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Psychometric Properties of Workplace Deviance Scale

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Abstract

The study was conducted on N=150 engineers to examine the psychometric characteristics i.e. reliability and validity of a bilingual (English and Hindi) scale for measuring workplace deviance. Cronbach's alpha of the scale was found 0.841, which is Good (George & Mallery, 2003). Face validity of the scale was obtained and confirmed by the rating of N=10 experts. Exploratory factor analysis was carried out and two factors emerged in the analysis. In summing up, all factors explained 54.189% of the total variance which confirms the good factorial/construct validity. Further, inter-factorial correlations among sub dimensions of workplace deviance were found highly significant. It can be concluded that the present piece of research work confirm good reliability and validity of workplace deviance scale. Subsequently the scale is found to be highly standardized.

Keywords: Workplace Deviance, Reliability, Validity.

Introduction

Workplace deviance behavior is relatively a new concept in the field of organization, management and in industrial set up. In a general workplace deviance is any behavior that goes beyond the organizational policies and job descriptions which are introduced to the employees before joining the organization. Workplace deviance has become the most attention grabbing construct for researchers since the last one decade, due to the increasing number of corporate scandals in the past such as Commonwealth scam and 2G telecom scam etc. that took place especially in India. Workplace deviant behavior varies from negative to positive, whenever employees threaten the well-being of an organization, is considered as negative workplace deviance and when employees do some creative or innovative work it is considered as positive workplace deviance. Bennett and Robinson (2003) have defined workplace deviance as "purposeful behavior that violates organizational norms and is intended to harm the organization, its employees, or both"

Robbins and Judge (2007) have defined Deviant workplace behavior as "voluntary behavior that violates significant organizational norms and, in doing so, threatens the well being of the organization or its members".

Types of Workplace Deviance

In 1995 Robinson and Bennett proposed a globally accepted classification of workplace deviance, in which they categorized two basic types of workplace deviance as given below.

Interpersonal Deviance

It is directed among individuals who include verbal abuse, sexual harassment, blaming co-workers, stealing from co-workers, gossiping and whispering at workplace, etc.

Organizational Deviance

It is directed towards organization which includes shirking hours, purposefully extending overtime, leaving early, stealing from organization, taking excessive breaks, intentionally working slowly, etc.

Review of Literature

Bennett and Robinson (2000) conducted a study and tried to establish the measure for workplace deviance behavior. Findings revealed that two dimensions were verified through confirmatory factor analysis of workplace deviance viz., organizational deviance consists 12-items and interpersonal deviance which consists 7-items. They also found that internal reliabilities of the sub-scales .81 and .78, respectively and validity is found to be good.

Chen and King (2018) they conducted a study on N=308 hotel employees of Taiwan. Purpose of the study was to examine the influence of service climate, ethical values and individual characteristics on

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Organizational Citizenship and Workplace Deviant Behaviours. They found that both Organizational Citizenship and Workplace Deviant Behaviours are related to individual characteristics while service climate and ethical value were identified as antecedents of both Organizational Citizenship and Workplace Deviant Behaviours. And it was also found that both i.e. organizational factors and individual characteristics play a critical role in shaping the organizational citizenship and workplace deviant behaviors of employees.

Chen (2018) tried to examine the relationships between multifoci workplace aggression by supervisors, coworkers, and customers and employees' work–family conflict. And also explored how employees' problem-focused coping levels moderate the relationship between multifoci workplace aggression and employees' negative affect, which subsequently influences their work–family conflicts. Findings revealed that the direct effects of multifoci workplace aggression on employees' work–family conflict and problem-focused coping would weaken the relationship between supervisor/coworker aggression and employees' negative affect. Furthermore, the results showed that the effects of multifoci workplace aggression spilled over into employees' family domain through negative affect and influenced their work–family conflicts (ranked by spouses or closest family members).

