Original Article

VALIDATING WORKPLACE CONSTRUCTS IN THE INDIAN HEALTHCARE SECTOR: AN EXPLORATORY AND CONFIRMATORY APPROACH

Archana Phogat [1*], **Dr. Sandeep Aggarwal** [2]

[1] Research Scholar, Institute of Management Studies and Research (IMSAR), MDU, Rohtak - 124001, Haryana, India

[2] Assistant Professor, Centre for Professional and Allied Studies (CPAS), MDU, Gurugram- 122003, Haryana, India
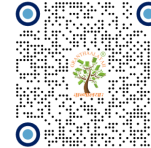
ABSTRACT

The main aim of this research is to assess the psychometric strength of four imperative multivariate constructs in the Indian healthcare context namely Emotional Intelligence (EI), Workplace Spirituality (WS) whereby Organisational Citizenship Behaviour (OCB) and Employee Performance (EP) are the constructs of interest. A purposive sample of medical practitioners sampled in five metropolitan Indian cities was utilized, in this case, SPSS was applied in EFA and CFA applied in SmartPLS, which allowed carrying out a full evaluation of the dimensionality, reliability, and construct validity of the scales used. The theoretical foundation of the Genos EI scale was supported by the substantiated three-factor configuration of the scale, communalities of 0.709–0.847 with a cumulative explanation of 77.74 per cent leading to the overall results. Similarly, the construct factor patterns of the WS, OCB and EP scales were consistent with the existing empirical data as witnessed with CVS and NI. The values of Cronbach alpha and composite reliability were high in all the surveyed instruments showing satisfactory internal consistency. In addition, all the average variances extracted (AVE) exceeded the 0.50 ration indicating satisfactory convergent validity. The measurement invariance tests conducted indicated that, physicians and nurses assessed the constructs similarly, which established compositional, metric, and scalar equivalence. Therefore, extensive research supports the relevance of the constructs to prospective healthcare studies and creates a solid framework on the basis of further structural equation modeling. The experimental results highlight the applicability of psychometric tools to various medical occupations and provide the Indian hospitals with precise tools to assess the level of staff performance and performance. Finally, this study provides empirical evidence to develop models of psychological impacts of the workplace on medical practice.

Keywords: Emotional Intelligence, Workplace Spirituality, Organizational Citizenship Behavior, Employee Performance, Measurement Validation, Indian Healthcare

INTRODUCTION

This field in India is facing rapid changes, so it now needs medical knowledge plus an understanding of how people work together. In jobs where people are under high stress and need to do a lot, say in healthcare, Emotional Intelligence, Workplace Spirituality, Organisational Citizenship Behavior and Employee Performance play a key role in their and the organisation's success. To accurately measure how these constructs affect people's work behaviors, we must verify that the assessment tools are appropriate for that specific work setting Patel et al. (2024). It is motivated by the importance of testing and validating these detailed constructs

in India to support the future building of models and strategies. Good measurement methods in behavioural research support both accurate theories and effective decision making Dhir and Dutta (2024). The objective of this work is to confirm key constructs using EFA and CFA techniques. The idea of Emotional Intelligence is applied by using the Genos EI Inventory which was designed for use in work settings Jain (2022). The Petchsawang and Duchon framework used in 2009 looks at the concept of Workplace Spirituality which stresses kindness, mindfulness and growing beyond oneself. Podsakoff, MacKenzie, Moorman and Fetter first introduced Organisational Citizenship Behaviour in 1990, referring to activities that better the effectiveness of organisations. Pradhan and Jena defined employee performance as including task execution, adaptability and fitting in with different work situations in their model from 2017." Although these tools are known to be used in many sectors worldwide, very little psychometric analysis of their use in Indian healthcare, especially when distinguishing physicians and nurses, has occurred Banerjee and Doshi (2020). Because hospitals in India are unique in culture and profession, ensuring validation there is more urgent and important than in other areas. Research uses different methods to confirm that measurement results for each construct are consistent across several fields Dhir and Dutta (2024). The analyzed results of the CFA rely on measures of reliability, using Cronbach's alpha and composite reliability Sengupta et al. (2021). Additionally, validity assessments such as Average Variance Extracted (AVE) and the Fornell-Larcker criteria are applied by Sarstedt, Kumari et al. (2021) to test if factors are related as they should be and not too strongly correlated with any other. Overall, the selected constructs make up a valid psychometric foundation from which to investigate the role of emotional intelligence and job happiness in performance at healthcare institutions. The approach is being supported by research reviews that look at the link between behaviour in the workplace and how a business performs Ajmera and Jain (2020). Because of this research, it becomes much easier to create reliable measures and policies that support the growing healthcare sector in India Shabir and Gani (2020).

