

# How the Effect of Demographic Factors on Employee's Workplace Personality is Mediated by Locus of Control & Moderated by Job Demands and Resources

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## ABSTRACT

The dynamics of employee's workplace personality traits and correlates has always been an important area of behavioural research. While more studies have focused on effect of personality traits on different performance related outcomes, a relatively fewer number of studies have focused on how personality is impacted by other important variables. The aim of the present study is to examine the role of professional demographic factors namely level of education, role played in the organization & years of experience, as predictors of workplace personality. This study further examines the mediating effect of employee's locus of control and also the moderating effect of job demands and resources on this predictability. Results reveal that the demographic variables can significantly predict employee's workplace personality. Locus of control partially mediates the effect of demographics on personality. However moderating effect of job demand and resources, for this sample is largely insignificant.

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## 1. Introduction

Personality is a multidimensional construct that include cognitive, dispositional and behavioural traits, the amalgamation of which is unique for every individual. Individuals vary from one another in terms of their personalities. Thus workplaces are characterized by the simultaneous existence of employees with wide array of personalities. An employee's personality traits are to great extent determinants of his interactions in the workplace, drive for achievement, motivation and overall satisfaction. Hence personality is considered as one of the most important constructs in organizational psychology. Workplace personality and its effects on various performance related outcomes have been analyzed quite a number of times. However a relatively fewer studies have focused on how workplace personality also gets affected by more fundamental predictors like the demographic variables etc. This study is an attempt to evaluate the role of professional demographic variables like the educational level, role served in an organization and years of experience in predicting workplace personality traits and also to explore if employee's locus of control mediates this effect. These study further probes into the possible moderation effects of job demand and resources on this predictability.

## 2. Literature Review

The role of personality, have time and again been reviewed as one of the determinants of employee behaviour and performances at workplace (Ashton, 1998). Different dimensions of personality have been associated with employee motivation, leadership traits, employee productivity, work engagement and various other important organizational outcomes (Barrick & Mount, 1991). Researches have proved that personality, despite having some core and stable features, can undergo changes (Allport 1936). Generally the innate dimensions of personality that are genetically inherited tend to be more stable. However there is another part of personality

that, under the influence of environmental, biographical and situational factors, may change with time. Based on existing theories on personality and empirical researches, researchers have tried to address many important queries regarding personality and its correlates. Some of these identified correlates are demographical, some are cognitive (Murdock & Bridgett, 2015) while some personality correlates have been associated with different performance outcomes. In this respect the role of professional demographical factors, especially the age, level of education and the role that an individual plays in an organization (managerial or non managerial) in predicting workplace personality traits, evoke curiosity. Analysis of a large self reporting survey conducted by Goldberg et al. (1997) reveal most demographic- personality associations are of trivial size, except for age and conscientiousness and education and intellectuality. However these associations were also found to be only moderate.

Association of personality traits with work variables, namely job demand and resources have been explored in some studies. For example, Bakker & Demerouti (2007) have shown that, some of the personality traits like neuroticism and extraversion are associated with job characteristics which comprises of job demands and job resources. Job demand and resources have been also associated with employees' psychological well being ((Hart et al., 1995), relating to work or non work domain.

Locus of control has always been considered as an important dimension of personality psychology. Studies by Lian, Hedge (1982), Raine, Roger and Venables (1982) have found that while internal locus of control is associated positively with assertive traits and conscientiousness, external locus of control is associated with neurotic behaviours. Internal locus of control correlates negatively with agreeableness however outperforms when it comes to competitiveness. The number of studies that associate locus of control as a predictor

or as correlate with attitudinal and performance dimensions, is far more than the number of studies that explore the antecedents of locus of control. According to some researches there is no uniform locus of control across people from different age groups, and genders, however people with higher level of education were associated with internal locus of control (D'souza, Agarwal & Chavali, 2014).

However, only a very few studies have integrated employee demographic variables, beyond age and gender, locus of control and job related factors in the same theoretical framework with personality. This study attempts to add to the body of knowledge in personality research by analyzing the effect of employee demographic variables on personality traits and also whether this effect can be mediated by employee's work locus of control and moderated by work characteristics, namely job demand and job resources.