Carre, Mueller, Schleicher and Jones (2018) conducted a study to compare different psychopathy models in predicting different types of workplace deviance. They found that the Triarchic Psychopathy Model (TRI-PM) and the Self-Report Psychopathy-Short Form (SRP-SF) influence deviant workplace behaviors in two form i.e. sexual harassment and deviant work behaviors. Using structural equations modeling (SEM), the latent factor of psychopathy was influential for both types of deviant workplace behavior. Particularly, the SRP-SF critically predicted both measures of deviant workplace behavior. With respect to the TRI-PM, it was found that TRI-PM has higher scores of workplace deviance and workplace sexual harassment measures.

Method
Sample

The sample comprises N=150 engineers taken from the hierarchical levels viz., junior engineers, assistant engineers and executive engineers from Harduaganj Thermal Power Station (HTPS), Aligarh (U.P.), India.

Development of Scale

In the initial stage experts from the field of Psychology and Management contacted and the objective of developing the scale were explained to them to rate the relevance of the scale items. In the first phase a pool of 25 items was prepared with Likert type, 5-point responses, viz., Strongly Disagree, Disagree, Neutral, Agree and Strongly Agree and administered on sample. After collecting the data inter-correlation matrix was examined in order to determine existence of multi-collinearity and singularity of items of the scale. In addition to inter-correlation matrix, 'Determinant' of the R-matrix was estimated and it was found to be greater than 0.00001 (i.e. 0.006). Sampling adequacy was ascertained through Kaiser-Meyer-Olkin (KMO) test and it was again found to be greater than 0.50 (i.e. 0.789). On this basis, 11 items having multi-collinearity and singularity were rejected and finally the scale consisted 14 items distributed across two dimensions extracted through the Exploratory Factor analysis with Principle Component Analysis extraction and Varimax rotation methods. Later on, naming of the dimensions was done and operational definitions of these were given which have been elaborated below:

Operational Definition
Personal Deviance

It is manifested where deviant behaviour is caused due to personal conflicts and problems among co-workers at workplace.

Organizational Deviance

It refers to the behaviours which are outcome of the organizational failure to satisfy workers necessary needs.

Workplace Deviance

Workplace deviance is the result of personal and organizational deviance.

The distribution of items and dimensions are given in Table 1.

Table- 1
Dimensions of Workplace Deviance and The Items Numbers comprised in These Two Dimensions

No	Dimension	Items		Total no of items
		Positive	Negative	
1	Personal deviance	2,3,7,8,1	4, 10	7
2	Organizational deviance	5,12,6,11,14,13,9		7
	Total			14

Scoring System

Twelve items in the scale are positively and two items are negatively worded and scored as per response categories shown in table-2. However, reveres scoring be made of negatively phrased item's.

Table- 2: Scoring System

S D	D	N	A	SA
1	2	3	4	5

The responses of the corresponding items were added to generate dimension-wise scores and summing-up all 14 items to generate overall workplace deviance score. Thus, the minimum possible score of the scale will be 14 and the maximum 70. The higher the score indicates high level of workplace deviance and lower the score indicates low level of workplace deviance.

Instructions for Administration

Instructions were printed on the cover page of the scale. The scale can be administered on an individual or on a group of employees.

Reliability

The considerations of reliability and validity typically are viewed as essential elements for determining the quality of any standardized test. However, professional and practitioner associations frequently have placed these concerns within broader

context when developing standards and making overall judgments about the quality of any standardized test as a whole within a given context.

For establishing the internal consistency reliability: Cronbach's alpha was estimated and is shown in Table 3A & 3B.

