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Psychometric Analysis of Predictors and Outcome of Organizational Cynicism: A Mathematical Approach

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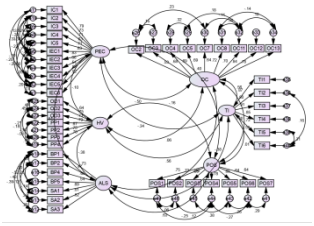
Graphical abstract



Abstract

Present study is an attempt to investigate the psychometric analysis of perception of ethical climate, horizontal violence, perceived authentic leadership style and perceived organizational support as predictors and turnover intention as an outcome of organizational cynicism. Psychometric analysis is conducted through measurement model by using AMOS 21. A mathematical approach is utilized to compute the reliability and validity of the constructs. Questionnaires were distributed among 870 nurses out of which 711 questionnaires were returned at the actual response rate of 81.7% and 668 questionnaires were scrutinized at the affective response rate of 76.78%.Current study validates the questionnaire and offers a reliable instrument to investigate organizational cynicism in Asian countries.

Keywords: Perception of ethical climate; horizontal violence; perceived authentic leadership style; perceived organizational support; organizational cynicism and turnover intention

1.0 INTRODUCTION

Organizations flourish because of favorable work attitudes of their employees. However, in many organizations unfavorable attitudes among employees are being explored deliberately. According to attitude theory, attitude is a disposition to respond favorably or unfavorably to an object, person, institution, or event [1]. A recent survey conducted by [2] in the health care sector of Pakistan. They found that the health care sector of Pakistan faces critical issues regarding the attitude of health care staff. An emerging topic in this context is organizational cynicism, which has been defined as:

> *''A negative attitude toward one's employing organization, comprising three dimensions: (1) a belief that the organization lacks integrity; (2) negative affect toward the organization; and (3) tendencies to disparaging and critical behavior toward the organization that are consistent with these beliefs and affect'' [3; 345].*

Cynicism is determined by frustration, disillusionment, hopelessness and it is an attitude which is related to distrust, contempt and disgust [4]. Moreover, [5], defined cynical people have skeptical, disappointed and pessimistic thoughts, especially about the hidden agendas, when cynical people clarify the attitude based on specific events and a tendency to deal with the workers for improving and defending their own interest. Similarly, cynics show sympathy to people and think about their own interest and claim others as selfish [6]. Furthermore, cynicism has similar meanings to suspicion, skepticism, distrust, pessimism, disbelief, negativity, picky, censorious and critic person. Cynicism is the source of enhancing strong negative emotions such as anger, scorn, nervous, distress and embarrassment. In current study, researcher wants to examine the psychometric analysis of predictors and outcome of organizational cynicism by adopting mathematical approach.

2.0 PSYCHOMETRIC ANALYSIS

Instrument Validity is referred to the measures what it is used to measure [7] and validity is also measured to investigate the accuracy of the instrument. Validity is categorized in to two main components, internal validity and external validity. Internal reliability depicts the level of confidence of the researcher on the relationship of variables. External validity deals with the generalization of results that how close the findings from theory and reality. External validity may cause the sever issues of the generalizability of the results in different work settings [7]. Internal and external validity depends on the nature of experiment. A field

experiment relatively contains more external validity than lab experiment. Present study deals with field experiment and data will be collected through survey methodology. The purpose to evaluate confirmatory factor analysis is not exclusively to fit the model it also provide the validity of the instrument. Measurement validity consists of goodness of model fit and construct's validity. A core assumption to proceed for structural equation modelling is that instrument should be validated. Latent constructs or measurement model reflect the accuracy of the construct validity. There are four components of construct validity which will be examined in present study 1) face validity, 2) convergent validity, 3) discriminant validity and 4) nomological validity.

2.1 Face Validity

In current study, instrument is adopted to investigate the relationship of predictors and outcome of organizational cynicism in health care. The instrument has already been investigated in different sectors of Pakistan. So there is no issue of face validity of the questionnaire because in Pakistan the official language is English. Therefore every participant easily understood the wording of the questionnaire.

2.2 Convergent Validity

Convergent validity is the construct indicators that reflect large amount of mutual proportion of variance among factors. It determines the amount of correlation among the measures of same concept [8]. Table 2.1 shows average variance extraction while Table 2.2 shows the construct reliability of each construct. Average variance extraction is the sum of square of a standardized factor loading to represent how much variation in each item is explained by latent. The average variance extracted is the average percentage of variation explained by the measurement items in a construct. The standard value of AVE is .50 or greater.