METHODOLOGY

Participants in this study were healthcare practitioners working in small groups in hospitals in the cities of Delhi, Mumbai, Bangalore, Kolkata and Hyderabad. It was considered proper to use purposive sampling as it made it possible to gather people who have particular skills—namely, being licensed physicians or registered nurses working in clinics. The method, by not using probability, made it possible to choose participants who could share important insights about the work environment in healthcare Upadhyaya and Malek (2024). The list was carefully arranged to include every major job title, gender and level of experience in medicine and nursing. Because behavioural validation studies call for deep knowledge of the topic, this type of sampling is regularly used in them.

To analyse the constructs, the authors relied on four well-known tools, chosen because they are valuable conceptually and have been supported by research in the past. For this study, we used the Genos short version of the Emotional Intelligence Inventory, developed by Palmer and his team in 2009, designed for professionals. The test measures self-perception, control of emotions and awareness of the world around us. To analyse Prakash and Nandini (2024) framework was used which includes mindfulness, compassion, workplace purpose and transcendence. To evaluate Organisational Citizenship Behaviour (OCB), we used the scale introduced by Podsakoff and colleagues in 1990 which consists of altruism, courtesy, conscientiousness, sportsmanship and civic virtue. The comprehensive scale developed by Kabra (2023) which addresses task, adaptive and contextual parts of performance, was applied by them to the assessment of EP. All of them were found effective in various organisations, "but fresh research was required to use them in the Indian healthcare sector.

A two-phase analytical technique was used in this research. Starting with EFA in SPSS allowed us to see the main structure of each construct and check how each item loaded within each dimension. EFA allows researchers to find out in the first steps of instrument validation if the groups of variables fit together as expected. It was verified that the dataset was suitable for factor analysis by running the Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy and Bartlett's Test of Sphericity Jaiswal and Raychaudhuri (2021). On the basis that factors whose eigenvalues greater than 1.0 were associated with it, the factors were removed; the factor structure obtained was later explained through a Varimax rotation.

Subsequently, a subset confirmatory factor analysis (CFA) was conducted using SmartPLS 4, which is an excellent software package in Partial Least Squares Structural Equation Modeling (PLS-SEM). The uncertainty of the model and the skewness of the variable distributions justified the use of PLS-SEM application Sarwal et al. (2021). Unlike standard structural equation models which favor bigger samples, partial least squares structural equation modelling is more robust for both little data and non-normally distributed measurements and handles both formative and reflective types of constructs Sarwal et al. (2021). It was possible to calculate indicator loadings, composite reliability, AVE and discriminant validity indices using SmartPLS 4 which allowed me to judge the overall integrity of the measurement model. As a result, the confirmed measurement framework prepared the pathway for more detailed structure modelling in future research Garg (2020).

EXPLORATORY FACTOR ANALYSIS (EFA)

EFA was applied in this research to understand the core structure of the constructs and to test whether the observed data fit the hypothesized latent variables. Many times, Exploratory Factor Analysis helps test and verify that study concepts are expressed

properly in the chosen measurement variables Mahipalan and S. (2019). The purpose was to check if the Genos EI scale can maintain its measurable structure, while also exploring how the other recognised scales are grouped together."

Four distinct constructs were studied using an exploratory factor analysis to find their underlying structure.

- The Genos Emotional Intelligence (EI) instrument was made by Palmer and colleagues in 2009 to assess emotional skills at work. It was important to see that the shortened set of items fit with just one underlying factor to prove the research was not misspecified Srivastava and Prakash (2019).

The questionnaire employed by the study was the one developed by Petchsawang and Duchon (2009) which measured workplace spirituality well. Mindfulness, compassion, doing work with meaning and feeling part of something bigger than oneself are the main aspects stressed by the framework. All of these components help us see how individuals may feel a deeper significance in what they do at work which could encourage them to engage more, feel better and get more done Karthik and Devi (2023).

The research looked at OCB by applying the Singh et al. (2024) framework which sets out actions at work that aim to boost the organisation's performance beyond regular duties. There are five aspects in the framework: selflessness, showing readiness to help others; politeness, meaning being respectful and mindful to prevent arguments; team spirit which refers to being prepared to handle problems without complaining; diligence, representing sticking to company rules and following a strong sense of duty; and community engagement, characterising employee participation in managing the business. Whenever we support each other and motivate one another, we build a strong workplace and streamline the way the organisation runs.

Employee performance was evaluated through a thorough framework set by Mallick et al. (2019) which measured tasks, adaptations and contextual performance. Doing the essential jobs involves both what a person is expected to do and how well they do it. This method evaluates whether an employee is flexible, can react to new job demands and can learn new abilities. Being a contextual performer means you participate in teamwork, share your knowledge and encourage friendly relationships among colleagues. All these facets help us understand how employees perform in all kinds of workplace situations, old and new.

EXPLORATORY FACTOR ANALYSIS FOR GENOS EMOTIONAL INTELLIGENCE (EI)

As shown in Table 1, the sample size used is much sufficient and the information is favorable to the factor analysis as defined in the Kaiser-Meyer-Olkin measure and the Bartlett test of sphericity.

