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# Psychological empowerment-a mechanism for well-being of teachers: Psychometric evaluation of a tool

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## Abstract:

**BACKGROUND:** Psychologically empowered employees are more innovative and proactive. Individual well-being is greatly impacted by psychological empowerment. Examining school teachers' "psychological empowerment" is important since it motivates them more than external circumstances and contributes to their well-being. Spreitzer's "Psychological Empowerment Scale" (PES) is a well-known instrument used for this purpose. Scarcity of studies on teachers' psychological empowerment and cultural differences in populations prompted the researcher to re-evaluate PES. This research would help bridge this gap by adapting PES to teachers and generating a valid and reliable measure of their psychological empowerment in India.

**MATERIALS AND METHODS:** Using convenient sampling, data was gathered from 498 secondary school teachers (age range of 30-55 years) in Assam (India) in 2023 for this cross-sectional study. IBM SPSS version 26 was used to conduct descriptive statistics, including Cronbach's  $\alpha$  for evaluating internal consistency. Exploratory factor analysis (EFA) was used to investigate the factor structure of the instrument, followed by confirmation of factor structure via Confirmatory factor analysis (CFA).

**RESULTS:** EFA provided considerable evidence of 4-factor structure, viz., meaning, competence, self-determination, and impact. The 12-item factor structure depicted good reliability and evidenced good model-fit indices values.

**CONCLUSION:** Psychological empowerment (PE) scale with four factors and 12 items is a reliable and valid tool for assessing PE of Indian teachers. The scale can be a good resource for principals, educational administrators, and teachers themselves to assess overall as well as dimension-wise components of PE while norms development of PE as per Indian teachers is recommended.

## Keywords:

Psychological empowerment, psychometric evaluation, school teachers

## Introduction

The Sustainable Development Goals (SDG-3)-Good health and well-being, adopted by the United Nations in 2015, calls for a universal attempt to ensure healthy lives and promote well-being for all at all ages by 2030. In this perspective, to ensure well-being of the student community, the teaching community must also experience well-being. Well-being has received considerable attention in behavioral sciences due to favorable

consequences in varied life domains as well as professional outcomes.<sup>[1]</sup> Education is crucial to sustainable development in a knowledge-based economy. Teachers' psychological well-being has a significant impact on the students' overall growth and wellness. Well-being is a feeling of fulfillment of one's place in the workplace, happiness, and satisfaction.<sup>[2]</sup> It is the perception of success, possessions, utility, and the lack of unhappiness, anxiety, and discomfort. Since psychological empowerment (PE) is a contributory factor to the concept of well-being, this study assumes significance.

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The connection between PE and well-being has been the subject of extensive research.<sup>[3]</sup> PE is considered as a cornerstone of health promotion theories and programs.<sup>[4]</sup> Spreitzer found that well-being is significantly influenced by PE.<sup>[5]</sup> Teachers who feel empowered experience change as well as increased job satisfaction, commitment, and well-being. PE was positively connected with well-being.<sup>[5]</sup>

Empowerment can be thought of in a variety of ways.<sup>[6]</sup> Spreitzer summarized two mutually supportive empowerment perspectives: the socio-structural viewpoint, which emphasizes contextual conditions for empowerment, and the psychological perspective, which emphasizes psychological aspects (such as democratic decision-making, open information flow, and flat organizational structures). Based on the work of Conger and Kanungo, self-efficacy has been identified as the central component of PE. Employees' sense of empowerment has been related to their level of job satisfaction and organizational loyalty.<sup>[7]</sup>

### Conceptual framework

Since there is a range of degrees to which an individual may feel empowered, "empowerment" is considered a continuous variable.<sup>[8]</sup> Rather than being an innate characteristic, empowerment is a learned set of ideas that develops in response to specific circumstances in the workplace.<sup>[8]</sup> Spreitzer (1995)<sup>[8]</sup> proposed a paradigm that differentiates between the four elements of empowerment, which are meaning, competence, self-determination, and impact, in accordance with Thomas and Velthouse's cognitive understanding of empowerment.<sup>[9]</sup> Each of the four components of PE, as in Figure 1, reflects an initiative toward one's employment role, and the overall sense of empowerment is felt through the interplay of all four.<sup>[8]</sup>

