept of workload which evaluating complex interfaces like aircraft cockpits or control room at nuclear power plant. The other researchers like Teiger et al., (1973) also investigated the effort expended by workers to meet their job demands and the intensity of this effort. While other studies are focused on the work intensity and the pace of task to determine the effect of these component on employee's health.

The concept of workload is generally defined as the intensity of the effort which is made by the employees to meet the demands of their job under defined physical condition, taking into the account own condition and the various mechanism which is play in their job. Hancock and Meshkati (1988), showed the greater interest in measuring workload as compared to the theoretical definition. Traditionally the study of workload met very pragmatic needs and focused specially on the limitation of individuals physical and information processing capacities. Hence workload was therefore essentially approached from two different angles in which one is physical workload and the other is mental of psychological workload. Physical workload concept is mainly the terms of physical task performance which have an effect on workers creativity. While the mental workload refers to identification of cognitive or mental limitation that affect human performance in public sector universities.

According to Khan et al., (1964) demonstrated that workload simply occurs when employees have much handle. When role expectation are higher than the focal person capabilities so its resulted will be workload and this task can either be qualitative or quantitative and can be identified as the person who have too many task and to perform or he have little time to perform them and qualitative occurs when the person have lack abilities to perform the task. For example, Dua (1993), illustrated that academics experience workload is because they generally face difficulty in completing their targeted goals due to workload. Keenan and McBain (1979), found negative relationship between workload and creativity and described that the result of workload in poor job satisfaction.

In addition, Arnold, Robertson, and Cooper (1993), workload is that when employees have too much work to do because of imposition of Date lines which often causes stress in employees. Conley and Woosley (2000), demonstrated workload as when employees have too much work to do in each amount of time. Furthermore, Peiro et al., (2001) workload is when employee has greater work then their ability to perform a task. Babakus et al., (2009) demonstrated that workload is considered as the demands and duties which are beyond an individual ability and job resources like skill, ability, time and so on. Each of these factors causes eliciting different physiological and psychological response. In addition, Usman et al., (2014) viewed that workload have a significance effect on creative performance.

## **2.2 Creativity**

Guilford (1950), invited psychologist to do research on creativity. Many researchers did research on creativity. But however, the field of creativity after 60 years is still emerging. Runco (1995), said that there have been several papers written and published in the last 10 years on creativity. Such journals are the academy of management annals and the journal of management. Amabile (1996), defined that creative behavior are involves in the generation of novel and useful ideas, processes or solution. Chiou (2002), said that creative workplace influences the employee's creative performance at the organization. Hence George (2003), also said that creative ideas must be both novel and perceived as having the ability to create value for organization in short as well as in long run. Researcher also described that it is important to make the difference between creativity and innovation. Creativity includes the generation of useful

and innovative ideas through individuals or groups while innovation includes the successful implementation of these ideas at unit or organizational level.

Zahavy (2004), demonstrated that Creativity is an important process for firm survival and growth. Hence firm need creative employees for the production of organizational creativity. Diliello et al., (2006) said that in 21<sup>st</sup> century creativity is familiar a serious capability for organization which lead to adopt change. There is a general agreement that creativity is authority and achievement. Grewal et al., (2006) described that Creative employees play important role in finding customer concealed requirements to build up a good quality report with the clients and to resolve their service difficulty efficiently and creatively which finally creating a greater familiarity. So researchers defined that in an organizational context creativity refers to the accomplishment of creative thoughts and also said that the expansion of thoughts about goods, services, practices, or actions that have work of fiction charge and useful potentially to each association in a straight line or in a roundabout way is recognized creativity.

### **2.3 Workload and Creativity**

According to Khan et al., (1964) stated that workload occurs when employees who are working in the multinational companies feel inconsistency between the time available for them and the time required to complete the task. Time inconsistency means that the employees who are working in the multinational companies feel that there are too many things to do in the given time which may be the more worthy cause of workload. Workload is simply occurring when employees who are working in the public sector universities have more task then he or she can handle. Reaserchers also described that when the role expectation is higher than the focal person's responsibilities resulted in workload. Moreover, Rizzo et al., (1970) described that workload is the situation in which employees who are working in public sector universities feels that there are too many activities or responsibilities expected from them in the light of their abilities, the time available and other constraints. Rosenheim (1976), found that workload have positive and significant on creativity. Similarly, Keenan and McBain (1979), also found the positive and meaningful relationship between workload and creativity.