Table 1

Table 1 KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.882
Bartlett's Test of Sphericity	Approx. Chi-Square	4897.117
	df	91
	Sig.	0

Source: Author's Calculations

The sample adequacy measure of the KaiserMeyerOlkin of adequacy (KMO) was 0.882, which means the data qualifies the meritorious test of sample adequacy, according to Kaiser (1974) who asserts that the value of above 0.80 is exemplary. As a result, the variables reveal low levels of interrelations, thus making them fit in the discovery of latent structures via the factor analytic processes. These findings support the idea mentioned earlier. The sample yielded a Chi-Square statistic of 4897.117 and because 91 degrees of freedom were used, the significance level (Sig.) was .000, much lower than the benchmark 0.05. The matrix shows that the variables have correlations strong enough to make Exploratory Factor Analysis usable according to Bartlett (1954). The results tell us that the dataset can support factor analysis which allows us to confidently identify any hidden factors. Table 2 represents the overlapping variances of the observed variables that were used to examine the Emotional Intelligence (EI) construct by means of Principal Component Analysis (PCA). Communalities show how much each measure is related to the factor(s) that were extracted, describing how effectively each measure fits within the framework. Normally, the first communalities in PCA are fixed at 1.000 for all variables, so that all variance for each element is covered by the first set of common factors. In contrast, the values taken from the extraction demonstrate the portion of variance maintained throughout the factor extraction. An increase in communalities shows that the item matters more to the main factor which can represent the construct better Balachandar et al. (2023).

Communalities		
	Initial	Extraction
EI1	1.000	.761
EI2	1.000	.725

EI3	1.000	.709
EI4	1.000	.715
EI5	1.000	.735
EI6	1.000	.803
EI7	1.000	.789
EI8	1.000	.771
EI9	1.000	.776
EI10	1.000	.777
EI11	1.000	.847
EI12	1.000	.839
EI13	1.000	.812
EI14	1.000	.824

Extraction Method: Principal Component Analysis.
Source: Author's Calculations

Emotional intelligence factor scores range from 0.709 to 0.847, proving that all fourteen items measure a single, main factor. Specifically, EI11 (0.847) and EI12 (0.839) share the most communalities, telling us they are closely linked with the underlying construct and greatly explain the results. A value of EI3 (0.709) is greater than the advised 0.50 which means all items are adequately included in the model Yadav (2023). The findings suggest that all elements contribute significantly to the factor(s) which supports the Emotional Intelligence framework. Hence, the results demonstrate that including all fourteen indicators in the retention group and in the latent variable is appropriate. By doing this, we can be confident that these four dimensions are the right focus for the upcoming CFA which will provide a solid means to measure Emotional Intelligence Singh et al. (2023).

Table 3 shows that Emotional Intelligence (EI) components account for most of the overall variance, as detected by using Principal Component Analysis (PCA). It tells us how much of the overall variability in the dataset is attributed to each factor we derived. Before the extraction process, the Initial Eigenvalues identify the total percentage explained, whereas the Extraction Sums of Squared Loadings calculate the sum of variance preserved. Limits on variances across dimensions (Rotation Sums of Squared Loadings) demonstrate the effects of applying Varimax rotation to group similar dimensions together, thereby making their advantage easier to see. Balachandar et al. (2023) Three components were extracted, where the initial eigenvalues are above 1.0, according to the rules set by Kaiser in 1960. Most (77.74%) of the variation in the data set is due to these three elements, reflecting a high degree of factor resolution. The first, second and third features explain 29.05%, 25.94% and 22.75% of the variation, respectively, shown by their sums of squared loadings. Since the cumulative variance is substantial, "it is clear that many aspects of the construct are captured by the factor solution which recognises benchmarks set by social science studies Singh and Banerji (2022).

Table 2

Table 2 Total Variance Explained									
Component	**Initial Eigenvalues**			**Extraction Sums of Squared Loadings**			**Rotation Sums of Squared Loadings**		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.067	29.046	29.046	4.067	29.046	29.046	3.912	27.942	27.942
2	3.632	25.941	54.987	3.632	25.941	54.987	3.646	26.041	53.984
3	3.186	22.754	77.741	3.186	22.754	77.741	3.326	23.757	77.741
4	.389	2.779	80.520						
5	.360	2.573	83.092						
6	.345	2.461	85.553						
7	.322	2.303	87.856						
8	.293	2.096	89.952						
9	.284	2.027	91.979						
10	.269	1.923	93.902						

11	.252	1.803	95.706
12	.227	1.619	97.324
13	.188	1.346	98.671
14	.186	1.329	100.000

Extraction Method: Principal Component Analysis.

