

Stress Management Analysis through Mediating Effect

M.Muthumeenakshi, P.Gohila, S.Amilan, P.Muralikrishna

Abstract: Baron and Kenny (1986) proposed a four step approach in regression analysis to find out the mediating effect of one variable on other variables. The mediation model helps to examine the observed relationship between dependent and independent variables through the intervene variable known as mediator. Mediating variable explores the known relationship by which one variable influences the other variable through intervening variable. To make it clear, the real data is used for the application of mediating effect in regression analysis on stress management. In the point of application, the study has taken three variables, Organizational Climate (OC) as mediating variable, Person Organization Fit (Po-Fit) as independent variable and Organizational Role Stress (ORS) as dependent variable. The data has been collected from the employees of Original Equipment Manufacturing Units (OEM), Tamil Nadu. The result concluded that PO-Fit influenced ORS with partial mediation of Organizational Climate.

Index Terms: Organizational Climate, Person Organization Fit, Organizational Role Stress, Mediating variable

I. INTRODUCTION

Stress Management is a complex task since it affects the life of human beings directly and indirectly. Frequent change of Organization Climate creates more stress to the employees in an organization. In general, the output of the employees plays an important role in the performance of organizations. The optimal output can be reached only if the employees are stress free or less stress. To reduce the stress level of employees, the organizations are adopting many approaches. One of the important approaches is the Person Organization Fit (PO-Fit) model. At the time of recruitment itself, this measure is used to test the fitness of the person towards the organization. This paper integrates the organizational climate and the PO-Fit model on the stress management. Here, the researcher intends to analyze the influence of Po-Fit with the mediation effect of Organizational Climate on Organizational Role Stress. The Step by Step Regression analysis by Baron and Kenny's (1986) using mediation effect is adopted in this study.

Revised Manuscript Received on 30 May 2019.

* Correspondence Author

M Muthumeenakshi*, Department of Commerce, School of Social Sciences and Languages, Vellore Institute of Technology, Vellore. India.

P Gohila, Department of Commerce, Kathir College of Arts and Science, Coimbatore India.

S Amilan, Department of Commerce, Karaikkal Centre, Pondicherry University Karaikkal. India.

P Muralikrishna, Department of Mathematics, Muthurangam Government Arts College, Vellore. India.

© The Authors. Published by Blue Eyes Intelligence Engineering and Sciences Publication (BEIESP). This is an [open access](https://creativecommons.org/licenses/by-nc-nd/4.0/) article under the CC-BY-NC-ND license <http://creativecommons.org/licenses/by-nc-nd/4.0/>

II. LITERATURE REVIEW

This section deals the earlier literature related to this study. Dorota et al. (2017) studied the socio-demographic predictors of person-organization fit. P-O fit was analyzed by Czarnota-Bojarska's Person-Organization fit questionnaire. It was divided into two dimensions: supplementary and complementary scale. The data was collected from 600 polish workers between the age group of 19 to 65. The result concluded that complementary fit was satisfying both men and women workers in the prediction of Po-Fit. Osman Uslu et al. (2016) studied the effect of Person-organization fit and Person-job fit on individual performance. Person intention to quit job and perceived individual performance were used to compare the relationship between the variables. Findings of the result showed that POF and PJF were not significantly differ with person intention to quit and perceived individual performance. It is concluded that POF and PJF equally affected the individual performance.

Ryan Giffen (2015) examined the comparison among hotel organizational culture and hotel employee attitude and their association to person organization fit. The result concluded that good understanding of workers increased the sales turnover while enlighten the Po-Fit.

Muhammad et al. (2013) explored the association between Person-Job fit, Person-Organization fit and Organizational Citizenship behaviour (OCB), deviant behaviour (DB). Correlation between OCB with P-O fit and P-J fit found as significant but the correlation co-efficient between OCB and DB was insignificant.

III. OBJECTIVES OF THE PRESENT STUDY

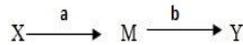
In this study, the primary focus is to analyze the influence of Po-Fit on ORS with the mediating effect of OC.