Theureau (2002), demonstrated the in the current context the concept of workload is not new, for researcher and for organization it become a subject of renewed interest. Organizations are looking to avoid workload more efficiently (e.g mental workload), this type of workload offer only a fragmented understanding of the phenomenon. The traditional concept of workload which is now becoming obsolete can be broken down into mental and physical components. Bandura and Locke (2003), argued that workload is the complex form of role conflict. Durak et al., (2006) demonstrated that workload is the type of job stress which is positively correlated with creative performance.

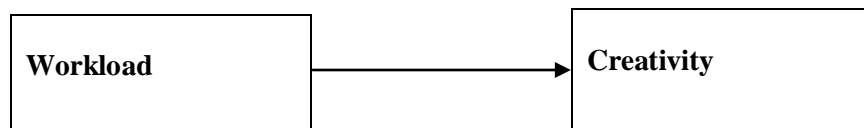
Furthermore, researchers described that managers are playing a vital role in tacking and identifying the role stressors. Because they should investigate their consequences experienced by employees. For example, employees are experiences workload when he or she would assign number of task which is more than his or capabilities from different managers. So, in this situation workload could be managed from his or her manager's subordinates or leaders. Moreover, Slahova (2007),

demonstrated that workload is the work which produce pressure when it become more than an individual capacity level and significant and positive relationship with creativity. Similarly, Yongkang (2014), also described that workload is the type of job stress which produce positive and meaningful relationship with creativity. Hence from all the above view we hypothesize the following.

**2.4 Hypothesis 1:** *workload insignificantly effects creativity.*

## 2.5 Conceptual Model

Based on above literature, the following conceptual model has been developed.



## 3. RESEARCH METHODOLOGY

### 3.1 Population and sample

This study is conducted in different public-sector universities of Peshawar, Pakistan. Such as University of Peshawar, Islamia university Peshawar, the University of Agriculture Peshawar, university of engineering Peshawar and Khyber medical college Peshawar. A sample size of 160 employees was selected using convenient sampling techniques. The data was collected from lecturers, assistant professors, associate professors and professors' level of employees.

### 3.2 Data Collection Instrument

With the help of self-administered questionnaires, the primary data was collected. Workload questionnaires are taken from the study of Remondent, J. H., & Hansson, R. O. (1991) and creativity study were taken from the study of Lee and Choi (2003).

### 3.3 Procedure and Statistical Methods

160 questionnaires were distributed among these employees out of whom 130 filled questionnaires were received forming percentage of 81.25%. In these filled questionnaires 10 questionnaires were discarded because they were improperly filled while 120 properly filled questionnaires were used for data analysis. Data was analyzed through SPSS version 16. Reliability analysis, correlation analysis, and regression analysis was used for finding the relationship of role ambiguity on creative performance.

## 4. Results

The Table 4.1 shows the workload number of items and creativity number of items. The number of items of workload is 7 while creativity contains on 5 numbers of items and 12 are the total number of items. According to the below table the cronbach alpha for the workload is 0.859 and for creativity is 0.86, which shows that there is high level of consistency present in it. Hence the reliability statistics indicate that cronbach alpha is approximately 0.86 for all variables, which also indicates that high consistency

level present in it. The question consists in each variable indicated by “N of items”. For each variable Cronbach alpha is given in the below table.

**Table 4.1: Reliability Statistics**

	Cronbach's Alpha	N of items
Workload	0.859	7
Creativity	0.86	5
Overall reliability	0.86	12

The given Table 4.2 shows that there is insignificant correlation between workload and independent variable creativity ( $P=0.000 < 0.05$ ). In this table the value of creativity is 0.334 which indicates that there is negative correlation among the variables.

