

## The Impacts of Job Satisfaction on Organizational Commitment: A Survey of Teachers in Gomal University, D. I. Khan (KPK) Pakistan

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### Abstract

The present study focuses on the impact of job satisfaction on organizational commitment. This study is a struggle in line with the researcher of the world which focus on the different predictors such as work, pay, supervision, promotion, co-worker and work-environment and their effect on the organizational commitment and overall satisfaction of teachers in Gomal university dera Ismail khan. The main objectives of the study were to explore the levels of job satisfaction and organizational commitment among the employees of a public sector organization (Gomal University, DIK) with a view to analyze the impacts of employees' satisfaction on their commitment to their work. The research hypotheses that the Independents are highly correlated with Overall Satisfaction & Organizational Commitment, the Predictors Determine Overall Satisfaction (OS) and the Predictors Explain the Organizational Commitment (OC) were tested. The population of this study consists of all the Academicians in Gomal University, DIK, and K.P.K. A sample of 124 respondents was selected using stratified sampling from the groups of professors, associate professors, assistant professors and lecturers. The regression was used for data analysis. The result shows that the correlation between the predictors (work, pay, supervision, promotion, coworker, work environment & overall satisfaction) and criterion variables (Overall Satisfaction & Organizational Commitment) are highly significant and the Predictors Determine Overall Satisfaction (OS) and also the Predictors Explain the Organizational Commitment.

### Introduction

Job satisfaction and organizational commitment are key issues both in public and private organizations. The Job satisfaction and organizational commitment issues are operating in advanced and developing countries because satisfied workers are reported as committed employees and organizational commitment is a signal for organizational output and effective operations (Robbins & Coulter, 2005). Job satisfaction is a fascinating build for scholars in considering employee conduct and attitude (Noordin & Jusoff, 2009). Contentment through the job is basically linked to organizational commitment and job satisfaction is either directly or indirectly associated with a worker's turnover intentions. Turnover intention is perhaps the good sign of upcoming turnover (Alam & Mohammad, 2010).

The most valuable assets in a society are its teachers who are expected to be the builders of a nation. Therefore, all other factors of progress are worthless without the existence of effective teachers (Noordin & Jusoff, 2009). There must be educated and skilled instructors in institutions of higher education who are provided with sufficient accommodation facilities so that they provide suitable deliberation and attention to education and research (Rehman et al., 2009). Superior employment opportunities are produced for academic and their salary scales be revised and they are given relatively fascinating salary package, in turn, to prevail over the dilemma of brain drain of educators (Manzoor et al., 2011).

The theory of job satisfaction is one of the main premeditated problems in both public and private

sector organizations (Mulinge, 2000). Moreover, there is focus on the act of the public sector in several developing states as they face a more competitive universal atmosphere (Sokoya, 2000). Similarly, it has been postulated that the low pay, limited liveness and limited chances for up gradation are uniqueness of the government sector organization which avert the most competent workforce from remain in government agencies. The outcome can be loss in production and idea in the public sector (Barrows & Wesson, 2001; Shah & Jalees, 2004). Organizations would like their employees to be pleased to become more prolific and efficient, thus research is being conducted about different size of job like, work, salary, supervision, up gradation, coworkers and the demographic impacts on the overall satisfaction of the workers (Naeem et al., 2011).

To clarify and realize the phenomenon of job satisfaction numerous theories have been recommended (Maslow, Vroom, Adams, etc.) and this exertion continues perpetually because as effects change, the old theory desires to be either customized, or replaced with a new model. Theory is the technical tools, which are used to recognize factors of job satisfaction and their mutual affairs during the stimulus and job-satisfaction procedure (Griffin, 1990:67). As the time passes the quantity of these factors changes as well as the interrelations therefore new theories come into view. Moreover, interdisciplinary nature of organization activities enables it to scrounge models and comprehension from different discipline for the managers of directorial behavior (Newstrom, 2007). Organizational Commitment refers to when an employee accepts the organization and wants to remain with it (Robbins, 1998). It is the mental states that attach the individual to the institute, a strong aspiration to remain a member of a specific organization, a person's readiness to struggle a high level of efforts and a sturdy trust and acceptance of the principles and goals of the institute (Al-Aameri, 2000; Bashir & Ramay, 2008). Improvements in loyalty levels can not only constructive behavioral effects, however, according to the current outcomes, the indirect result of augmented worker contentment as well. The results of the emotions about the job recital (organizational commitment and job satisfaction) and being in a job and institution that suit one principle and objectives (by means of job unit influence and work incentive) have an effect on intentions to give up or continue (Aydogdu & Asikgil, 2011).