In the light of the above discussion, the research hypotheses put forward are

Hypothesis 1: Personality has significant correlation with an employee's work experience.

Hypothesis 2: Personality has significant correlation with level of education.

Hypothesis 3: Personality has significant correlation with employee's age.

Hypothesis 4: Employee's demographical constitution, namely age, level of education, role played in the organization and experience (expressed in number of years) can significantly predict employee's personality.

Hypothesis 5: Effect of employee demographics on personality is significantly mediated by locus of control

Hypothesis 6: Effect of employee demographics on personality is significantly moderated by work characteristics.

### 3. Method

#### *Participants*

The sample for this study comprised 501 workers selected on a stratified random sampling basis from public and private organizations operating in service sector, namely IT, ITES, retail, Banking, Healthcare and Telecom. The stratification was done on the basis of size of the organization (small, medium and large). The Samples were all graduates and above. Minimum age criterion was kept at 21years. The organizations, from which data was collected, had pan India presence. Data collection was done mainly from their Kolkata and eastern India units. Sampling was also done from Northern part of India, especially in the Delhi and NCR region and also from Chennai and Bangalore, two of the major IT hubs in India.

#### *Data Collection*

The cross sectional survey based study was done by administering validated self reporting questionnaire to respondents (N=501). For samples in and around Kolkata, the questionnaire was directly administered. Data was collected from the distant respondents by the electronic version of the questionnaire. To minimize the non response error, the electronic version was created in such a way that the

respondents could submit the questionnaire only on completion. The said questionnaire had been divided into subsections. The first section was about the demographical aspects of the respondents. The next section comprised the work personality profile (Llobet, 2000), the work locus of control scale (Spector, 1988) and the Job demand resource scale.

Data was collected from employees working in organizations operating service sector, namely IT & ITES, retail, banks, telecommunications and healthcare. The data was collected strictly following the ethical norms of research and the confidentiality of the responses was maintained.

### 4. Tools Used

**General Information schedule:** The demographic distribution with the relevant details like the age, gender, marital status, level of education, sector of employment and role in the organization of the five hundred respondents is furnished in the following section.

### 5. Personality Measures

Workplace Personality Profile (WPP) questionnaire, developed by J.M. Llobet (2007) and designed exclusively to assess the workplace relevant dimensions of individual's personality. The personality dimensions that are included in this scale are achievement drive, assertiveness, flexibility; helping disposition, confidence, and reliability, stress handling capacity, trustworthiness, team player quality and likelihood to deception respectively. The items of this scale were rated on five point scale ranging from strongly disagree (1) to strongly agree (5). The scale contained items like "I enjoy influencing others". The adapted version of the scale was used after reliability checking and the corresponding alpha was recorded at 0.71.

### 6. Locus of Control Measures

**Work locus of control** scale, created by Spector, Paul E. (1988) has been used to measure employee's locus of control especially in the context of workplace. This is a 16 item self reporting questionnaire where respondents have to score each item on a 6 point scale ranging from 'disagree very much' to 'agree very much', with no neutral mid point, against items like "getting a job you want is mostly a matter of luck". Of the sixteen items, eight items are directed towards internal locus of control and the rest towards external locus of control. The items are scored in such a way that a higher score in the scale indicates towards external locus of control, and a lower score indicates the inclination towards an internal locus of control. The Cronbach's alpha for the 16 item scale was 0.717

### 7. Work Characteristics Measure

**Job Demand and Resource Scale:** This scale is developed by Jackson and Rothmann (2005) and the final version has 41 items distributed across five factors namely, Growth Opportunities, Organizational Support, Advancement, Overload, and Job Insecurity. Among these the first three factors are considered as Job resources as they act as enablers towards performance of an employee and the last two factors are called Job demands as they put considerable stress

on an employee. Job Resources scale contain items like “In your work, do you feel appreciated by your supervisor?” and job demand scale contains items like “Do you have to much work to do?” All items on the scale are to be measured on a 4 point scale ranging from 1 (never) to 4 (always). The JDRS being a summative scale the summated scores were taken for both job demand and job resources duly taking care of the reversed scoring items. The Cronbach’s alpha for this scale was found at 0.831.