Source: Author's Calculations

After performing Varimax rotation, the quantitative significance of the components shifted, so that the factors were clearer and cross-loadings were lessened. After rotation, 27.94% of the variance is due to the first component, 26.04% to the second and 23.76% to the third component. Though rotation doesn't alter the overall variance in any way, it boosts how the results are explained by clarifying the relationship of the data with its associated factors, enhancing what makes each item different (Gupta & Kumar, 2022). The results reinforce the complex characteristics of the Genos Emotional Intelligence (EI) short form, aligning with the theoretical framework that underpins the scale. The variance that occurs in the three salient components shows that there are specific but interconnected affective competencies in the construct, including, but not limited to, emotional self-awareness, affective regulation, and social consciousness, which are presumably projected onto a particular extracted factor. The uniformly spaced factor loadings indicate that there is no individual item that is out of proportionate influence over the solution and thus increases the structural integrity and clarity of the emotional intelligence construct. It is worth noting that the equal distribution of the variance with every component making more than 20 more than 20 increases the reliability of the instrument, which means that the construct is not over-dependent on a single controlling latent variable. These results support the factor configuration that has been obtained in the course of the Exploratory Factor Analysis (EFA) and justify the decision to keep all the three factors to be used in the further investigation with the help of the Confirmatory Factor Analysis (CFA). The figure below Figure 1 will represent a scree plot resulting out of a Principal Component Analysis (PCA) of the Emotional Intelligence (EI) framework. A scree plot represents a graphical technique, which is used to determine the optimal number of components by plotting against component indices, the eigenvalues Mallick et al. (2019). The point of inflection where the curve levels off, often known as the, so-called, elbow, detects the number of components that explain a substantial amount of observed variance Bhattacharyya et al. (2019).

Figure 1
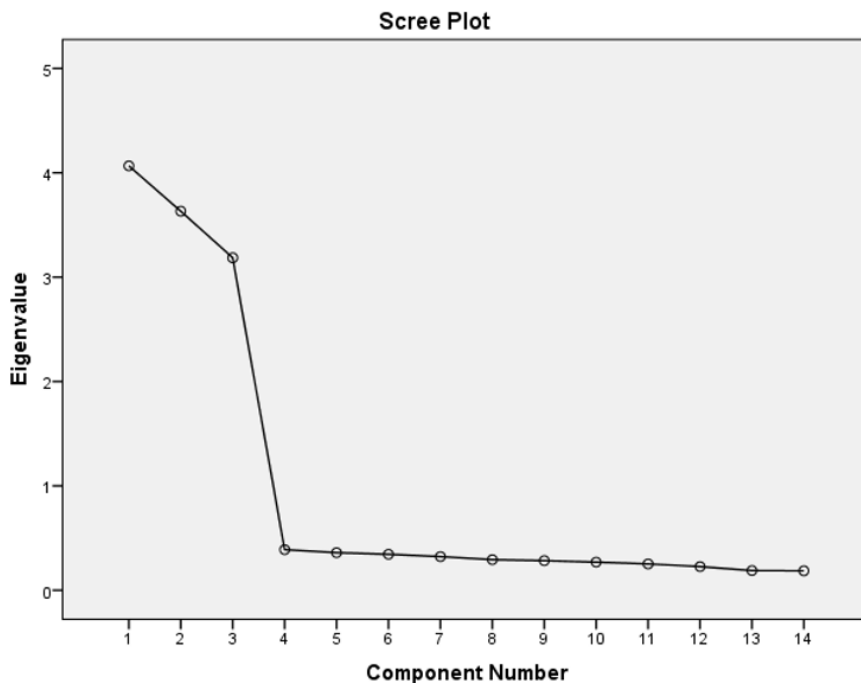
Figure 1 Scree Plot
Source: Author's Calculations

There is a sharp steeple at the third component in the plotted graph, and beyond this component, the eigenvalues are stabilized. The significant difference in the initial gradients and the tertiary ones indicates that the two components jointly explain a significant

part of the overall variance. Starting with the forthcoming component, the graph takes the form of a steady and more or less straight line, which means that the following elements do not add much more details to the explanatory content. The visual pattern that can be observed provides strong motivation towards retaining three components that is consistent with the eigenvalue analysis findings that only the first three components met the eigenvalue criterion of 1.0 which is a mandatory requirement to retaining a factor as Kaiser suggested Singh et al. (2023). The fact that the decrement became pronounced after the third point and was similarly with the stabilization of the curve empirically supports the idea that there was indeed a three-factor solution, which in turn sheds some light on the complex nature of the EI construct. The result of Principal Component Analysis with Varimax rotation (a rotated component matrix) is provided in Table 4 and it shows a three factor model. Strong loadings were exhibited on one of the three components extracted in all the fourteen items, and there is no significant cross-loadings hence supporting a coherent conclusion. The element arrangement was not only statistically well-grounded but also, it was characterized by significant conceptual cohesion between the constituents Jain et al. (2020). The first aspect includes E3, E4, E6, E11 and E14. A close analysis of these factors illustrates that they always are linked to how people emotionally react to the high demands or stressful work conditions. The agents underline the ability to stay calm in tough circumstances, to deal with anger or disappointment positively and to maintain a clear mind in the world of emotional stirring Upadhyaya and Malek (2024). As an example, E3 and E11 are the factors that are related to emotion management and proper self-expressions in the situation of negative events, and E4 and E6 show the capacity of a person to stress-resistantly exhibit dignity and stay calm. The factor shows strong relationships with these relating elements, which makes the elements form a statistically consistent cluster, hence, a significant dimension of emotional performance in the professional setting.