### **Problem Statement**

In the educational institutions, peoples have no organizational commitment to their jobs. They are not working well and have no overall satisfaction. The experts suggest that there may be different reasons. The researchers in the world are investigating the factors that are responsible for organizational commitment and overall satisfaction. The present study is a struggle in line with the researcher of the world which focus on the different predictors such as work, pay, supervision, promotion, co-worker and work-environment and their effect on the organizational commitment and overall satisfaction of teachers in Gomal university dera Ismail Khan.

### **Objectives of the Study**

To explore the levels of job satisfaction and organizational commitment among the employees of a public sector organization (Gomal University, DIK) with a view to analyze the impacts of employees' satisfaction on their commitment to work.

### **Research Hypothesis**

Hypothesis H01: The Independents are highly correlated with Overall Satisfaction & Organizational Commitment

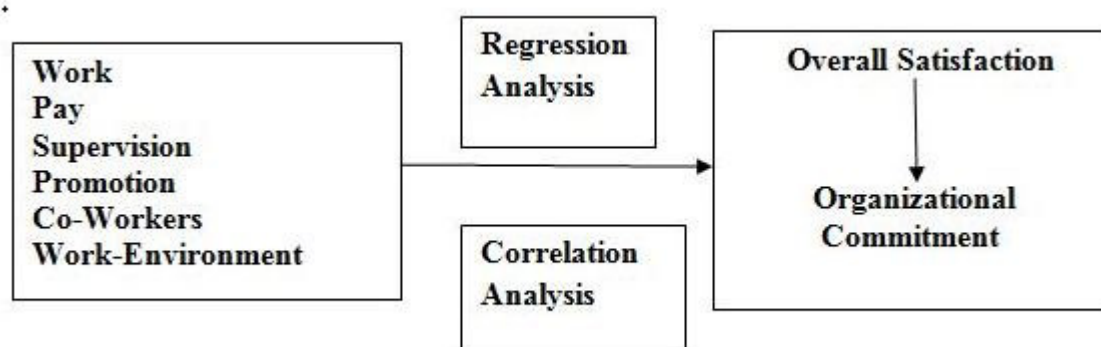
Hypothesis H02: The Predictors Determine Overall Satisfaction (OS)

Hypothesis H03: The Predictors Explain the Organizational Commitment (OC)

### **RESEARCH METHODOLOGY**

This research is based on a well-defined and structured 'research-design' or methodology. This portion includes the research design, research methods, population, sampling, data collection and analysis methods, and validity of the data and instruments.

## Theoretical framework



## Approach

Out of the five methods of data gathering, including experimental, case study, survey, archival and past data, survey, technique is the “most commonly used style of observation in social sciences (Babbie, 1993). Survey research is the greatest tools for measure attitudes and orientations in a large population (Sekaran, 1999), therefore the researcher adopted survey approach with a cross sectional study plan.

## Population and Sample

The population of this study consists of all the Academicians in Gomal University, DIK, and K.P.K. A sample of 131 respondents was selected using stratified sampling from the groups of professors, associate professors, assistant professors and lecturers. The filled and returned questionnaires were 124 thereby giving a return rate of 94%.