A. Methodology

Quantitative approach has been adopted with the sample size of 400 respondents. The respondents were selected from Automobile Industries of Tamil Nadu using convenient sampling method. Initially, 450 questionnaires were distributed to the employees of Automobile Industries, Tamil Nadu. The incomplete questionnaires were dropped out. Finally, the sample size is rounded off to 400. The analysis of the paper is divided into two sections, such as, Model framing, hypotheses testing using four step regression analysis of mediation.

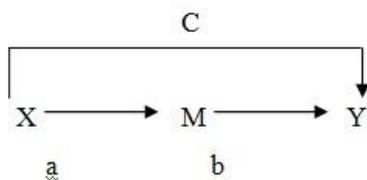
B. Model Framing - Influence of PO-Fit on ORS with the Effect of Mediating Variable OC

In this study, the researcher analyzes the influence of PO-Fit on ORS with the effect of OC. M is the mediating variable. It expounds the relationship between predictor X and Y. The mediating variable can be showed in the following way:



The equation explains the path a and b which are called straight effect. The equation in which X directs to Y through M, is described as the mediation cause. The mediation effect signifies the portion of the association between X and Y through mediation 'M'.

To test the mediation effect, Baron and Kenny's (1986) Four Step Approaches has been applied. Regression analysis and significance of the coefficients are analyzed using the model and it is depicted here:



Here,

- X = Person Organization Fit – independent variable
- Y = Organizational Role Stress – dependent variable
- M = Organizational Climate – mediating variable
- C = Relationship between X and Y

The following figure represents Baron and Kenny's (1986) four step approach model on Stress Management.

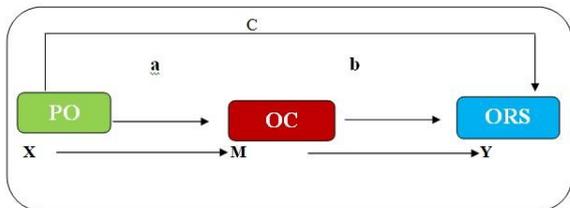


Fig. 1: Mediator Variable Model

The application procedure of the model is explained below. It helps to determine whether the effect of mediating variable has occurred.

Table 1: Model of Testing Mediating Variable with Regression analysis

STEP	ANALYSIS	EQUATION	MODEL
1	Examine a simple regression analysis with PO fit predicting ORS to test for path c.	$Y = \beta_0 + \beta_1 X + e$	
2	Examine a simple regression analysis with PO fit predicting OC to test for path a.	$M = \beta_0 + \beta_1 X + e$	
3	Examine a simple regression analysis with OC predicting ORS to test for path b alone.	$Y = \beta_0 + \beta_1 M + e$	
4	Examine a multiple regression analysis with PO fit and OC predicting ORS.	$Y = \beta_0 + \beta_1 X + \beta_2 M + e$	

Source: New Som USP 654 Data Analysis II

H0: Person organization fit does not significantly influence the organizational role stress with relates to organizational climate'.

The test hypotheses of the analysis are as follows

- H0a = PO-FIT does not influence the ORS
- H0b = PO-FIT does not influence the OC
- H0c = OC does not influence the ORS
- H0d = PO-FIT and OC does not predict the ORS

Before applying the mediator (or) intervening variable some assumptions are to be tested (Baron and Kenny).

- 1) Testing of Auto Correlation
- 2) Testing of Normality using Histogram and PP Plot Figures

C. Testing of Autocorrelation

The Durbin Watson measurement is an esteem that checks for auto correlation in the residuals from a factual regression analysis. The Durbin-Watson statistic is constantly between 0 and 4.

Table 2: Testing of Autocorrelation between variables

Steps	Analysis	Durbin-Watson
1.	PO-FIT and ORS	1.855
2.	PO-FIT and OC	2.011
3.	OC and ORS	1.677
4.	PO-FIT and OC ON ORS	1.893

Source: SPSS Output

The table 2 explains the outcome of Durbin-Watson auto correlation statistics. Here the results showed that the Durbin-Watson values between variables are nearby 2 and above 2, which means that there is no autocorrelation between the samples.

