

# Psychometric Validation of the Scale of Individual Cultural Values (CVSCALE) in Indian Context (Private and Public Leaders in Indian Organizations)

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## Abstract

*Existing measures of cultural orientations at the organizational level rely heavily on Hofstede's national cultural dimension scores, which overlook individual variability within countries. The Individual Cultural Values Scale (CVSCALE) measures individual orientations directly. This study aimed to investigate the factor structure and reliability of the CVSCALE for use with Indian corporate leaders. Data was collected from 321 Indian organizational leaders using the 26-item CVSCALE. Factor structure and psychometric properties were examined through exploratory factor analysis and reliability analysis. A five-factor structure consistent with CVSCALE dimensions emerged. Reliability coefficients exceeded acceptable thresholds ( $\alpha = 0.901$ ; split-half = 0.794). Dimension scores ranged from low to high, contrasting some of Hofstede's national Indian scores. Results support the CVSCALE as a reliable, valid tool for directly assessing cultural orientations at the individual level within Indian organizations. While uncertainty avoidance was high, other dimensions varied individually. This highlights that culture is complex, with diversity existing below the national level. The CVSCALE enables rich cultural analysis beyond solely examining nationality.*

**Keywords:** Hofstede; Culture; Values; CVSCALE; Exploratory Factor Analysis; dimensions.

## Introduction

Culture is “the shared experiences, beliefs, values, attitudes, religion, and conceptions of the world that are accumulated throughout one's life and passed down between generations” (Hofstede, 1980). According to Hofstede (1980), culture consists of truly desirable values rather than desired. These underlying values form the foundations that differ between cultural groups and can influence divergent perceptions and behaviors across ethnicities and nations. In recent decades, the impact of culture on business and organizations has become a significant topic of study. Traditionally, most research examined national or societal culture using frameworks like Hofstede's dimensions (Hofstede, 1984, 1991, 2001). However, there are some limitations to only considering culture at the country level. Individuals within a society can vary widely in their cultural orientations, values, and beliefs. As business environments become increasingly global and diverse, understanding these differences at the individual employee level is becoming more critical.

Measuring culture at the individual level allows for a more nuanced view of how cultural factors influence behaviors and outcomes within organizations. Employees from the same country may exhibit very different characteristics and preferences based on their upbringing, experiences, demographics, and other personal cultural influences. Accounting for this variability is crucial for areas like human resource management, leadership, communication, and knowledge sharing activities across diverse workgroups. Additionally, as the makeup of the workforce shifts towards being more multicultural within countries, addressing individual cultural identities and needs takes on new significance.

## Hofstede's Work on Culture

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Geert Hofstede conducted one of the first extensive empirical studies on cultural dimensions. Through a large-scale survey of over 116,000 IBM employees across over 40 countries starting in the late 1960s, Hofstede identified five broad cultural value dimensions that varied significantly between nations (Hofstede et al., 2010). The initial four dimensions that emerged from the data were: power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity (Hofstede, 1980). This empirical approach represented a milestone in moving beyond theoretical conceptualizations of culture to develop quantifiable measures (Hofstede, 1980).

Most importantly, his framework saw widespread adoption and generated numerous cross-cultural studies across diverse domains (Donthu & Yoo, 1998; Mattila, 1999; Furrer et al., 2000; Patterson & Smith, 2003). This utility confirms Hofstede's theoretical contribution in operationalizing national cultural variation. Over time, Hofstede refined his model based on additional data. A fifth dimension of long-term orientation was added similar to Confucian dynamism based on a Chinese values study (Chinese Cultural Connections, 1987; Hofstede & Hofstede, 2005). Later, indulgence versus restraint was incorporated as a sixth dimension (Hofstede, 2011; Hofstede et al., 2010; Maleki & De Jong, 2014). The original dimensions proposed by Hofstede include (Hofstede and Hofstede, 2005):