#### Data Collection:

The study was done by carrying out survey with structured questionnaire. The human resource departments of several organizations were approached in this regard. Finally data were collected from ten organizations operating in IT, banking, retail, healthcare and Telecommunication sectors that gave their consent for the survey.

#### 8. Test Administration

Primary data was collected by administering structured questionnaire directly to the randomly selected respondents working in managerial and non managerial roles in different departments of the participant organizations. The respondents were requested to respond to the questionnaire completely and avoid non-response. Confidentiality and anonymity were maintained for each response.

#### 9. Results

The demographic profiling of the 501 respondents is given in table 1. After suitably coding the data for analysis, an outlier analysis and a missing value analysis were performed. 6 responses had to be eliminated on these accounts. The remaining 495 responses were processed for analysis.

Table1: Demographic Distribution of Samples (N= 501)

Variable	Category	Frequency	Percentag
Gender	Male	335	67%
	Female	165	33%
Age	21- 30	283	56.49
	31- 40	146	29.14
	41- 50	52	10.38
	Above 50	20	3.99
Marital Status	Single	204	40.72
	Married	297	
Education Level	Graduate	265	52.89
	Post Graduate	216	43.11
	PhD	20	3.99
Role In Organization	Managerial	129	25.75
	Non- Managerial	372	74.25
Sector of Employment	Govt. Sector	108	21.56
	Private Sector	393	78.44

Bivariate correlations were calculated using Pearson correlation coefficients to examine association amongst the demographic variables (table 2), personality locus of control and work characteristics (Job Demand and job resources).It shows a strong correlation between personality and locus of control. The negative sign indicates that people with internal locus of control score higher in personality variables. Both personality and locus of control demonstrate significant

correlation with all the demographic variables except age. Since for mediation analysis, bearing a significant correlation with the outcome variable and the mediator variable is a prerequisite, age is eliminated from the factor of consideration. Employee’s work experience (expressed in years), level of education (graduate, post graduate or above) and employee’s role in the organization (divided into managerial or non managerial) is considered as predictor variable.

Table 2: Correlation coefficients amongst variable

		Correlations							
		1	2	3	4	5	6	7	8
1	PERSONALITY_SCORE_TOTAL	1	-.394**	.286**	.241**	-.379**	.357**	-.247**	.150**
	Pearson Correlati Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.001
2	LOCUS_OF_CONTROL_TOTAL		1	-.165**	-.185**	.163**	-.159**	.245**	-.179**
	Pearson Correlati Sig. (2-tailed)			.000	.000	.000	.000	.000	.000
3	Experience			1	.383**	-.160**	.040	-.028	.054
	Pearson Correlati Sig. (2-tailed)				.000	.000	.371	.538	.234
4	Role				1	-.167**	.188**	-.072	.079
	Pearson Correlati Sig. (2-tailed)					.000	.000	.108	.078
5	edugrad					1	-.922**	.030	.099
	Pearson Correlati Sig. (2-tailed)						.000	.499	.028
6	edupostgrad						1	-.044	-.028
	Pearson Correlati Sig. (2-tailed)							.326	.539
7	JOBDEMANDTOTAL							1	-.025
	Pearson Correlati Sig. (2-tailed)								.586
	N								495
8	JOB_RESOURCES_TOTAL								1
	Pearson Correlati Sig. (2-tailed)								.495
	N								495

\*\* . Correlation is significant at the 0.01 level (2-tailed).  
\* . Correlation is significant at the 0.05 level (2-tailed).

A multiple regression analysis was carried out with personality variables as the dependent variable and the demographical variables as the predictor variables. As level of education and organizational role were categorical variables, with three and two levels respectively, dummy variables were created for these two variables to carry out regression analysis. Regression analysis results show that the demographical variables namely experience and role in the organization can significantly  $R^2 = 21.1\%$ ,  $F(4, 490) = 32.737$ ,  $p < 0.05$ . However the effect of level of education was non-significant. Experience and role in the organization have significant effect on locus of control as well,  $R^2 = 4.1\%$ ,  $F(2, 492) = 11.430$ ,  $p < 0.05$ . Hence hierarchical multiple regression was done to adjudge the mediation effect. The  $R^2$  change is

observed. Two models are furnished (Table 4). The first one (Model1) is without the mediation effect and the second one (Model2) with mediation effect. Both the models are significant and  $R^2$  change from model 1 to model two is significant. Hence mediation has happened. But the coefficient table (Table 5) shows that role and experience remain significant even after mediation. However the beta values weaken for both of the variables. This indicates partial mediation. The results were revalidated through the path analysis in AMOS software. The path diagram furnished in the standardized estimates show a similar regression weight (Figure 1). It also shows significant direct effect of the exogenous variables on personality, and Locus of control (Table 3)