D. Testing of Normality using Histogram and P-P Plot

P-P Plot and Histogram represent the normality test for this analysis. Histogram gives a sign of how the sample can predict a normal distribution in the whole population. P-P plot is measured to test the normality in the distribution of data.



The Plots are immensely used to assess the Skewness of the distribution.

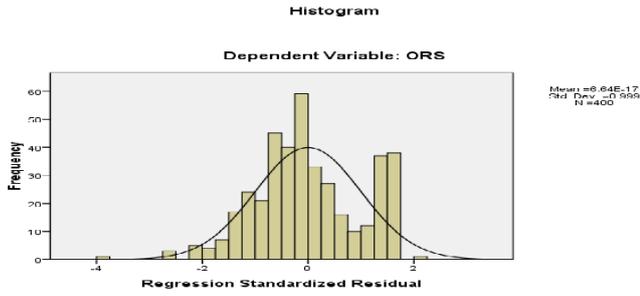


Fig. 2 Normality Distribution between PO-FIT and ORS

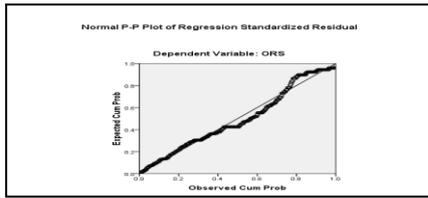


Fig. 3 P-P Plot between PO-FIT and ORS

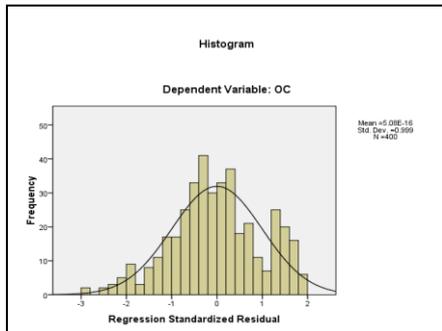


Fig. 4 Normality Distribution between PO-FIT and OC

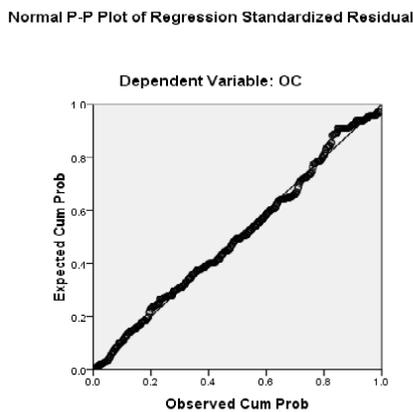


Fig. 5 P-P Plot between PO-FIT and OC

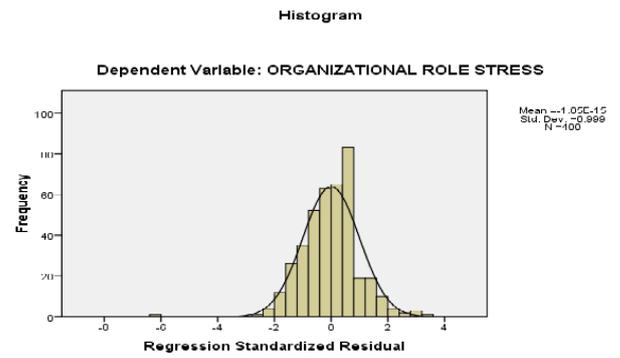


Fig. 6 Normality Distribution between OC and ORS

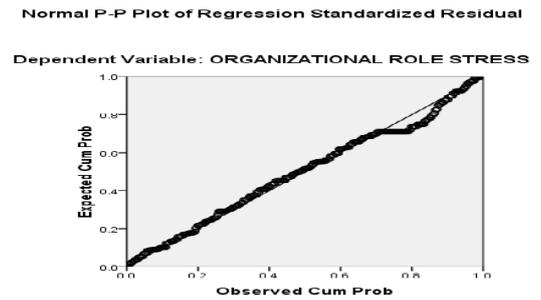


Fig. 7 P-P Plot between OC and ORS

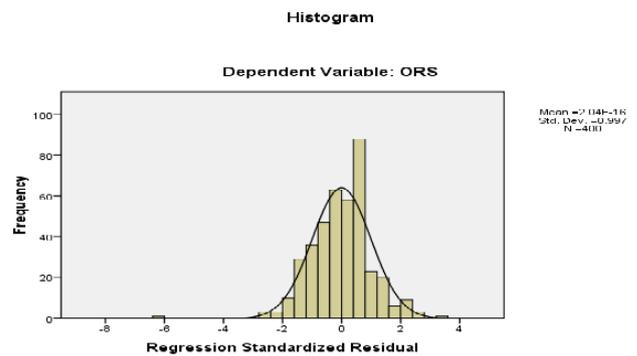


Fig. 8 Normality Distribution between PO FIT and OC on ORS

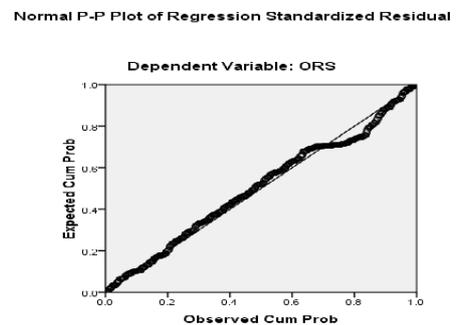


Fig. 9 P-P Plot between PO FIT and OC on ORS

The Figures from 2 to 9 explained the normality distribution of the variables. The bell shaped curve in histogram and data close to the diagonal represented that the data are in the range of normal distribution.

IV. REGRESSION ANALYSIS

STEP 1: PO-FIT AND ORS

MODEL	R	R SQUARE	ADJUSTED R SQUARE	STD. ERROR OF THE ESTIMATE	DURBIN-WATSON
1	0.353	0.124	0.122	3.379	1.855

Table3: Model Summary of PO-Fit on ORS

INDEPENDENT VARIABLE	COEFFICIENTS			T	SIG.
	UN STANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS		
	B	STD. ERROR	BETA		
(CONSTANT)	9.961	1.914		5.203	0.000
PERSON ORGANIZATION FIT	0.543	0.072	0.353	7.516	0.000

Source: SPSS Output

Dependent Variable: Organizational Role Stress

$$Y = \beta + \beta X + e$$

$$ORS = \beta + \beta(\text{PO-FIT}) + e$$

$$ORS = 9.961 + 0.543 X + 0.072$$

ANOVA						
MODEL		SUM OF SQUARES	DF	MEAN SQUARE	F	SIG.
1	REGRESSION	644.926	1	644.926	56.490	0.000
	RESIDUAL	4543.85	398	11.417		