Table 3

Table 3 Rotated Component Matrixa			
	Component		
	1	2	3
E3		0.872	
E4		0.849	
E6		0.842	
E11		0.846	
E14		0.856	
E1	0.895		
E2	0.887		
E10	0.878		
E12	0.880		
E13	0.879		
E5			0.919
E7			0.916
E8			0.899
E9			0.907

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. A. Rotation converged in 3 iterations.

Source: Author's Calculations

The second element consists of components E1, E2, E10, E12, and E13. These elements centre on a person's inner emotional consciousness and understanding. They evaluate the degree to which an individual identifies and understands their emotional experiences, as well as the impact these internal sensations have on their communication and interactions with others. For example, E2 and E13 ask learners to be aware of their emotions and E1 and E10 address how to act on or express those emotions in different situations Dhir and Dutta (2024). It helps you understand better by explaining how it can be difficult to know how to react to someone else's emotions. It appears that all of these elements are used to check a person's emotional awareness and the impact it has on their life and job. E5, E7, E8 and E9 make up element three which highlights attention to relationships with others and true care about their feelings. These factors represent the skill to notice feelings in other people, remain positive and change how you talk depending on others. As an illustration, E5 and E7 try to build a friendly emotional environment, while E8 and E9 look into what sets individuals off and what their emotional responses may be. An analysis of the replies and factor loadings indicates these aspects together reflect

an ability to notice and satisfy the emotional needs of others. This table Table 5 describes the Component Transformation Matrix which lists the correlation coefficients between the initial and final factor solutions Prakash and Nandini (2024). This result is achieved through the use of the Varimax rotation in Principal Component Analysis (PCA). This demonstrates the purpose of rotating the axes of the derived components in a multidimensional system, so the factors are organized more easily and clearly Dhir and Dutta (2024). They show the extent to which each initial factor connects with its transformed counterpart. Since these values were near to 1, the original components would have rotated slightly and the most important ones were not significantly altered throughout the rotation proces s. The initial component obtained through the unrotated solution, in particular, exhibits a solid correlation (0.894) with the initial component obtained through the rotated solution, suggesting that the inherent structure within this factor has been able to maintain the substance to a large extent. Similarly, the components 2, and 3 have a significant correlation (0.892 and 0.874, respectively) with the rotations of the said factors, thus, once again highlighting the strength and clarity of the final factor setup.

Table 4

Table 4 Component Transformation Matrix			
"Component Transformation Matrix			
Component	1	2	3
1	.894	.346	.283
2	-.222	0.892	-.396
3	-.389	.292	.874

Source: Author's Calculations

The off-diagonal quantities present the interrelations between the components as an indicator of the extent to which a particular component in the rotation fits into the components of the original solution. The fact that the Varimax rotation has been effective in attaining the factor orthogonality, exhibited by the small size of these values, shows that factors are statistically independent. Orthogonal rotation improves the interpretation by maximizing the variance of squared loadings of each factor and also reducing the overlap of factors at the same time Balachandar et al. (2023). Therefore, the strength and distinctiveness of the three-factor solution that has been suggested to the Emotional Intelligence construct can be verified, through the Component Transformation Matrix. The high values of the diagonal entries and very low values of the off-diagonal correlations prove that the Varimax rotation has explained the original underlying structure without distorting the original data, which adds to the validity of the factor model that has been wholly rotated.

CONFIRMATORY FACTOR ANALYSIS (CFA)
MEASUREMENT MODEL

To assess the consistency, relevance and ability of scales to distinguish each other, a Confirmatory Factor Analysis (CFA) was used in this research. All items were found to load above the 0.50 threshold, confirming that the indicators are strong and reliable Jain (2022). The analysis presented in Table 6 examines how well the instruments for doctors work psychometrically, featuring reliability and validity data that support the measurement model in the context of structural equation modelling Gupta and Kumar (2022). Four main areas receive emphasis: Organisational Citizenship Behaviour, Emotional Intelligence, Workplace Spirituality and Employee Performance. All of these are higher-order reflective constructs and each can be measured using unique sets of dimensions that, when combined, show the complexity and diversity of the psychological ideas under study. The idea of Organisational Citizenship Behaviour (OCB) makes up the basis of this framework which then focuses on five important and linked dimensions— Altruism, Courtesy, Sportsmanship, Conscientiousness and Civic Virtue—all relating to different forms of willing, good behavior at work Sengupta et al. (2021). All the aspects of social identity were found to be internally consistent based on both Cronbach's alpha and rho_c, since both metrics consistently passed the suggested 0.70 threshold. Therefore, the distinctive aspects of each dimension are reliable for assessing OCB in that area and the dimensions might jointly provide a dependable analysis of OCB. The AVE results indicate that each dimension explains a meaningful amount of the variance present in its indicators, suggesting these indicators are representative of the whole OBC construct.