Congruence between an employee's beliefs, attitudes, and actions and the needs of the position creates meaning. When workers are appreciated as individuals and their work is acknowledged, it can go a long way toward fostering a sense of purpose in the workplace.<sup>[10]</sup> Treating employees with dignity can also boost morale, as it encourages them to work together toward common goals.<sup>[11]</sup>

Competence is the assurance that one has or carries the essential skills and knowledge to effectively carry out

one's responsibilities.<sup>[12]</sup> Acquiring a sense of competence can be accomplished by various means, including but not limited to formal education, independent study, exposure to new situations, mentorship, relationships, introspection, use of existing systems and resources, and interaction with the world at large.<sup>[13]</sup> Employees who believe they have competence in their work and workplace will be more likely to be productive and to exert a positive impact as a result. Over time, employees will be motivated to go above and beyond their job descriptions, take initiative, and show a strong loyalty to the company as a result of their work there.<sup>[8]</sup>

Self-determination is the degree to which an individual feels they can direct their own actions and decisions at work.<sup>[14]</sup> Choosing to initiate and control actions is a key component of self-determination dimension. Empowerment can only occur when people are given the freedom to make decisions for themselves because those who are given such freedom are better able to meet their employees' diverse requirements. Consequently, workers who are more autonomous report lower levels of stress and less work-family conflicts, greater life happiness, and a lower propensity to worry about their employment security.<sup>[15]</sup> Spreitzer (1995)<sup>[8]</sup> argues that the ability to exercise autonomy manifests itself in the form of decisions, particularly those that affect the way in which work is performed, how much time is spent on it, and how much effort is put in.

Impact describes a worker's capacity to influence favorable workplace results. It is the conviction that an employee has some say over organizational strategy, leadership, and daily operations.<sup>[8]</sup> Employees play a vital part in an organization because they have the potential to bring something new to the table in the form of their experiences, ideas, and hard work. Employees who have a positive outlook on the organization or their role within it are more likely to be motivated, loyal, and focused on success.<sup>[14]</sup>

### Teachers' psychological empowerment

The 1980s saw the commencement of the Western countries' efforts to overhaul education, and with it came the introduction of empowerment from management to teaching.<sup>[9]</sup> Teacher empowerment has emerged as an important aspect of teacher professional development as people realize that when it comes to changing how schools operate, teachers should take the role of leaders and practitioners.<sup>[9]</sup> PE includes things like teachers' belief in their own abilities, their command on subject matter, and their willingness to share authority.<sup>[16]</sup> Self-determination of a teacher is influenced by their level of confidence in their own abilities as a teacher.<sup>[17]</sup> Teachers who feel psychologically empowered are more likely to completely comprehend the social management system, take part in a variety of activities, and see their own worth in the