Table -3A

Item No.	Descriptive Statistics for Items				Descriptive Statistics for Scale			
	Range	Mean	SD	Variance	Scale Mean if item deleted	Scale Variance if item deleted	*Item total Correlation	*Alpha if item deleted
WPD1	4	3.31	0.963	0.928	30.89	62.745	0.496	0.817
WPD2	4	3.06	1.249	1.560	31.14	57.531	0.642	0.805
WPD3	4	2.71	1.255	1.575	31.49	57.903	0.616	0.807
WPD4	4	3.26	1.114	1.241	30.94	65.424	0.241	0.841
WPD5	4	1.61	0.989	0.989	32.59	63.344	0.440	0.821
WPD6	4	1.93	1.079	1.163	32.27	62.022	0.475	0.818
WPD7	4	2.35	1.069	1.143	31.85	59.862	0.619	0.808
WPD8	4	3.14	1.105	1.222	31.06	61.453	0.495	0.817
WPD9	4	1.98	1.020	1.040	32.22	62.911	0.451	0.820
WPD10	4	3.50	1.394	1.943	30.70	57.191	0.575	0.811
WPD11	4	1.39	0.741	0.549	32.87	66.882	0.315	0.827
WPD12	4	1.77	0.965	0.932	32.43	64.006	0.409	0.822
WPD13	4	1.58	0.899	0.803	32.62	66.801	0.247	0.831
WPD14	4	2.60	1.123	1.262	31.60	61.248	0.497	0.817

Table -3B: Descriptive Statistics of Scale and Reliability (Cronbach's Alpha)

Mean	Variance	Std. Deviation	Alpha Coefficient	No. of Items
30.20	71.28	8.441	0.841	14

One of the most commonly used reliability coefficient i.e. Cronbach's Alpha was calculated and found 0.841, which is *significant at 0.001 level.* The internal consistency of the scale is quite high and this argues that the scale has good reliability (George & Mallery, 2003).

Table- 4: **Shows Descriptive Statistics and Inter-Correlations among Dimensions of The Scale**

Dimensions	Descriptive Statistics				A	Inter-correlations*		
	Range	Mean	SD	Var		X1	X2	X3
Personal deviance(X1)	22	18.08	5.205	27.094	.812	**1.00**		
Organizational deviance(X2)	18	12.86	4.260	18.148	.894	**.500**	**1.00**	
Workplace deviance overall(X3)	35	30.94	8.211	67.426	.841	**.893**	**.836**	**1.00**

Validity

Face validity of the scale was verified by N=10 experts taken from psychology and management. Good correspondence was found to exist between the scale results and the considered judgments of experienced observers. There are various methods to establish construct validity of the tool. Hence, quite a few of them are having limitations as role of time and existence of subjectivity in subject's responses. To overcome these limitations, Exploratory Factor analysis with Varimax rotation was used to establish the construct/factorial validity of the tool.

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Table- 5: Shows Construct/Factorial Validity along With Factor Loadings, Percent of Variance and Cumulative Percent of Variance for Each Dimension

Items	Factors	
	1	2
2	.790	
3	.779	
10	.767	
7	.649 Personal deviance	
8	.628	
1	.596	
4	.407	
5		.734
12		.668
6		.625
11	Organizational deviance	.592
14		.503
13		.500
9		.464
PCT of variance	29.719	24.470
Cum. Variance	29.719	54.189

After using the Exploratory Factor Analysis, two factors emerged. The percent of variance accounted by factors varies from 29.719 to 24.470%. In summing up all two factors explained 54.189% of the total variance. The construct/factorial validity of the scale is highly satisfactory.

Conclusion

Workplace deviance Scale provides measures of two empirically derived dimensions. Reliability, validity and stability of the data were based on responses from 150 engineers of HTPS which is located in Kashimpur, Aligarh district of UP, has shown that the Workplace deviance has quite satisfactory Psychometric characteristics. Inter-factorial correlations indicate that all the factors are significantly correlated with each other and measuring the same construct which confirms inter-factorial validity of the scale. The results of the present investigation exhibited that the bilingual version of workplace deviance scale can be used for assessment, and research purposes. Measures of Workplace Deviance Scale are common for various employees of the organization across their hierarchical levels. It can also be converted into computerized format to enable online testing, scoring and evaluation of employee's deviant behaviour.

Implications

1. Present research provides sufficient background to measure the workplace deviance of employees at workplace especially in Indian culture, although it is a culture-free scale.
2. After going through the above construct, it can be suggested that two proposed factors are sufficient to explain the workplace deviance.

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