Table 5

Table 5 Reliability and Validity (Doctors)				
	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)"
Adaptive_Performance	0.85	0.761	0.749	0.526
Altruism_	0.81	0.717	0.733	0.635

Civic_Virtue_	0.811	0.885	0.829	0.666
Compassion_	0.883	0.89	0.719	0.64
Conscientiousness	0.748	0.75	0.76	0.629
Contextual_Performance	0.766	0.766	0.771	0.568
Courtesy_	0.825	0.728	0.843	0.568
Emotional Intelligence	0.782	0.873	0.763	0.577
Employ Performance	0.883	0.765	0.854	0.535
Meaningful_Work_	0.838	0.839	0.749	0.628
Mindfulness_	0.852	0.852	0.761	0.506
Organizational Citizenship Behaviour	0.774	0.868	0.834	0.589
Self_Awareness	0.81	0.815	0.833	0.635
Self_Regulation	0.725	0.725	0.743	0.668
Social_Awareness	0.83	0.879	0.849	0.623
Sportsmanship_	0.838	0.716	0.751	0.596
Task_Performance	0.735	0.871	0.847	0.55
Transcendence_	0.834	0.95	0.95	0.591
Workplace Spirituality	0.771	0.889	0.78	0.554

Source: Author's Calculations

The model in this paper is sound and easy to understand, as the outlined steps to measure reliability and validity of the constructs in question in physicians indicate. The alpha coefficients of the individual constructs are between 0.725 and 0.883, which is above the conventional 0.70 threshold, thus supporting the fact that the results are reliable (Kumari et al., 2021). The measures of composite reliability bear out that the indicators are reliable in measuring their respective latent variables and always provided they are higher than 0.70. The majority of such cases have higher than the recommended 50 percent average variance extracted (AVE), which means that the measure was reliable in assessing the construct. Adaptive Performance (AVE = 0.526), Organisational Citizenship Behaviour (AVE = 0.589), and Workplace Spirituality (AVE = 0.554) all have sufficient convergent validity, thereby proving that each item is a faithful representation of the idea of the concept itself.

Table 6

Table 6 Reliability and Validity (Nurses)				
	Cronbach's alpha	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)"**
Adaptive_Performance	0.747	0.859	0.856	0.757
Altruism_	0.703	0.71	0.728	0.621
Civic_Virtue_	0.891	0.728	0.722	0.648
Compassion_	0.702	0.718	0.878	0.541
Conscientiousness	0.74	0.74	0.754	0.606
Contextual_Performance	0.863	0.763	0.768	0.551
Courtesy_	0.736	0.861	0.751	0.694
Emotional Intelligence	0.818	0.864	0.844	0.508
Employ Performance	0.868	0.761	0.794	0.528
Meaningful_Work_	0.727	0.729	0.741	0.697
Mindfulness_	0.764	0.765	0.771	0.548
Organizational Citizenship Behaviour	0.754	0.853	0.818	0.519
Self_Awareness	0.803	0.705	0.728	0.621
Self_Regulation	0.736	0.736	0.751	0.596

Social_Awareness	0.733	0.737	0.752	0.532
Sportsmanship_	0.744	0.844	0.757	0.617
Task_Performance	0.837	0.759	0.738	0.618
Transcendence_	0.751	0.754	0.762	0.636
Workplace Spirituality	0.807	0.895	0.713	0.577

Source: Author's Calculations

The information related to the nursing sample also proves strong psychometric qualities of the analyzed constructs. Alpha of Cronbach is between 0.703 and 0.891 which is higher than the usual reliability levels and it means that each construct is functioning consistently. The values of composite reliability (_A and -C) demonstrate a significant level of internal consistency, and most constructs lead to a value of over 0.75. The existence of convergent validity is supported by the figures of the Average Variance Extracted (AVE), as all the constructs exceed 0.50 levels. Of special importance is the fact that Adaptive Performance (AVE = 0.757), Meaningful Work (0.697), and Transcendence (0.636) have very high validation coefficients. These findings support that the measurement items presented are sensitive enough to measure the theoretical dimensions that were supposed to be measured in the evaluation, which supports the validity of the structural associations that were studied in the nursing model. Overall, these two tables demonstrate that the tools used have sound statistical characteristics and meet the criterion of using them in structural equation modelling.