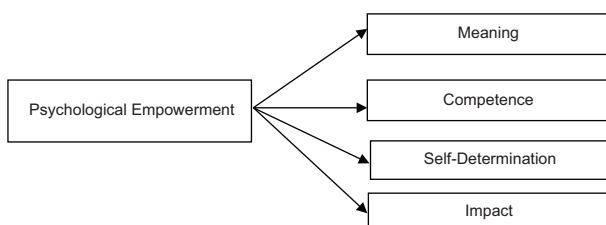


Figure 1: Conceptual framework of psychological empowerment

classroom, the school, and the society at large.<sup>[18]</sup> Researchers have found that the necessity of empowering teachers and educators has made PE in the classroom an essential topic,<sup>[14]</sup> for the reason that when teachers are given more autonomy in the classroom, they are better able to foster a culture where teachers feel like they own the space and administrators trust them to do their jobs. In addition, when teachers are empowered, they can use novel approaches to instruction that are both more interesting and more effective than the more conventional approaches that were previously the only ones available to them. Improvement in teachers' social standing, professional development, and decision-making were all identified as crucial to their PE.<sup>[19]</sup> Educational administrators find that teachers who have been given more autonomy are more participative in their work. When teachers have classroom autonomy, they are more committed to their work and more likely to arrive on time.<sup>[20,21]</sup> Teacher appreciation may also be fostered through teamwork, open lines of communication, and the creation of a healthy school culture.<sup>[21,22]</sup>

Numerous researches examined how principals at various grade levels influenced teachers' feeling of autonomy.<sup>[23]</sup> There has also been research into the institutional and personal factors that contribute to and result from teachers feeling more empowered in the classroom.<sup>[24,25]</sup> Despite the few researches on teachers' psychological empowerment, the studies are still insufficient.<sup>[26]</sup>

### Psychological empowerment scale (PES)

One of the most significant limitations of empowerment research is the non-availability of tools for assessing PE in the workplace.<sup>[27]</sup> Spreitzer (1997)<sup>[27]</sup> used existing resources and theoretical frameworks to develop the scale to measure workers' sense of PE on the job. Defining PE as a desirable construct exemplified by four dimensions, including meaning, competence, self-determination, and impact<sup>[28]</sup>; the PES was developed by Spreitzer (1995)<sup>[8]</sup> to measure the phenomenon of empowerment. The scale comprises 12 questions that assess meaning, competence, self-determination, and impact. The answers are rated on a range from 1 (very strongly disagree) to 7 (very strongly agree) on a Likert scale. A high PES score is indicative of an individual's confidence in own abilities.

Three positive items measure each PES dimension. The meaning subscale measures task importance with items 2, 5, and 10. This requires recalibrating job standards, personal values, and employee actions to an ideal or established pattern. Items 1, 9, and 12 of the Competence subscale measure employees' confidence in their competence to complete tasks and responsibilities in a way that pleases management and the organization. The initiative and self-assurance of the subject are revealed in the self-determination (items 3, 7, and 8) subscale. This dimension measures workers' task-related

decision-making. The impact subscale's items 4, 6, and 11 assess the respondent's workplace strategic, administrative, and operational influence.<sup>[8]</sup>

### Review of related literature

The PES has been translated into multiple languages and cultures and used in different populations as well as subjected to psychometric testing in several different countries, namely, Turkey,<sup>[29]</sup> United States,<sup>[30]</sup> China,<sup>[31]</sup> Spain,<sup>[32]</sup> Sweden,<sup>[33]</sup> Spreitzer's original discovery of a four-factor structure was supported by the studies in different cultural contexts.<sup>[34]</sup> Uner and Turan (2010)<sup>[29]</sup> used the Turkish PES and found that the results fit very well with the original four-factor model. One item from the impact dimension was omitted due to cultural variation, but other than that, the PES remained largely unaltered for the Spanish environment.<sup>[32]</sup> A Turkish study resulted in removing of a competence dimension and one of the items of meaning dimension to better fit the concerned study's underlying framework.<sup>[35]</sup> While in the American context, so that the factor structure could be fitted with the highest accuracy possible, it was suggested that a correlation be inserted between the subscales of self-determination and impact.<sup>[30]</sup>

It is important to validate the PES with other samples from diverse cultures to examine the proven indication of a universally constant factor structure, notwithstanding the PES's prominence as the prominent instrument for measuring PE.<sup>[14]</sup> As the characteristics of the population may directly influence the way in which an instrument can evaluate a construct, it is crucial to analyze the psychometric attributes of the adapted tool for that group and its intended purpose before implementing it.<sup>[36]</sup> Data collection and statistical analysis, which would ensure localization and adaptation of the scale, is important for determining the reliability and validity of PES in an Indian context. This research analyzed data from secondary school teachers to investigate the psychometric features of PES. Further, the scale can be a good resource for principals, educational administrators as well as teachers themselves to assess overall as well as dimension-wise components of PE and will provide an understanding to future investigators, to trace back the underlying causes of low PE, anticipation of its probable consequences and likely interventions to deal with it as PE is an essential mechanism underlying workplace well-being of teachers. Hence, objective of this research was to examine different factor structure and psychometric properties of PE scale on Indian teachers.