	TOTAL	5188.77	399			

Source: SPSS Output

R represents the correlation co-efficient with the value falls between -1 and +1. Here R value is 0.353. It shows that there is a positive correlation between the PO-Fit and ORS.

R Square signifies the coefficient determination and how much variance is accounted by the predictors between 0 and 1. R Square value is 0.124. It means 12.4% variation is shown in the Person Organization Fit of the employees. Adjusted R Square value is close to the value of R square. The difference identified between R square and Adjusted R square is 0.002(0.124-0.122=0.002) which implies that the data in the model is from population instead of sample and it would represent around 0.2% less changes in the result. The P value represented that there is a significant influence of Po- Fit on ORS.

STEP 2: PO-FIT AND OC

Table4: Model Summary of PO-Fit on OC

INDEPENDENT VARIABLE	Coefficients			T	Sig.
	Un standardized Coefficients		Standardized Coefficients		
	B	STD. ERROR	BETA		
(CONSTANT)	109.336	25.725		4.25	0
PERSON ORGANIZATION FIT	8.6	0.971	0.406	8.858	0

MODEL	R	R SQUARE	ADJUSTED R SQUARE	STD. ERROR OF THE ESTIMATE	DURBIN-WATSON
2	0.456	0.215	0.183	4.407	2.011

Source: SPSS Output

Dependent Variable: Organizational Climate

$$M = \beta + \beta X + e$$

$$M = \beta + \beta(\text{PO-FIT}) + e$$

$$M = 109.336 + 8.60X + 0.971$$

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
2	Regression	161783.4	1	161783.4	78.469	0.000
	Residual	820578.3	398	2061.755		
	Total	982361.7	399			

Source: SPSS Output

The R value is 0.456. It shows that there is a positive correlation between the PO-Fit and OC. R Square value is 0.215. It means 21.5% variation is shown in the person organization fit of the employees. The result showed that the person organization fit has significant relationship with organizational climate. The result of ANOVA (F=78.469, P=.000) inferred that person organization fit influenced organizational climate significantly at 1percent level significance.