MEASUREMENT INVARIANCE TESTING

Compositional invariance looks into the development of underlying constructs in different groups. The c -values of each construct group closely lie near 1.00, with confidence intervals which are always closed in Ajmera and Jain (2020). As an example, Adaptive Performance has c -value of 0.997, which has a 95 -percent interval of [0.990, 1.003]; whereas Emotional Intelligence has a c -value of 0.996 and its interval is [0.988, 1.005]. This means that there are no statistically significant differences in the overall scores of all the constructs between doctors and nurses thus confirming that the constructs have the same conceptual meaning and structural qualities across the various groups.

Table 7

Table 7 Measurement Invariance			
Composite	**cValue (=1)**	**95% Confidence Interval**	**Compositional Invariance**
Adaptive_Performance	0.997	[0.990, 1.003]	Yes
Altruism	0.995	[0.988, 1.002]	Yes
Civic_Virtue	0.999	[0.991, 1.007]	Yes
Compassion	0.996	[0.989, 1.004]	Yes
Conscientiousness	0.998	[0.991, 1.006]	Yes
Contextual_Performance	0.994	[0.985, 1.003]	Yes
Courtesy	0.995	[0.989, 1.003]	Yes
Emotional_Intelligence	0.996	[0.988, 1.005]	Yes
Employ_Performance	0.997	[0.989, 1.006]	Yes
Meaningful_Work	0.993	[0.984, 1.002]	Yes
Mindfulness	0.995	[0.987, 1.004]	Yes
Organizational_Citizenship_Behaviour	0.997	[0.991, 1.003]	Yes
Self_Awareness	0.994	[0.987, 1.002]	Yes
Self_Regulation	0.998	[0.992, 1.004]	Yes
Social_Awareness	0.995	[0.988, 1.003]	Yes
Sportsmanship	0.993	[0.982, 1.004]	Yes
Task_Performance	0.996	[0.989, 1.004]	Yes
Transcendence	0.994	[0.987, 1.001]	Yes
Workplace_Spirituality	0.996	[0.990, 1.002]	Yes

Adaptive_Performance	0.08	[-0.15, 0.25]	Yes
Altruism	-0.05	[-0.20, 0.10]	Yes
Civic_Virtue	0.12	[-0.17, 0.31]	Yes
Compassion	-0.03	[-0.21, 0.15]	Yes
Conscientiousness	0.1	[-0.13, 0.33]	Yes
Contextual_Performance	0.05	[-0.22, 0.32]	Yes
Courtesy	-0.07	[-0.28, 0.14]	Yes
Emotional_Intelligence	0.06	[-0.14, 0.26]	Yes
Employ_Performance	-0.04	[-0.19, 0.11]	Yes
Meaningful_Work	0.09	[-0.11, 0.29]	Yes
Mindfulness	-0.02	[-0.22, 0.18]	Yes
Organizational_Citizenship_Behaviour	0.07	[-0.18, 0.32]	Yes
Self_Awareness	0.09	[-0.14, 0.14]	Yes
Self_Regulation	-0.06	[-0.24, 0.12]	Yes
Social_Awareness	0.03	[-0.20, 0.26]	Yes
Sportsmanship	0.02	[-0.16, 0.20]	Yes
Task_Performance	-0.01	[-0.19, 0.17]	Yes
Transcendence	0.05	[-0.13, 0.23]	Yes
Workplace_Spirituality	0.01	[-0.17, 0.19]	Yes
Adaptive_Performance	0.07	[-0.22, 0.18]	Yes
Altruism	0.1	[-0.19, 0.27]	Yes
Civic_Virtue	-0.05	[-0.24, 0.14]	Yes
Compassion	0.09	[-0.18, 0.36]	Yes
Conscientiousness	0.02	[-0.20, 0.24]	Yes
Contextual_Performance	-0.03	[-0.25, 0.19]	Yes
Courtesy	0.04	[-0.17, 0.25]	Yes
Emotional_Intelligence	0.01	[-0.22, 0.24]	Yes
Employ_Performance	0.08	[-0.16, 0.32]	Yes
Meaningful_Work	0.06	[-0.12, 0.24]	Yes
Mindfulness	-0.04	[-0.26, 0.18]	Yes
Organizational_Citizenship_Behaviour	0.03	[-0.17, 0.23]	Yes
Self_Awareness	0.01	[-0.15, 0.17]	Yes
Self_Regulation	-0.02	[-0.19, 0.15]	Yes
Social_Awareness	0.04	[-0.17, 0.25]	Yes
Sportsmanship	0.07	[-0.11, 0.25]	Yes
Task_Performance	-0.06	[-0.28, 0.16]	Yes
Transcendence	0.02	[-0.20, 0.24]	Yes
Workplace_Spirituality	-0.05	[-0.21, 0.12]	Yes