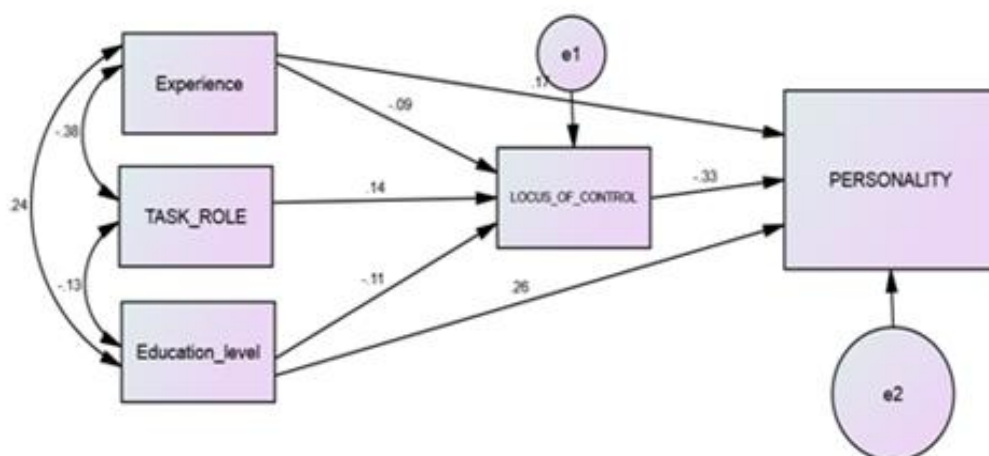


Figure 1: Path diagram showing direct and indirect effect of demographic variables on personality

**Table 3: Unstandardized Regression weights of the model**

			Estimate	S.E.	C.R.	P	Label
LOCUS_OF_CONTROL	<---	Experience	-.118	.067	-1.768	.077	par_1
LOCUS_OF_CONTROL	<---	TASK_ROLE	3.305	1.133	2.918	.004	par_2
LOCUS_OF_CONTROL	<---	Education_level	-1.939	.817	-2.373	.018	par_3
PERSONALITY	<---	Experience	.302	.072	4.206	***	par_4
PERSONALITY	<---	Education_level	6.207	.942	6.586	***	par_5
PERSONALITY	<---	LOCUS_OF_CONTROL	-.428	.051	-8.372	***	par_9

For testing the moderation effect the two work characteristic variables namely job demand and job resource were first centralized and the centralized scores were multiplied with the other predictor variables, namely experience and the dummy coded variables for level of education and role in the organization in sequence to generate the moderator variables. Multiple hierarchical regressions were carried out to adjudge job demand and job resources as moderators

respectively. The Summarized results in table 6 show that the work characteristics that is job demand and job resources do not moderate the effect of demographic variables namely experience, level of education and role in the organization for all cases with only one exception. For graduate employees, job demand is found to partially moderate the effect of demographics on personality.

**Table 4: Regression models with and without mediation effect**

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.319 <sup>a</sup>	.102	.098	12.924	.102	27.955	2	492	.000
2	.463 <sup>b</sup>	.215	.210	12.098	.113	70.493	1	491	.000
a. Predictors: (Constant), rolemgr, Experience									
b. Predictors: (Constant), rolemgr, Experience, LOCUS_OF_CONTROL_TOTAL									

**Table 5: Coefficients showing Beta value changes as an effect of mediation**

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	156.393	.915		170.836	0.000
	Experience	.408	.083	.227	4.911	.000
	rolemgr	4.804	1.444	.154	3.328	.001
2	(Constant)	177.583	2.665		66.626	.000
	Experience	.340	.078	.189	4.351	.000
	rolemgr	3.276	1.363	.105	2.403	.017
	LOCUS_OF_CONTROL_TOTAL	-.448	.053	-.343	-8.396	.000
a. Dependent Variable: PERSONALITY_SCORE_TOTAL						