## Materials and Methods

### Study design and setting

The current study was cross-sectional validation study involving psychometric analysis of PES as an assessment

tool. The inclusion criteria in the current study were secondary school teachers (age range of 30-55 years) from 6 schools in the eastern region of Assam (India) by using convenient sampling in the year 2023.

### Study participant and sampling

In adaptation studies as well as in scale development studies, it is recommended to run an Exploratory factor analysis (EFA) followed by Confirmatory factor analysis (CFA) to show the validity of the structure. If there is a change in the factor structure, then one will not be able to detect the same by running only CFA.<sup>[37]</sup> It is recommended to use 5-10 individuals per instrument item.<sup>[38]</sup> Hence, in the current study for conducting EFA, responses were collected from 300 teachers, and after data were screened for unengaged responses and missing values, 249 teachers were selected. Male teachers made up 50.20% (M = 61.48; SD = 5.835) of the sample, while female teachers made up 49.79% (M = 59.96; SD = 4.990).

### Data collection tool and technique

The 12-item PES by Spreitzer (1995)<sup>[8]</sup>, which conceptualizes PE as a multi-factor dimension comprised of meaning, competence, self-determination, and impact, was adapted in the present study.

In the beginning, Professor Gretchen Spreitzer of the University of Michigan was requested for permission to utilize the PES. For the purposes of data collecting, questionnaires were issued to schools. The purpose of the study was given at the outset of the questionnaire to the respondents. IBM SPSS Statistics (version 26) and AMOS 23.0 were used to conduct factor analysis.

### Ethical consideration

To uphold ethical norms, the participants were informed of the study's purpose. It was emphasized that the purpose of the information gathered by the questionnaire was to learn about the concerned phenomenon rather than to personally evaluate each participant. The

participants were asked to give their consent before actual data collection and allow for the publication of results without any personally identifiable information. Participants were assured that they might withdraw from the study at any moment. The study was not intrusive.

## Results

This section presents the findings of the study, which evaluated the psychometric features of the PES.

### Exploratory factor analysis (EFA)

The KMO (Keiser–Meyer–Olkin) value of 0.781 of PES demonstrated that the collected data was adequate for factor analysis and that the sample size was suitable.<sup>[39]</sup> According to Hutcheson and Sofroniou the sample size is adequate if the KMO value is between 0.7 and 0.8; if it is between 0.8 and 0.9, it is very good; and if it is over 0.9, it is excellent.<sup>[39]</sup> A statistically significant Bartlett's Test of Sphericity (=3605.655, df = 66,  $P < 0.05$ ) confirms that the data adhered to a multivariate normal distribution.<sup>[39]</sup> All the items in the study shared a commonality of over 0.3 and had an anti-image correlation of above 0.5.<sup>[40]</sup> Each item's anti-image correlation must be greater than 0.5 to be accepted.<sup>[39]</sup>

Internal consistency and stability were evaluated to determine reliability.  $\alpha$  for PES was 0.850, as in Table 1, indicating high levels of reliability within the scale. Since the values of the corrected item-total correlation were found to be more than 0.30 for all items, hence all items were kept for further analysis.<sup>[41]</sup> Internal consistency reliability estimate  $\alpha$  for psychological constructs can be as low as 0.60.<sup>[42]</sup> Thumb rule of  $\alpha$  "higher than 0.80 is acceptable" was put forward by George and Mallery.<sup>[43]</sup> According to Cohen *et al.*, internal consistency is regarded as good if it is 0.7 and above.<sup>[44]</sup> The results of exploratory factor analysis are presented in Table 2. On a sample of 249 secondary school teachers, exploratory factor analyses with Kaiser's criterion (eigenvalue > 1),