Statistics	Value
Standard deviation	0.71
Population	283
Standard Error	0.089
Sample Size (n)	<b>131</b>
Z-Value for 95% confidence	1.96

## Tools of Data Collection

The researcher developed questionnaire was used for data collection. This questionnaire has three parts including factors of job satisfaction, overall job satisfaction and organizational commitment. This was a 7 point Likert type scales consisting of options from strongly agree to strongly disagree. The overall and parts reliability of the scale is as given below:

	Instruments	Items	N	Alpha
1	Questionnaire	36		0.961
1	Factors of JS	24	124	0.945
2	Overall Job Satisfaction (OJS)	6	124	0.721
3	Organizational Commitment (OC)	6	124	0.786

## Data Analysis

Correlation and Regression were used for the purpose of data analysis.

## DATA COLLECTION AND ANALYSIS

*Hypothesis #1: The Independents are highly correlated with Overall Satisfaction & Organizational Commitment.*

Table 4.1 Correlations

		WRK	PAY	SUP	PRO	COW	WKE	OS
PAY	r	.659**	1					
	p	.000						
SUP	r	.344**	.561**	1				
	p	.000	.000					
PRO	r	.402**	.680**	.601**	1			
	p	.000	.000	.000				
COW	r	.525**	.709**	.506**	.694**	1		
	p	.000	.000	.000	.000			
WKE	r	.452**	.712**	.767**	.776**	.717**	1	
	p	.000	.000	.000	.000	.000		
OS	r	.559**	.818**	.625**	.771**	.791**	.791**	1
	p	.000	.000	.000	.000	.000	.000	
OC	r	.702**	.706**	.698**	.778**	.769**	.843**	.766**
	p	.000	.000	.000	.000	.000	.000	.000

**Analysis**

The correlation between the predictors (work, pay, supervision, promotion, coworker, work environment & overall satisfaction) and criterion variables (Overall Satisfaction & Organizational Commitment) are highly significant with the strength of association ranging from 0.559 to 0.843. Thus the hypothesis of associations between the independent and dependent variables is substantiated.

Determination of Overall Satisfaction by Predictors

*Hypothesis # 2: The Predictors Determine Overall Satisfaction (OS)*

Table 4.2 Regression Models Summary

Model	R	R Square	Adjusted R Square	Std. E. of the Estimate	F	Sig.
1	.818a	.668	.666	.66019	245.998	.000a
2	.871b	.758	.754	.56635	189.520	.000b
3	.891c	.793	.788	.52586	153.340	.000c
4	.898d	.806	.799	.51192	123.256	.000d

Table 4.2a Coefficients of Regression

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
4	(Constant)	1.141	.215		5.315	.000
	Pay	.309	.055	.363	5.663	.000
	Co-Workers	.233	.059	.258	3.966	.000
	Promotion	.118	.043	.190	2.763	.007
	Work Environment	.141	.051	.200	2.761	.007

Table 4.2b Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
4	Work	.031d	.566	.572	.052	.547
	Supervision	.059d	.923	.358	.085	.405

- a. Predictors in Model-1: (Constant), Pay
- b. Predictors in Model-2: (Constant), Pay, Co-Workers
- c. Predictors in Model-3: (Constant), Pay, Co-Workers, Promotion
- d. Predictors in Model-4: (Constant), Pay, Co-Workers, Promotion, Work Environment
- e. Dependent Variable: *Overall Satisfaction*

**Analysis**

The results in tables (4.2, 4.2a & 4.2b) show that four models have emerged with R2 of 0.806 meaning that predictors explain 81% of the variation in the dependent variable of 'Overall Satisfaction.' It is notable that only four predictors (Pay, Co-Workers, Promotion, & Work-Environment) have appeared significant with p-values of 0.000, 0.000, 0.007, & 0.007 respectively. However, the surprising result is that two primary variables (Work &

Supervision) have been excluded from the model as these two are insignificant with p-values of 0.547 & 0.405 that is far greater than the critical value of 0.05. Since there is very powerful R2 and four out of six predictors are playing significant role therefore the hypothesis is substantiated.