STEP 3: OC AND ORS

The following analysis examined the simple regression with OC on ORS.

Table 5: Model Summary of OC on ORS

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
3	0.702	0.492	0.478	25.708	1.677

Source: SPSS Output

INDEPENDENT VARIABLE	COEFFICIENTS			T	SIG.
	UN STANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS		
	B	STD. ERROR	BETA		
(CONSTANT)	71.754	8.818		8.137	0.000
Organizational Climate	0.510	0.026	0.702	19.647	0.000

Dependent Variable: Organizational Role Stress

$$Y = \beta + \beta X + e$$

$$Y = \beta + \beta(\text{OC}) + e$$

$$Y = 71.754 + 0.510X + 0.026$$

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
3	Regression	255111.23	1	255111.239	385.99	0.000
	Residual	263048.35	39	660.926	1	
	Total	518159.59	39			

Source: SPSS Output



The R value is 0.702. It shows that there is a positive correlation between the OC and ORS. R Square value is 0.492. It means 49.2% variation is shown in the OC on ORS. The output inferred that the organizational climate has good relationship with organizational role stress. The $F=385.991$ and $P=.000$ values inferred that there is a significant influence of organizational climate on organizational role stress. It is concluded that OC affects the organizational role stress.

STEP 4: PO-FIT AND OC ON ORS

The prediction of ORS by Po-Fit through OC is analyzed in this section.

Table 6 Model Summary of PO FIT and OC on ORS

Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Durbin-Watson
4	0.718	0.515	0.513	25.438	1.893

COEFFICIENTS					
INDEPENDENT VARIABLE	UN STANDARDIZED COEFFICIENTS		STANDARDIZED COEFFICIENTS	T	SIG.
	B	STD. ERROR	BETA		
(CONSTANT)	59.088	14.735	0.019	4.010	0.000
PO-FIT	0.290	0.595	0.710	0.487	0.626
OC	0.521	0.028		18.56	0.000

Predictors: OC, PO-FIT; Dependent Variables: ORS

$$Y = \beta_0 + \beta_1 X + \beta_2 M + e$$

$$Y = \beta_0 + \beta_1 (PO-FIT) + \beta_2 (OC) + e$$

$$ORS = 59.088 + 0.290X + 0.521M + e$$

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
4	Regression	272947.8	2	136473.90	210.906	0.000
	Residual	256891.7	397	647.083		
	Total	529839.5	399			

Source: SPSS Output

In this fourth model R value is 0.718. It confirmed that there is a positive correlation between the PO-Fit and OC. R Square value is 0.515. It means 51.5% variation is shown in the Person Organization Fit and OC on ORS. Adjusted R square value is 0.513 ($0.515 - 0.513 = 0.002$) which implied that data obtained from population instead of sample, it would represent around 0.2% less changes in the outcome. The P value reflects the influence of Organizational Climate and Person Organization Fit on organizational role stress. In other words, PO-Fit and OC predicted the ORS at 1 per cent level of significance. The R-square explained that organizational climate and person organization fit influenced the organizational role stress at 51.3 percent.

As per Baron and Kenny (1986) approach, if the dependent variable influences the independent variables significantly then there exists a partial mediation effect. In this study also it is proved that Po-fit influenced ORS with the partial mediation effect of OC.