**Table 1: Reliability information of the PES**

Dimension	Items	Corrected Item-Total Correlation (Dimension Wise)	A Index (Dimension Wise)	Corrected Item-Total Correlation	$\alpha$ Index (12 items)
Self-determination (SD)	SD1	0.919	0.969	0.558	0.850
	SD2	0.952		0.583	
	SD3	0.919		0.586	
Competence (C)	C1	0.933	0.976	0.626	
	C2	0.939		0.661	
	C3	0.982		0.672	
Impact (I)	I1	0.891	0.946	0.401	
	I2	0.932		0.400	
	I3	0.842		0.331	
Meaning (M)	M1	0.812	0.893	0.421	
	M2	0.810		0.414	
	M3	0.780		0.672	

maximum-likelihood estimation, and varimax rotation were used to evaluate the dimensionality of the scale. Standardized factor loading revealed how the construct and items were related. In this analysis, no measures were found to have cross-loadings. As presented in Table 3, the resulting four factors explained 91.58% of the total variance. Further, 39.766% of the variance was explained by the first dimension, 24.359% by the second, the third factor explained 17.063%, and the fourth factor accounted for 10.042% of the variance.

**Confirmatory factor analysis (CFA)**

The validity of the structure acquired through EFA should be tested in scale development studies using CFA.<sup>[37]</sup> CFA is regarded as an essential method for validation in social and behavioral sciences.<sup>[45]</sup> After the conduct of EFA, using the Kaiser Normalization approach and Varimax Rotation, four components, i.e. “Self-Determination,” “Competence,” “Impact,” and “Meaning,” were identified. To confirm the factor structure extracted, another sample of 300 teachers was collected, and after cleaning data, CFA was conducted on 249 secondary school teachers,

with male teachers making up 49.79% (M = 61.16; SD = 5.742) of the sample, while female teachers making up 49.79% (M = 59.73; SD = 5.004). CFA is used to evaluate the model’s goodness-of-fit and factorial validity of the factors.<sup>[46]</sup> Four goodness-of-fit indicators provide significant evidence of model-data fit. The indices of fit to consider are CMIN/DF, Tucker-Lewis (TLI), comparative fit index (CFI), and root square mean error of approximation (RMSEA). The desired values for both TLI and CFI are 0.90, whereas RMSEA value of <0.05 is regarded acceptable.<sup>[47]</sup> In the current study the fit indices found were CMIN/DF = 1.600 < 3, CFI = 0.993 > 0.95, SRMR = 0.032 < 0.08, RMSEA = 0.049 > 0.06, TLI = 0.991 > 0.95, P Close = 0.503 was calculated which suggested that the model is an excellent fit.

The PES factor structure was tested in this study utilizing the two most important construct validity criteria, convergent, and discriminant construct validity. Convergent validity is the analysis of the proportion of shared variance between items of a certain construct.<sup>[38]</sup> Several statistics were used to investigate the evidence of

**Table 2: Descriptive information of PES and factor loadings**

Items	Statements	Mean	Standard Deviation	Factor loading			
				SD	C	I	M
Self-determination	SD1	I have significant autonomy in determining how I do my job.	4.31	0.705	0.949		
	SD2	I can decide on my own how to go about doing my own work.	4.37	0.778	0.954		
	SD3	I have considerable opportunity for independence and freedom in how I do my job.	4.31	0.750	0.944		
Competence	C1	I am confident about my ability to do my job.	5.44	0.676	0.929		
	C2	I have mastered the skills necessary for my job.	5.47	0.730	0.921		
	C3	I am self-assured about my capabilities to perform my work activities.	5.50	0.763	0.938		
Impact	I1	My impact on what happens in my department is large.	4.45	0.792	0.947		
	I2	I have a great deal of control over what happens in my department.	4.39	0.727	0.963		
	I3	I have significant influence over what happens in my department.	4.44	0.760	0.926		
Meaning	M1	The work that I do is important to me.	6.29	0.625	0.897		
	M2	My job activities are personally meaningful to me.	5.90	0.779	0.905		
	M3	The work I do is meaningful to me.	5.86	0.810	0.840		