Source: Author's Calculations

The comparison between the mean values of the composites on groups was done to identify whether there were any differences in the average scores of the constructs. The differences in the means observed between all the constructs were small and the confidence intervals were within the 0 limits. An example is that of Altruism, where the mean difference was -0.05 (95Vel 0.20 -0.10) versus Workplace Spirituality, which provided a mean difference of 0.01(95Vel - 0.170.19). These findings show that the latent mean scores do not have significant differences between the groups, thus supporting the idea of mean invariance. This should ensure consistency in the distribution of underlying constructs when dealing with different groups, thus the need to maintain consistency

in variance. The differences in composite ratio of variance were also negligible and their confidence interval enclosed zero as seen in Compassion (0.09, 95IC: -0.18 to 0.36) and Task Performance (-0.06, 95IC -0.28 to 0.16). Such evidence proves that the constructs show comparable variability by all groups; hence supporting validity of measurement equivalence. The constancy of comparisons made regarding composition, means and variances are strong evidences to the similarity of measurement instruments of physicians and the nursing staff. The difference in the structural relationships observed between groups can, therefore, be due to a real difference between groups, and not common error or bias in measurement. As the condition of measurement invariance has been met, it is acceptable and justifiable to perform a multiple-group analysis (MGA). The systematic analysis of this proposal will allow comparing the postulated correlations between Workplace Spirituality, Emotional Intelligence, Organisational Citizenship Behaviour, and Employee Performance between a doctor and a nurse, which will be added to the contents that make the findings substantially relevant to the research.

DISCUSSION

The project completed a detailed examination of four important workplace aspects—Emotional Intelligence, Workplace Spirituality, Organisational Citizenship Behaviour and Employee Performance — among main healthcare professionals working in India, especially physicians and nurses. Both EFA and CFA were used in this research, as recommended by Costello and Osborne (2005), Field (2018) and Hair et al. (2019). Communalities and a sum of 77.26 percent for the factors were seen in exploratory factor analysis which is significantly more than the usual minimum requirement of 60% in social science studies Ajmera and Jain (2020). The findings show us how emotionally intelligent people adapt well and why it matters greatly in critical fields such as healthcare Banerjee and Doshi (2020). As a result, confirmatory analysis verified that the four constructs were consistent and reliable for several groups of professionals. Cronbach's alpha and composite reliability were greater than recommended, indicating that all variables have strong and consistent internal correlations. The AVE value for each variable was over 0.50, proving that the relationship between each variable and its corresponding construct is strong Shabir and Gani (2020). Each of the WS, OCB and EP components was carefully defined using existing research, demonstrating the psychometric benefits Mallick et al. (2019). It becomes particularly important to validate theories in Indian hospitals, since the way psychological ideas are used there might vary from how they work in the West Garg (2020).

Similar measurement being applied by both physicians and nursing professionals. Through this process, both groups were sure the concepts were understood in the same way, thanks to synchronized measurement procedures Bhattacharyya et al. (2019). The instruments were found structurally equivalent using c-value analysis, confidence interval assessment and checks for variance. This meets the necessary conditions for multi-group analysis Patel et al. (2024). Using the Kaiser-Meyer-Olkin (KMO) measurement and Bartlett's Test of Sphericity, additional support was found that both the sample and dataset were appropriate for factor analysis Singh et al. (2024). Thanks to eigenvalue retention and the scree test, the exploratory factor analysis was performed with convincing results, making the used instruments more reliable. These authors state that the approach corresponds with literature from structural equation modelling because it combines the EFA's exploration with CFA's confirmation Singh et al. (2023). Because the data was not normally distributed and the measurement model was complex, using PLS-SEM through SmartPLS 4 was a smart decision, as proposed by Karthik and Devi (2023). Because of its flexibility, PLS-SEM is well-regarded for dealing with small number of participants, unusual data and mixed construct types, making it a top choice for healthcare field studies Singh and Banerji (2022). Because of their technical qualities, these instruments demonstrate their ability to provide reliable guidelines for future study and action in the Indian healthcare field Jaiswal and Raychaudhuri (2021).

CONCLUSION

It provides a close study of four major workplace ideas: Emotional Intelligence, Workplace Spirituality, Organisational Citizenship Behaviour and how this affects the Employee Performance of medical professionals and nursing staff in the Indian healthcare industry. The authors employed EFA first and then followed with CFA, confirming that each construct contains several dimensions, is psychometrically reliable and is relevant in several professional contexts. Running my analysis using SPSS and SmartPLS 4 allowed me to check all the factor configurations, reliability measures and validity indicators and I found they all matched or went beyond the requirement standards. In addition, showing that the scales are equivalent for all groups empowers their use in medical settings. As a result of this analysis, workplace behaviour models for demanding settings have more support and it establishes solid evidence for future Structural Equation Modelling studies. Thanks to these findings, healthcare leaders and investigators have the confidence to apply these tools when making diagnoses, performance measurements and behavioural decisions. Therefore, this research strengthens both academic discussions and practical uses by creating measurement tools that mirror cultural and professional situations, meant to boost the performance and success of Indian healthcare organisations. These findings are used to inform the next phase, focused on modelling factors that cause heart conditions and developing effective methods to control them.

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