**Table 4.2: Correlation**

	Workload	Creativity
Workload	.225**	
Creativity	.334**	1

\*. Correlation is significant at the 0.01 level (2-tailed).

\*. Correlation is significant at the 0.05 level (2-tailed).

**Table 4.3: Regression**

The below Table 4.3 is a simple linear regression model summary table, in which workload is independent variable while creativity is dependent variable. In this table R shows the strength of relationship between the variables of the model. The value of  $R=0.097$  shows that there is 09.7% association between the workload and creativity. The extent of variance in the dependant variable due to variations in independent variable are shown by Adjusted R square. The value of Adjusted R square is 0.009 shows that workload explains 00.9 variations in explaining creativity.

**Table 4.3: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.097 <sup>a</sup>	.111	.009	.4359

a. Predictors: (Constant), workload

In the given Table 4.4 the statistical significance of the model ( $p < .05$ ) is shown by the value of F. The F value is 1.507,  $p = .000$  ( $p < .05$ ) shows the model is statistically insignificant.

**Table 4.4: ANOVA<sup>b</sup>**

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1.063	1	1.063	1.507	.221 <sup>a</sup>
Residual	111.464	118	.705		
Total	112.528	119			

a. Predictors: (Constant), workload

b. Dependent Variable: creativity

**Table 4.5: Coefficients<sup>a</sup>**

The below Table 4.5 shows the rate of change in the dependant variable owing to vary in the independent variable shows coefficients  $\beta$ . The  $\beta$  value is 0.101 which indicates that one-unit increase in workload causes increase in creativity by 0.101 units. On the value of t the researcher decide upon the acceptance or rejection of hypothesis with  $p < .05$ . The t value is 1.228,  $p = .000$  ( $p < .05$ ) which indicates that workload has insignificant effect on creativity. Hence  $H_1$  stands accepted.

**Table 4. 5: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.849	.183		10.082	.000
workload	.101	.082	.097	1.228	.221

a. Dependent Variable: CP

## 5.1 DISCUSSION

This research discusses the effect of job stress on creativity among the employees of the public-sector universities of Peshawar, Pakistan. On the basis of the above results it indicates that there is insignificant and negative correlation between workload as well as with creativity in the public-sector universities of Peshawar, Pakistan. The result hypothesis no 1 workload has insignificant relationship with the creativity which is not directly related with the results of (Rosenheim 1976; Locke 2003; Senol-Durak et al., 2006 and Slahova 2007) while this result also directly related one of the views of Zhou Yongkang (2014).

Workload has negatively and insignificant related with creativity which is similar with the results of Zhou Yongkang (2014), who argued that job stress has insignificantly related with creativity. On the other hand, this result is different and are not directly related with the results of Rosenheim (1976), who demonstrated that workload have positive and significant affects with creativity. Similarly, Locke (2003), also argued that workload is the complex form of role conflict and has direct and negative impact on creativity. In addition, Senol-Durak et al., (2006) view also suggested that workload is the type of job stress which is positively correlated with creativity. Moreover Slahova (2007),

results also demonstrated that workload is the work which produces pressure when it becomes more than an individual capacity level and has significant and positively related with creativity.

## 5.2 CONCLUSION

This section concludes the overall study. The objective of this study is to examine the effect of workload on creativity in the public-sector universities of Peshawar, Pakistan. Analysis has shown negative relationship between independent and dependent variable. It also concludes that the employees who are working public sector universities of Peshawar, have workload a real challenge. It also important to continuously monitor that working environment for workload related purpose. Furthermore, this research also concludes that majority of employees are not workload related job and that workload decreases their creativity.