Notes: Rotation Method: Varimax with Kaiser Normalization. Factor loadings less than|0.40|are omitted for clarity.

**Table 3: 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	4.772	39.766	39.766	4.772	39.766	39.766	2.912	24.269	24.269
2	2.923	24.359	64.124	2.923	24.359	64.124	2.839	23.657	47.926
3	2.048	17.063	81.187	2.048	17.063	81.187	2.720	22.668	70.594
4	1.248	10.402	91.589	1.248	10.402	91.589	2.519	20.995	91.589
5	0.239	1.994	93.583						
6	0.219	1.825	95.408						
7	0.191	1.589	96.996						
8	0.106	0.883	97.880						
9	0.100	0.832	98.712						
10	0.072	0.604	99.316						
11	0.060	0.499	99.815						
12	0.022	0.185	100.000						

Extraction Method: Principal Component Analysis

convergent validity: (1) standardized factor loadings ( $\lambda$ ), (2) average variance extracted (AVE), and (3) construct reliability (CR). Meanwhile, AVE gives information regarding whether the group of indicators effectively represents a specific construct. The target values of standard factor loadings and the AVE are 0.50,<sup>[48]</sup> and an acceptable CR is when the value exceeds 0.60<sup>[38]</sup> and  $CR > AVE$ .<sup>[49]</sup>

The discriminant validity entails determining if a specific dimension (and its associated items) is distinct from other dimensions. Fornell and Larcker’s criteria are among the most widely used approaches for establishing the evidence of discriminant validity of a certain evaluation.<sup>[50]</sup> Using these criteria, dimensions are distinguished if the square roots of the AVEs are bigger than the correlation between the constructs.

According to Fornell and Larcker (1981)<sup>[50]</sup>, the square root of the AVE measurements must exceed all correlations between all components. The square root of the AVE, or major diagonal, is always superior to the correlations between the constructs, and the correlations have lower values than their respective reliabilities, indicating discriminant validity, as shown in Table 4.

An investigation of rotational factor loading matrixes indicated a basic structure [Figure 2]. Estimates of standard factor loading were between 0.84 and 0.98, exceeding the desired value of 0.50. In addition, the empirical data revealed that the AVE for all dimensions exceeds the threshold value of 0.50. In addition, the CR of each dimension of self-determination, competence, impact, and meaning were found to be 0.97, 0.97, 0.93, and 0.98, respectively. Each dimension’s Cronbach’s alpha value exceeded the target value of 0.70. Therefore, it can be claimed that the empirical evidence supports the reliability and convergent validity of PES for measuring PE. The model-data fit indices revealed an outstanding fit; hence, the measurement demonstrated conclusively that for measuring PE among school teachers, PES has a consistent factor structure.

### Discussion

The objective of the study was to examine PES psychometric properties on Indian teachers. Since all

items have satisfactory factor loadings, indicating a robust link between each item and its dimension, hence all can be used to evaluate PE in the context of Indian teachers. Acceptable consistency was suggested by high CR and  $\alpha$  values, as well as high standardized factor loadings for PES. This study’s high AVE provides significant support for convergent validity.