- Power Distance (PD): This dimension illustrates the extent to which “less powerful members of a society accept and expect that power is distributed unequally”. It signifies the level of hierarchy and inequality that is accepted in a culture.
- Individualism vs. Collectivism (COLL): This dimension focuses on “the degree to which individuals in a society are integrated into groups”. Individualistic cultures prioritize personal goals and autonomy, while collectivistic cultures emphasize group harmony and interdependence.
- Masculinity vs. Femininity (MASC): This dimension explores the distribution of emotional roles between genders. Masculine cultures value competitiveness, assertiveness, and material success, while feminine cultures prioritize cooperation, modesty, and quality of life.
- Uncertainty Avoidance (UA): This dimension reflects “the extent to which members of a society feel uncomfortable with uncertainty and ambiguity. Cultures high in uncertainty avoidance tend to have strict rules and rituals, while low uncertainty avoidance cultures are more open to change and risk-taking”.
- Long-Term Orientation vs. Short-Term Orientation (LTO): This dimension was later added to Hofstede's framework and focuses on the values associated with long-term planning and perseverance versus short-term gratification and tradition.

#### *Need for Individual-Level Analysis*

Hofstede's model of cultural dimensions, while influential, has received notable critiques. It is criticized for oversimplifying culture's complex nature through metrics (Dorfman & Howell, 1988; Shackleton & Ali, 1990) and generalizing from a single-company study in Western nations, reflecting potential cultural biases (Hill, 2007). The model also utilized IBM worker surveys that may not represent broader populations, consisting primarily of young, educated men (Yoo & Shin, 2017). Additionally, it generalized entire countries homogenously without acknowledging intra-national diversity or acculturation (Chabowski et al., 2013; Riefler et al., 2011; Yoo et al., 2011). As cultural values are acquired, not inherited, they evolve with new experiences and influences (Yoo & Shin, 2017). Also, globalization has increased heterogeneity versus when the model was proposed (Nakata, 2009).

Conceptualizing culture at the national level has benefits, but individual-level analysis is most pertinent for managerial and organizational research. Furthermore, there is evidence of poor reliability of using national level test for individual analysis such as latest Hofstede's Values Survey Module 94 (VSM 94) which demonstrates insufficient reliability when tested on subjects in multi-national datasets (Bearden et al., 2005; Hoppe, 1998; Spector et al., 2001). Soares et al. (2007) also reported poor reliability scores ranging from -0.26 to 0.51 using this measure.

In response to such critiques, many alternative individual-level frameworks have been developed (Dorfman & Howell, 1988; Sharma, 2010). More lately, Yoo et al. (2011) created the CVSCALE to quantify Hofstede's cultural values at the individual level of analysis. Subsequent validations found that CVSCALE reliably measured cultures in nations like the USA, Korea, Brazil, Thailand, and Poland (Yoo et al., 2011). CVSCALE addresses the need to measure intra- and international cultural comparisons at the personalized level (Yoo et al., 2011).

## Introduction to CVSCALE

Yoo et al. (2011) developed the Individual Cultural Values Scale (CVSCALE) by adapting questions from past studies measuring Hofstede's five cultural dimensions to apply to individuals. The CVSCALE assesses how personal orientations towards power distance, uncertainty avoidance, individualism, masculinity, and long-term orientation impact behaviors and choices (Yoo & Shin, 2017). Yoo et al. (2011) argued it could address prior limitations by quantifying cultural values for singular respondents rather than countries. Testing on American and South Korean college students supported the CVSCALE's reliability and ability to enable meaningful cross-cultural comparisons through multi-national invariance of factor loadings.

Subsequent studies have effectively employed the CVSCALE in cross-cultural examinations at the individual level (Paul et al., 2006; Kwok & Uncles, 2005; Chan et al., 2010; Smith, 2004; Soares et al., 2007; Alrawi & Jaber, 2008). Most notably, Mazanec et al.'s (2015) large sample (over 500) validation reinforced the scale as fit for individually gauging Hofstede's dimensions.

### *Reliability and Application of CVSCALE*

Several studies have confirmed the adequate reliability of the CVSCALE across diverse cultural contexts. Schumann et al. (2012) found configural, metric, and scalar measurement equivalence across 11 countries, supporting the cross-cultural comparability of the measure. Mazanec et al. (2015) also established reliability using two large U.S. samples and an item-response theory approach, concluding that CVSCALE is a valid means of assessing cultural dimensions at the individual level (Mazanec et al., 2015).