V. CONCLUSION

Mediating factor in regression analysis helps to understand the effect of mediation in clear terms. This study explains the influence of PO-FIT on Organizational Role Stress (ORS) with the effect of Organizational Climate (OC). Based on Baron and Kenny Mediating model, the regression analysis is carried out. The assumptions of the mediating effect in the regression analysis were also tested for further movement of research work. The results of the analysis showed that there is an influence of PO-Fit on Organizational Role Stress with the effect of Organizational

Climate. Here, the Organizational Climate partially mediates the ORS. It is concluded that Organizational Climate plays a role in the reduction of Organizational Role Stress with the application of PO-Fit.

REFERENCES

1. Ali Al Nima, Patricia Rosenberg, Trevor Archer, Danilo Garcia, Anxiety, Affect, Self-Esteem, and Stress: Mediation and Moderation Effects on Depression, *PLOS*, September 9, 2013.
2. Ardic, K., Oymak, O., Ozsoy, T. and Uslu, O. 'Comparing Person Organization Fit and Person Job Fit', *Journal of Economics and Management* 25, 2016, pp. 5-13.
3. Baron RM, Kenny DA, 'The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *J Pers Soc Psychol* 51: , 1986, pp. 1173-1182.
4. Giffen, R. (2015), 'Organizational Culture and Personality type: Relationship with Person-Organization Fit and turnover intention', Graduate Theses and Dissertations IOWA State University.
5. Jawad, M., Tabassum, T. M., Raja, S., & Abraz, A. Study on Work Place Behaviour: Role of Person-Organization Fit, Person-Job Fit & Empowerment, Evidence from Pakistan. *Journal of Business and Management Sciences*, 1(4), 2013, pp. 47-54.
6. Tugal, F. N. and Kilic, K. C., 'Person - Organization Fit: It's Relationships with Job Attitude and Behaviours of Turkish Academicians', *International Review of Management and Marketing* 5, 2015, pp. 195-202.
7. Farooqui, M. S. and Nagendra, A., 'The Impact of Person Organization Fit on Job Satisfaction and Performance of the Employees', *Procedia Economics and Finance* 11, 2014, pp. 122-129.
8. Merez-Kot, D. and Andysz, A., 'Socio-Demographic Predictors of Person-Organization Fit', *International Journal of Occupational Medicine and Environment Health* 30(1), 2017, pp. 133-149.
9. Osman Uslu and Emrah Özsoy (2016), 'Comparing person organization fit and person job fit', *Journal of Economics and Management*, 25 (3), 2016, pp. 5-12.
10. Sutarjo, A., 'Ten Ways of Managing Person-Organization Fit (P-O Fit) Effectively: A Literature Study', *International Journal of Business and Social Sciences* 2, 2011, pp. 226-233.
11. Muhammad Jawad, Tahira Malik Tabassum, Sobia Raja, Aneela Abraz, 'Study on Work Place Behaviour: Role of Person-Organization Fit, Person-Job Fit & Empowerment, Evidence from Pakistan', *Science and Educational Publishing*, 1(4)

AUTHORS PROFILE



Working as Assistant Professor, Department of Commerce, Kathir College of Arts and Science, Coimbatore. She has finished her Ph.D in VIT, Vellore. She has attended many seminars and workshops. She published Articles in Scopus indexed Journal. She is expert in Human resource Management and organizational Behaviour



Working as Assistant Professor (Sr.), Department of Commerce, VIT, Vellore. She has finished her Ph.D in the area of Finance, Alagappa University. She is having eight years of Teaching experience. Guiding for Ph.D Scholars. She has published more than 20 Articles. She has organized National Conference, Seminars, and Workshops. Her area of specialization is finance, Human Resource, Banking, Accounting and Fuzzy Decision Making.



Assistant Professor, Department of Mathematics, Muthurangam Govt. Arts College, Vellore. Having 15 years of Teaching and Research experience. He has published more than twenty Articles in Scopus indexed journals. He is guiding for Ph.D research Scholars in Mathematics. He is specialized in Fuzzy Mathematics and Management Decision Making.



Professor & Head, Department of Commerce, Karaikkal Centre, Pondicherry University. Having 20 years of Teaching and Research experience. He has published more than twenty Articles in reputed journals. His research scholars are working in various distinguished institutions. His areas of specialization are International Finance, Portfolio Management, Quantitative Techniques, Financial Services and Fore Management.