Determination of OC by the Predictors

*Hypothesis # 3: The Predictors Explain the Organizational Commitment (OC)*

Table 4.3 Models Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	F	Sig.
1	.843a	.711	.709	.63708	300.060	.000a
2	.917b	.840	.838	.47558	318.180	.000b
3	.931c	.867	.864	.43548	261.096	.000c
4	.937d	.878	.874	.41955	213.549	.000d
5	.943e	.889	.885	.40099	189.473	.000e
6	.948f	.899	.894	.38495	173.162	.000f

Table 4.3a Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig
6	(Constant)	-.369	.229		-1.607	.111
	Work Environment	.258	.047	.354	5.548	.000
	Work	.579	.052	.439	11.028	.000
	Promotion	.167	.032	.261	5.173	.000
	Pay	-.209	.047	-.237	-4.446	.000
	Co-Workers	.182	.045	.195	4.035	.000
	Supervision	.114	.034	.153	3.322	.001

Table 4.3b Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
6	Overall Satisfaction	-.085f	-1.278	.204	-.118	.193

- a. Predictors in Model 1: (Constant), WKE.
- b. Predictors in Model 2: (Constant), WKE, WRK.
- c. Predictors in Model 3: (Constant), WKE, Work, PRO.
- d. Predictors in Model 4: (Constant), WKE, Work, PRO, Pay
- e. Predictors in Model 5: (Constant), WKE, Work, PRO, Pay, COW
- f. Predictors in Model 6: (Constant), WKE, WRK, PRO, PAY, COW, SUP
- g. Predictors in Dependent Variable: *Organizational Commitment*

### Analysis

The above tables present six models where 6<sup>th</sup> model give R2 of 0.899 thereby predicting 89% of change in 'Organizational Commitment.' Six out of seven variables (Work Environment, Work, Promotion, Pay, Co-Workers, & Supervision) are significant with p-values of 0.000, 0.000, 0.000, 0.000, 0.000, & 0.001 respectively. However, 'Overall Satisfaction (p-value=0.193)' is not related to the organizational commitment. There is a powerful R2 and six out of seven predictors are playing significant role in the regression process thus, hypothesis is accepted.

### Results and Discussions

The correlation between the predictors (work, pay, supervision, promotion, coworker, work environment & overall satisfaction) and criterion variables (Overall Satisfaction & Organizational Commitment) are highly significant with the strength of association ranging from 0.559 to 0.843. Thus the hypothesis of associations between the independent and dependent variables is substantiated.

The results in tables (4.3, 4.3a & 4.3b) show that four models have emerged with an R2 of 0.806 meaning that predictors explain 81% of the variation in the dependent variable of 'Overall Satisfaction.' It is notable that only four predictors (Pay, Co-Workers, Promotion, & Work-Environment) have appeared significant with p-values of 0.000, 0.000, 0.007, & 0.007 respectively. However, the surprising result is that two primary variables (Work & Supervision) have been excluded from the model as these two are insignificant with p-values of 0.547 & 0.405 that is far greater than the critical value of 0.05. Since there is a very powerful R2 and four out of six predictors are playing a significant role therefore the hypothesis is substantiated.

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The results of the present study are sported by many studies. The organizational commitment and job satisfaction are internationally premeditated factors in organization research (Tsui & Cheng, 1999; Park et al, 2005). These factors become more important in academic work environments, especially universities. On the whole performance of institution of higher educations depends upon their instructors and eventually their degree of organizational commitment and job satisfaction. Therefore perceptive the behaviors and attitudes of teachers desire more concentration in higher education institutions (Bodla & Naeem, 2008a; Bodla & Naeem, 2008b). The instructors become fulfilled and devoted to their universities, and to what extent different things donate to their degree of loyalty, is actually significant to rising up their performance (Malik, 2010). The job satisfaction is considered as a main catalytic representative global in increasing the value of teaching (Aktaruzzam et al., 2011).