**Table 6: Multiple regression with moderation effect of job demand and resources**

				R square	R square change	Fchange	Beta Coefficient	Significance	Significant F Change
<b>Job demand</b>	Model 1 (without Moderation)	Experience		0.139	0.139	39.711	0.279	0.000	0.000
		Role		0.111	0.111	30.702	0.224	0.000	
		Level of Education	Graduates	0.181	0.181	54.252	-0.372	0.000	0.000
	Post Graduates		0.199	0.199	61.202	0.346	0.000	0.000	
	Model 2 (with Moderation)	Experience		0.142	0.003	18.23	0.276	0.000	<b>0.178</b>
		Role		0.111	0	0.002	0.224	0.000	0.967
		Level of Education	Graduates	0.205	0.006	3.874	-0.371	0.000	0.5
			Post Graduates	0.183	0.002	1.189	0.346	0.000	0.276
				R square	R square change	Fchange	Beta Coefficient	Significance	Significant F Change
<b>Job Resource</b>	Model 1 (without Moderation)	Experience		0.1	0.1	27.331	0.279	0.000	0.000
		Role		0.075	0.075	20.014	0.23	0.000	0.000
		Level of Education	Graduates	0.179	0.179	53.712	-0.398	0.000	0.000
	Post Graduates		0.153	0.153	44.334	0.361	0.000	0.000	
	Model 2 (with Moderation)	Experience		0.101	0.001	0.325	0.276	0.000	0.569
		Role		0.083	0.008	4.387	0.223	0.000	<b>0.037</b>
		Level of Education	Graduates	0.179	0.000	0.027	-0.398	0.000	0.869
			Post Graduates	0.154	0.001	0.702	0.361	0.000	0.403

**10. Discussion**

This study started out to correlate employee's personality and locus of control and demographic variables with a curiosity to examine to what extent employee personality, especially in the context of the workplace, can be predicted by employee's demographic variables. Generally, age and gender are two most frequently examined demographic predictors. However in this employee's innate demographic variables like gender and age and life event related demographic variables like marital status were not used as demographic predictors. Rather the three demographic factors of choice were employee's education level; work experience (expressed in number of years) and the role in the organization were considered. The reason behind this is twofold. Firstly, though some of the previous researches indicate some association of age with personality, for this sample however age is not significantly associated with personality. Secondly for the modern workforce of today, gender differences in work personality variables like achievement orientation, assertiveness, confidence etc should be of lesser interest than to find out how cognitive and skill related variables affect personality. Results of this study show that the demographic variables together can account for about 21% variation in the personality variable. The effect of education level is not significant on personality. This finding contradicts the common assumption that with increasing education level the personality of an individual develops for better. However it is to be noted that education

was not measured in years of education. Rather the levels of education considered were graduates, post graduates and doctorates. After the creation of dummy variables, graduates and post graduates were taken into analysis. The difference in years of education between them is only two years. This may be one of the reasons for education level not emerging as a significant predictor. As for the mediation effect of locus of control, the results demonstrate partial mediation by locus of control on the effect of experience and role on personality. Locus of control is very strongly associated with personality. However it has moderate association with the demographic variables (table 2). The moderation effects of job demand and resource are also seen to be insignificant except for one variable, the education level. From the correlation table, it is found that job demand and resource bear only trivial association with the demographic variables. Apparently job demand and resources affect experienced and inexperienced, managerial and non-managerial employees across all education educational levels fairly equally.

The uniqueness of this study is that it brings together demographic variables, personality constructs, locus of control and job characteristics together and scrutinizes different nuances in their association and interaction pattern. While some of the interactions are significant, some are not. This study is limited by the inadequacies of a self-reporting survey where the possibility of overrating or undermining some items is always

there. However this study leaves some important managerial implication. This study clearly demonstrates the impact of demographical variables in personality constructs. This is a noteworthy finding, especially because the personality variables considered in this study have direct relation with performance

outcomes. Also this study reinforces the importance of the locus of control as a mediator in demography and work personality variables. Managers should take a note of employee's locus of control for more precision in determination of personality types in employees.

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