## REFERENCES

- Acs, Z. J. & Megyesi, M. I. (2009), Creativity and industrial cities A case study of Baltimore”, *Entrepreneurship & Regional Development: An International Journal*, Vol. 21, N. 4, pp. 421-439.
- Ahsan, N., Abdullah, Z., Fie, G. D. U., & Alam, S. (2003). A study of job stress on job satisfaction among university staff in Malaysia : Empirical Study. *European Journal of Social Sciences*, 8(1), 121-131.
- Akehurst G, Comeche JM, Galindo MA (2009). Job satisfaction and commitment in the entrepreneurial SME. *Small Bus. Econ.*, 323: 277-289.
- Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview.
- Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Journal*, 39, 1154 – 1184.
- Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative Science Quarterly*, 50: 367–403.
- Babakus, E., yavas, U., & Ashill, N.J. (2009). The role of customer orientation as a moderator of the job demand burnout-performance relationship: A surface-level, trait perspective. *Journal of retailing*, 85 (4), 480-492.
- Conley, S. & Woosley, S. A. (2000). Teacher role stress, higher needs and work outcomes. *Journal of Educational Administration*. 38(2), pp. 179-201.
- DiLiello T. C. & Houghton J. D., (2006) "Maximizing organizational leadership capacity for the future: Toward a model of self-leadership, innovation and creativity", *Journal of Managerial Psychology*, 21(4), 319 – 337.
- Dua, J. K. (1994). Job stressors and their effects on physical health, emotional health and job satisfaction in a University. *Journal of Educational Administration*. 32, pp. 58-78.
- George JM, Zhou J (2002). Understanding when bad moods foster creativity and good ones do not: The role of context and clarity of feelings. *J. Appl. Psychol.*, 87: 687-697.
- Grewal D., Levy M., and Kumar V., (2009), “Customer Experience Management in Retailing: An Organizing Framework”, *Journal of Retailing*, 85(1), 1-14.



- Ismail, M. I. & Hong, T. T. (2011). Identifying work related stress among employees in the Malaysian financial sector. *Western Journal of Management*, 3(2): 229-243.
- Kahn RL, Wolfe DM, Quinn RP, Snoek JD, Rosenthal RA (1964). *Organizational Stress: Studies in Role Conflict and Ambiguity*. New York: Wiley.
- McDermott, D.S. (1984). Creativity in the theatre: Robert Edmond Jones and C.G. Jung. *TheatreJournal*, 36(2), 213-230. Retrieved June 5, 2008, from JSTOR database.
- Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of Management Journal*, 39(3), 607-34.
- Rizzo JR, House RJ, Lirtzman SI (1970). Role conflict and ambiguity in complex organizations. *Admin. Sci. Quart.*, 15: 150-163.
- Slahova, A., Savvina, J., Cacka, M., & Volonte, I. (2007). Creative activity in conception of sustainable development education. *International Journal of Sustainability in Higher Education*, 8 (2), 142-154.
- Teiger, C., Laville, A., & Duraffourg, J. (1973). *Tâches répétitives sous contraintes de temps et charge de travail: Étude des conditions de travail dans un atelier de confection*.
- Theureau, J. (2002). La notion de "charge mentale" est-elle soluble dans l'analyse du travail, la conception ergonomique et la recherche neuro-physiologique. *Dans M. Jourdan & J. Theureau (Éds.), Charge mentale: notion floue et vrai problème*. Toulouse, France: Octares Éditions.
- Weiner, J. S. (1982). The ergonomics society---the society's lecture 1982: *The measurement of human workload*. *Ergonomics*, 25(11), 953-965.
- Weiten, W. (2000) *Psychology. Theme and Variation (4th Edition, briefer- version Pacific Grove: Wadsworth Brooks/ Cole*.
- Weiner, J. S. (1982). The ergonomics society---the society's lecture 1982: *The measurement of human workload*. *Ergonomics*, 25(11), 953-965.
- Wheeler, H., & Riding, R. (1994). Occupational stress in general nurses and midwives. *British Journal of Nursing*, 3(10), 527-534.
- Woodman, R. W., Sawyer, J. E., & Griifin, R. W. (1993). Towards a theory of organizational creativity. *Academy of management Review*, 18, 293-321.
- Yahaya, A., Yahaya, N., Arshad, K., Ismail, J., Jaalam, S., & Zakariya, Z. (2009). Occupational stress and its effects towards the organization management. *Journal of social sciences*, 5(4), 390-397.