A large number of studies are taking place to investigate the issue of job satisfaction and commitment of top management or executives, managers, supervisors, teachers and the staff in different countries, organizations and situations (Rehman et al., 2009). The findings from developed and developing nations match in several aspects, but they also differ in many dimensions (Nicolescu et al., 2009). For example, in advanced countries, high level, motivation factors are more responsible for job satisfaction and organizational commitment than in the developing states where these positive attitudes still depend more heavily on the primary and middle factors of motivation (Naeem et al., 2011).

### Recommendations

1. Theoretical Knowledge of Human Behavior: Every manager and educational administrator must have a deeper understanding of both content and process theories of employee motivation to handle human issues properly.
2. In-depth & Regular Behavioral Analysis: The job satisfaction of Academicians should be handled categorically in the sense that the role of every single factor of job satisfaction should be analyzed separately as well collectively. Decisions based on the average scores on different factors of job satisfaction can be misleading
3. Pay for performance: In public sector pay and promotion is based not on performance rather on seniority, which is de-motivating for high performers. There is the need for performance-based pay as it has been found connected with employees' productivity.
4. The factors of job satisfaction like impartial rewards and encouraging work circumstances and member workers are connected to being treated moderately and with esteem (Wiedmer, 1998). Also giving response and opportunities for lucidity, and discuss managerial actions with subordinates (Rocca & Kostanski, 2001).
5. Role in Decision Making: The research supports the view that, under proper conditions, employee participation in departmental decisions contributes to higher unit performance as well as group satisfaction (Beach, 1998:341; Perry et al., 2006).
6. The employees should be given the diversity of work, Job autonomy, and institutional support which are the essential determinant of worker's job satisfaction.

### Reference

1. Aktaruzzam, M., Clement, K.C., & Hasan, F.M. (2011). Job satisfaction among teachers of technical training centers (TTCs.) in Bangladesh. *Academic Research International*, 1(2).
2. Al-Aameri, S.A. (2000). Job satisfaction and organizational commitment for nurses, *Saudi Medical Journal*, 21(6):531-535.
3. Alam, M.M., & Mohammad, F.J. (2010). Level of job satisfaction and intent to leave among Malaysian nurses. *Business Intelligence Journal*, 3(1).
4. Aydogdu, S., & Asikgil, B. (2011). An Empirical Study of the Relationship among Job Satisfaction, Organizational Commitment and Turnover Intention. *International Review of Management and Marketing*, 1(3):43-53.
5. Babbie, E. (1993). *The practice of social research*. 7th ed. Wordsworth Publishing Co.
6. Barrows, D., & Wesson, T. (2001). A comparative analysis among public versus Private sector professionals, *the public sector Innovation Journal*, 5(1).
7. Bashir, S., & Ramay, M.I. (2008). Determinants of Organizational Commitment A Study of Information Technology Professionals in Pakistan Mohammad Ali Jinnah University, Islamabad. Institute of behavioral and