The study indicated a high degree of correlation between the items and their corresponding dimensions. High discriminant validity between the constructs provided additional evidence in favor of the PES’s good factor structure. In other words, each of the four components of Spreitzer’s PE construct—meaning, competence, self-determination, and impact—contributed separately.<sup>[8]</sup> Cronbach’s alpha confirmed good internal consistency and indicated removing of none of the items of PES. Corrected item-total correlation analysis in Indian samples revealed a significant correlation in line with Cohen’s norms.<sup>[44]</sup>

The findings of this study were in line with previous studies (Hochwalder and Brucefors (2005),<sup>[33]</sup> Kraimer *et al.* (1999),<sup>[30]</sup> Spreitzer (1995)<sup>[8]</sup>) related to the validation of PE scale.<sup>[32]</sup> The indices of reliability found for the factors’ internal consistency were consistent with the results reported by Spreitzer, 1995,<sup>[8]</sup> Sun *et al.*, 2012,<sup>[31]</sup> Teixeira *et al.*, 2016,<sup>[34]</sup> Santos *et al.*, 2014.<sup>[34]</sup> This suggests that the scale’s items are predictive of the same construct and consistent with one another. Further, the current findings extend the previous research findings on the conceptual and psychometric properties of PES, resulting in no item deletions (in line with the findings of Schumacher *et al.*, 2019),<sup>[34]</sup> Khairani *et al.* 2021),<sup>[14]</sup> Uner and Turan (2010)<sup>[29]</sup> and supported the Spreitzer’s original four-factor conceptual framework, thus indicating its validity.

To conclude, the current study displayed that the psychometric properties of PES, both reliability and validity, were acceptable. Using exploratory and confirmatory factor analyses on two samples, this study offered a preliminary stage in the verification of the 12-item PES. The structure of four factors was confirmed. The scale and its subscales have shown to be highly reliable. It is necessary to do more research to explore the predictive validity of the PES and to determine

**Table 4: CR, AVE, MSV, MaxR (H) of each dimension of PES and Square Root of the Average Variance Extracted (AVE) and Correlations Matrix**

	CR	AVE	MSV	MaxR (H)	SD	C	I	M
Self-Determination (SD)	0.970	0.914	0.109	0.976	<b>0.956</b>			
Competence (C)	0.978	0.936	0.195	1.032	0.330	<b>0.968</b>		
Impact (I)	0.934	0.826	0.058	0.979	0.240	0.100	<b>0.909</b>	
Meaning (M)	0.982	0.949	0.195	0.984	0.081	0.441	0.023	<b>0.974</b>

Significance of Correlations:  $P < 0.100$ ,  $*P < 0.050$ ,  $**P < 0.010$ ,  $***P < 0.001$  (Hu *et al.*, 1999)<sup>[51]</sup>. Note. The bold value of square root of AVE is on the diagonal and the values outside the diagonal represent the correlations between the constructs