Table 2.1 Cronbach's alpha, sum of reliabilities and AVE

Construct	Items	Cronbach's Alpha if Item Deleted	Sum of Reliabilities	Average Variance Extracted
Perception of ethical climate	IEC6	.735		
	IEC5	.732		
	IEC4	.738		
	IEC3	.733		
	IEC2	.734		
	IEC1	.732		
	IC5	.733		
	IC4	.737		
	IC3	.734		
	IC2	.732		
	IC1	.732	8.072	0.73381818
Perceived authentic leadership style	SA3	.738		
	SA2	.738		
	SA1	.738		
	BP5	.739		
	BP4	.737		
	BP2	.740		
	BP1	.740	5.17	0.73857142
Horizontal Violence	PP4	.735		
	PP3	.733		
	PP2	.734		
	PP1	.734		
	OD3	.733		
	OD2	.732		
	OD1	.733	5.134	0.73342857
Organizational Cynicism	OC2	.752		
	OC3	.755		
	OC4	.749		
	OC5	.749		
	OC7	.755		
	OC8	.750		
	OC11	.748		
	OC12	.752		
	OC13	.756	6.766	0.75177777
Perceived organizational support	POS7	.737		
	POS6	.737		
	POS5	.736		
	POS4	.740		
	POS3	.736		
	POS2	.737		
	POS1	.736	5.159	0.737
Turnover Intention	TI1	.736		
	TI2	.738		
	TI3	.735		
	TI4	.737		
	TI5	.736		
	TI6	.739	4.421	0.73683333

Table 2.2 Factor loadings and construct reliability

Constructs	Items	FL	Error	Calculation of Construct Reliability	Construct Reliability
Perception of Ethical Climate	IEC6	.542	.265	$(.54 + .79 + .56 + .68 + .81 + .82 + .68 + .71 + .79)^2$ /[$(.54 + .79 + .56 + .68 + .81 + .82 + .68 + .71 + .79)^2$/(.265+.268+.262+.267+.264+.268+.267+.263+.266+.268+.268)] =	.948
	IEC5	.789	.268		
	IEC4	.563	.262		
	IEC3	.681	.267		
	IEC2	.807	.264		
	IEC1	.823	.268		
	IC5	.673	.267		
	IC4	.612	.263		
	IC3	.679	.266		
	IC2	.714	.268		
	IC1	.788	.268		
Perceived Authentic Leadership Style	SA3	.465	.262	$(.47 + .47 + .47 + .51 + .85 + .59 + .58)^2$/[$(.47 + .47 + .47 + .51 + .85 + .59 + .58)^2$ + (.262+.262+.262+.261+.263+.260+.260)] =	.881
	SA2	.467	.262		
	SA1	.466	.262		
	BP5	.510	.261		
	BP4	.853	.263		
	BP2	.595	.260		
	BP1	.578	.260		
Horizontal Violence	HV21	.682	.265	$(.68 + .65 + .63 + .70 + .85 + .85 + .79)^2$/[$(.68 + .65 + .63 + .70 + .85 + .85 + .79)^2$ + (.265+.267+.266+.267+.268+.267)] =	.925
	HV20	.647	.267		
	HV19	.625	.266		
	HV18	.700	.266		
	HV17	.850	.267		
	HV16	.850	.268		
	HV15	.790	.267		
Organizational Cynicism	OC2	.566	.248	$(.57 + .69 + .69 + .71 + .64 + .73 + .74 + .83 + .77)^2$/[$(.57 + .69 + .69 + .71 + .64 + .73 + .74 + .83 + .77)^2$ + (.248+.245+.251+.251+.245+.250+.252+.248+.244)] =	.942
	OC3	.685	.245		
	OC4	.692	.251		
	OC5	.707	.251		
	OC7	.640	.245		
	OC8	.734	.250		
	OC11	.742	.252		
	OC12	.829	.248		
	OC13	.765	.244		
Perceived Organizational Support	POS7	.654	.263	$(.65 + .68 + .75 + .71 + .68 + .74 + .70)^2$/[$(.65 + .68 + .75 + .71 + .68 + .74 + .70)^2$ + $(.263 + .263 + .264 + .260 + .264 + .263 + .264)$] =	.919
	POS6	.676	.263		
	POS5	.747	.264		
	POS4	.706	.260		
	POS3	.682	.264		
	POS2	.739	.263		
	POS1	.703	.264		
Turnover Intention	TI1	.873	.264	$(.87 + .81 + .91 + .85 + .72 + .61)^2$/[$(.87 + .81 + .91 + .85 + .72 + .61)^2$ + $(.264 + .262 + .265 + .263 + .264 + .261)$] =	.925
	TI2	.805	.262		
	TI3	.907	.265		
	TI4	.853	.263		
	TI5	.722	.264		
	TI6	.609	.261		

2.4 Discriminant Validity

Discriminant validity is referred to the extent to which an instrument contains a construct that was truly distinct from all others. Discriminant validity is the degree to which similar constructs have distinct values. In this type of validity the responses are measured without cross loading in terms of latent constructs [7]. Discriminant validity is violated when the correlation among exogenous constructs is increased than 0.85. Factor loadings and composite reliability is presented in Table 2.3 and 2.4.