- applied management. 9(2). Available at: [http://www.ibam.com/pubs/jbam/articles/Vol9/no2/JBAM\\_9\\_2\\_7.pdf](http://www.ibam.com/pubs/jbam/articles/Vol9/no2/JBAM_9_2_7.pdf). Retrieved December 29, 2011.
8. Beach, D. (1998). *Personnel/ the Management of people at work*. Macmillan Publishing Company New York, USA.
  9. Bodla, M.A., & Naeem, B. (2008a). What Satisfies Pharmaceutical Sales force in Pakistan? *The International Journal of Knowledge, Culture, & Change Management*, 8.
  10. Bodla, M.A., & Naeem, B. (2008b). Relevance of Herzberg's Theory to Pharmaceutical Sales force in Pakistan. *The International Journal of Knowledge, Culture, & Change Management*, 8.
  11. Malik. (2010). Motivation factors at university of Balochistan. *Serbian Journal of Management*.
  12. Manzoor, M.U., Usman, M., Naseem, M.A. Shafiq, M.M. (2011). A Study of Job Stress and Job Satisfaction among Universities Faculty in Lahore, *Pakistan Global Journal of Management and Business Research*, Volume 11 Issue 9 Version 1.0 September 2011
  13. Mulinge. M. M. (2000). Toward an Explanation of Cross-Sector Differences in Job Satisfaction and Organizational Attachment among Agricultural Technicians in Kenya. *African Sociological Review* .4(1):55-73. Available at: [http://www.codesria.org/Links/Publications/asr4\\_1full/mulinge.pdf](http://www.codesria.org/Links/Publications/asr4_1full/mulinge.pdf). Retrieved February 17, 2012.
  14. Naeem, H., Sentosa, I., Nejatian, H., & Piaralal, K.S. (2011). Job satisfaction of civil servants (an evidence from the Republic of Maldives). *International conference on business and economic research*.
  15. Newstrom, J. W. (2007). *Organizational behavior: Human behavior at work*. Tata McGraw-Hill Publishing C. Ltd. Pp. 123
  16. Nicolescu, L., Dima, M.A., Anghel, F., & Păun, C. (2009). An analysis of job satisfaction at the academic level: a romanian case study. *Global Journal of Business Research*, 3(1). Retrieved March 17, 2012.
  17. Noordin, F, Jusoff, K (2009) Levels of Job Satisfaction amongst Malaysian Academic Staff, *Asian Social Science*, 5(5). Retrieved February 17, 2012.
  18. Park, S., Henkin, A.B., & Egley, R. (2005). Teacher team commitment, teamwork, and trust: exploring associations, *Journal of Educational Administration*, 43(5), 462-79.
  19. Perry, J.L., Debra, M., & Paarlberg, L. (2006). Motivating Employees in a New Governance Era: The Performance Paradigm Revisited. *Public Administration Review*. 66(4). Available at: [www.interscience.wiley.com/journal/118561412](http://www.interscience.wiley.com/journal/118561412) Retrieved February 17, 2012.
  20. Rehman, S., Gujjar, A.A., Khan, S.A., & Iqbal, J. (2009) Quality of Teaching Faculty in Public Sector Universities of Pakistan as Viewed by Teachers Themselves. *International Online Journal of Educational Sciences*, 1 (1), 48-63. Available at: [www.iojes.net](http://www.iojes.net). Retrieved February 17, 2012.
  21. Robbins, S. (1998). *Organizational Behavior: Contexts, Controversies, Applications*; Prentice- Hall, USA.
  22. Robbins, S.P., & Coulter, M. (2005). *Management*. Pearson Education. Inc; and Dorling Kindersley Publishing Inc, India.
  23. Rocca, A.D., & Kostanski, M. (2001). Burnout and job satisfaction amongst Victorian secondary school teachers: A comparative look at contract and permanent employment, Discussion Paper ATEA Conference. Teacher Education: Change of Heart, Mind and Action, 24-26 September, Melbourne Australia.
  24. Sekaran, U. (1999). *Research methods for business: A skill-building approach*. 3rd ed. John Wiley & Sons.
  25. Shah, S., & Jalees, T. (2004). An analysis of job satisfaction level of faculty members at the University Of Sindh Karachi Pakistan. Shaheed Zulfiqar Ali Bahutto Institute of science and technology. *Journal of Independent studies and Research (JISR) PAKISTAN*. 2(1):26-30. Available online at: <http://jisr.szabist.edu.pk/jsp/Journal> Retrieved July 12, 2012.
  26. Sokoya, S.K. (2000). Personal predictors of job satisfaction for the public sector manager: Implications for Management practice and development in a developing Economy, *The journal of Business in developing nation*. 4(1): Available online at: ([www.ewp.rpi.edu/jbdm](http://www.ewp.rpi.edu/jbdm)) accessed on 4th, March, 2009
  27. Tsui, K.T., & Cheng, Y.C. (1999). School organizational health and teacher commitment: a contingency study with multi-level analysis. *Educational Research and Evaluation*, 5(3), 249-68.
  28. Weidmer, M.S. (1998). An Examination of factors affecting employee satisfaction Department of Psychology Missouri Western State University USA Available at: ([cronk@missouriwestren.edu](mailto:cronk@missouriwestren.edu)) accessed on 16th, March, 2009.

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