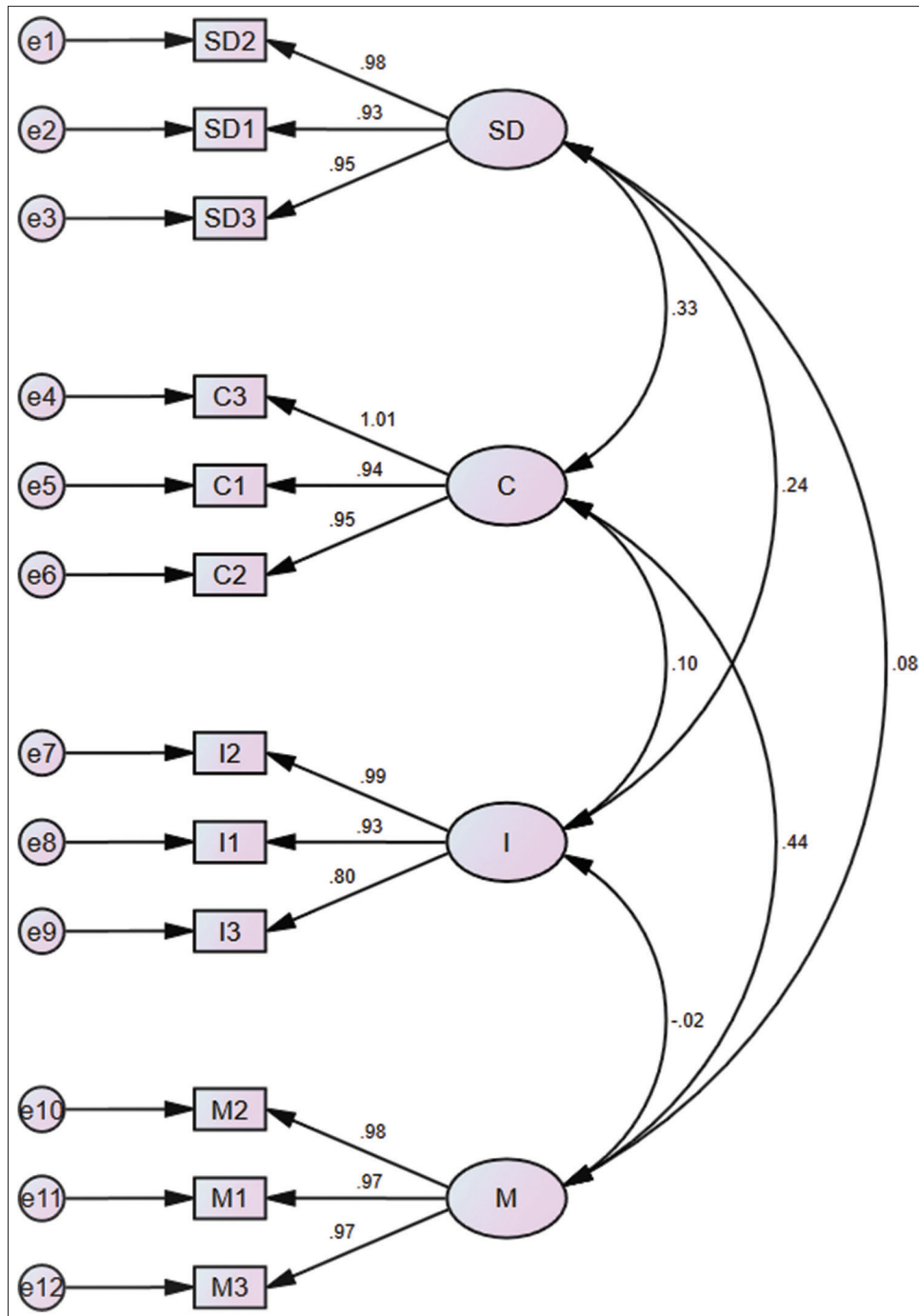


Figure 2: Four-factor structure of Psychological Empowerment Scale with standardized item loadings

whether the current results can be tested in other scenarios. However, the development of norms based on the Indian teachers' population is recommended to categorize the respondents as low, moderate, or high levels of empowerment based on scoring.

**Limitations and suggestions for future research**

While establishing the findings of the validation of PES in the Indian context, several limitations have been identified. In particular, illustrating the PES's

generalizability and cross-cultural comparison may offer some insight. This research was also constrained in terms of generalizability, as the samples consisted exclusively of school teachers. It is recommended that future studies look at the PES's factor structure among employees at different educational levels and in different organizations to provide evidence of measurement invariance. Researchers have used measurement invariance extensively<sup>[18,29]</sup> to strengthen the PES's construct validity.

Numerous limitations of this work point to vital directions for future investigation. The study did not specifically look at incremental validity or test-retest reliability. It might be possible to examine the stability of PES by gathering data repeatedly to evaluate test-retest dependability. This gap might be filled by future studies employing various or more representative populations. In the future, this study could be repeated and expanded to include more age and demographic categories. It is necessary to conduct more research to explore the convergent validity of PES and to determine whether the current findings are similar or different in other scenarios.

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### Conflicts of interest

There are no conflicts of interest.

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