Table 2.3 Simple and squared inter-construct correlations

Inter-construct relationship			Inter Construct Correlations	Squared Inter-construct Correlations
Cynicism	<-->	POS	-.399	.159201
Cynicism	<-->	ALS	-.402	.161604
ALS	<-->	Violence	-.381	.145161
Violence	<-->	PEC	-.103	.010609
POS	<-->	ALS	.628	.394384
POS	<-->	Violence	-.162	.026244
POS	<-->	PEC	.403	.162409
Cynicism	<-->	Violence	.060	0.0036
ALS	<-->	PEC	.509	.259081
Cynicism	<-->	PEC	-.501	.251001
POS	<-->	Turnover	.011	.000121
Cynicism	<-->	Turnover	.560	.3136
ALS	<-->	Turnover	-.377	.142129
Violence	<-->	Turnover	.561	.314721
PEC	<-->	Turnover	-.337	.113569

Table 2.4 Squared inter-construct correlations and average variance extracted

Constructs	Squared Inter-construct Correlation	Average Variance Extracted
Perception of Ethical Climate	.010609, .162409, .259081, .251001, .113569	0.73381818
Horizontal Violence	.145161, .010609, .026244, 0.0036, .314721	0.73342857
Perceived Authentic Leadership	.161604, .145161, .394384, .259081, .142129	0.73857142
Organizational Cynicism	.159201, .161604, 0.0036, .251001, .3136	0.75177777
Perceived Organizational Support	.159201, .394384, .026244, .162409, .000121	0.737
Turnover Intention	.000121, .3136, .142129, .314721, .113569	0.73683333

2.5 Nomological Validity

Nomological validity is referred whether the nature of correlation among constructs make sense or reality based. It determines the degree that summative score of scale predict the constructs theoretically. The nomological validity is mainly measured through correlations, covariance, squared factor loading and error variance [7]. Table 2.5 shows the covariance of relationship of perception of ethical climate, horizontal violence, perceived authentic leadership style, perceived organizational support, organizational cynicism and turnover intention. Result shows significant covariance relationship except violence with cynicism and perceived organizational support with turnover intention.

Table 2.5 Covariance of relationship of variables

Inter-construct relationship			Estimate	S.E.	C.R.	P	Label
Cynicism	<-->	POS	-.042	.004	-9.575	***	Significant
Cynicism	<-->	ALS	-.051	.005	-9.624	***	Significant
ALS	<-->	Violence	-.035	.004	-9.195	***	Significant
Violence	<-->	PEC	-.007	.003	-2.657	.008	Significant
POS	<-->	ALS	.125	.009	13.738	***	Significant
POS	<-->	Violence	-.012	.003	-4.139	***	Significant
POS	<-->	PEC	.057	.006	9.656	***	Significant
Cynicism	<-->	Violence	.003	.002	1.538	.124	Insignificant
ALS	<-->	PEC	.087	.007	11.710	***	Significant
Cynicism	<-->	PEC	-.045	.004	-11.577	***	Significant
POS	<-->	Turnover	.000	.002	.284	.776	Insignificant
Cynicism	<-->	Turnover	.015	.001	12.625	***	Significant
ALS	<-->	Turnover	-.019	.002	-9.113	***	Significant
Violence	<-->	Turnover	.011	.001	12.631	***	Significant
PEC	<-->	Turnover	-.012	.001	-8.238	***	Significant

Table 2.6 shows the correlation among variables which replicates with the previous studies. Therefore, current study does not violate the nomological validity.

Table 2.6 Correlation of variables

Inter-construct relationship			Estimate
Cynicism	<-->	POS	-.399
Cynicism	<-->	ALS	-.402
ALS	<-->	Violence	-.381
Violence	<-->	PEC	-.103
POS	<-->	ALS	.628
POS	<-->	Violence	-.162
POS	<-->	PEC	.403
Cynicism	<-->	Violence	.060
ALS	<-->	PEC	.509
Cynicism	<-->	PEC	-.501
POS	<-->	Turnover	.011
Cynicism	<-->	Turnover	.560
ALS	<-->	Turnover	-.377
Violence	<-->	Turnover	.561
PEC	<-->	Turnover	-.337

3.0 CONCLUSION

In current study, psychometric analysis of perception of ethical climate, horizontal violence, perceived authentic leadership style and perceived organizational support as predictors and turnover intention as an outcome of organizational cynicism. Psychometric analysis is conducted through measurement model by using AMOS 21. A mathematical approach is utilized to compute the reliability and validity of the constructs. Present study validates the questionnaire and offers a reliable instrument to investigate organizational cynicism in Asian countries.

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