Additional research has assessed the reliability of CVSCALE in various sample types and languages (Hassan, 2015). Yoo et al. (2011) found satisfactory average reliability ranging from 0.72 to 0.78 across cultural dimensions. They also reported minimal reliability differences between the original English CVSCALE and non-English translations (Yoo et al., 2011). Bilgin and Kutlu (2021) specifically tested the Turkish CVSCALE and found it reliable among nurse respondents in Turkey (Bilgin & Kutlu, 2021).

Studies have also demonstrated CVSCALE reliability through diverse international applications. Djamen et al. (2020) found psychometric soundness when examining CVSCALE properties in Cameroon (Djamen et al., 2020). Prasongsukarn (2009) also validated CVSCALE in Thailand and found good discriminant and convergent validity along with high internal consistency (Prasongsukarn, 2009). Latif et al. (2019) confirmed reliability and validity when assessing Chinese consumer attitudes towards American goods (Latif et al., 2019). Yoo and Shin (2017) further underscored the scale's validity and ability to relate values to individual characteristics across situations (Yoo & Shin, 2017). In diverse context, Johnston et al. (2022) applied the CVSCALE to explore inherent individual values of ethnocentrism. In another study, Mckercher et al., 2021 utilized the CVSCALE to assess cultural homogeneity among tourists from Hong Kong traveling outside the city for pleasure, showcasing the scale's applicability in tourism research. Patterson et al. (2006) explored how individual-level cultural values moderate perceptions of justice in service failure recovery, using Hofstede's cultural typology to analyse the influence of values on justice perceptions.

Additionally, CVSCALE has been employed to examine the impact of individual cultural orientations on various behavioural constructs. Gelbrich et al., (2012) utilized it in assessing the relationship between cultural values and perceptions of advertising absurdity (Gelbrich et al., 2012). Warren and Campbell (2014) examined how cultural dimensions relate to bounded autonomy in different cultural contexts (Warren & Campbell, 2014). Sarma (2014) also applied CVSCALE in studying the influence of culture on buying decisions (Sarma, 2014). Within organizational contexts specifically, CVSCALE allows exploration of topics such as the impact of cultural diversity on team dynamics (Chua et al., 2012).

India provides a unique context to study intra-country cultural variations given its diverse population segments with a rich tapestry of traditions, languages, and beliefs co-existing under the same political structure. Additionally, the Indian economy has undergone significant reforms and liberalization over the past few decades leading to rapid growth of private sector organizations. However, public sector organizations still employ a large section of the Indian workforce and differ from private sector in terms of their operating philosophy, work culture and governance mechanisms (Dutta, 1997). While the CVSCALE has been widely used internationally, there have been limited validation studies reported from the Indian sub-continent. The current study aims to fill this gap by psychometrically validating the CVSCALE in the Indian organizational context across public and private sector leaders. It is expected that the study will provide insights into intra-country cultural differences and implications for workforce management in India.

## Method

This study examined the validity of the CV Scale for measuring cultural values among Indian corporate employees. An exploratory factor analysis (EFA) was conducted to assess its construct validity. The EFA identified the underlying dimensions represented by questionnaire items. This allowed the evaluation of the survey structure to align with Hofstede's model and capture Indian organizational culture appropriately. Psychological tools must be validated when used with new populations, even if established abroad (Foxcroft and Roodt, 2005). Validating the CV Scale's psychometrics with Indian employees ensured its appropriateness for the target context.

## Participants

Convenience sampling was used to select 321 Indian corporate leaders from both public and private sector enterprises as study participants. 165 leaders from public sector organizations participated, as shown in Table 1. Just 15.8% of them were men, while the majority (84.2%) were women. Regarding work experience, 32.7% of employees had more than 15 years of experience, and 33.3% had at least 15 years. Considering leadership experience, 29.1% reported having 11–15 years of experience, followed by 26.7% with 1–5 years and 24.2% with 6–10 years.

There were 156 leaders from organizations in the private sector present. With 53.2% of the population being male and 46.8% being female, the gender divide was closer. A sizable fraction (36.5%) and (34.6%) have had employee experience for at least 5 and 10 years, respectively. The majority of leadership experience (76.9%) fell between the years of 1 to 5, with 12.2% falling between the years of 6 to 10.

## Material

The CVSCALE, a self-report quantitative survey questionnaire intended to quantify Hofstede's five cultural dimensions at the person level, was the research instrument utilized in this work (Yoo et al., 2011; Yoo & Shin, 2017). The original Hofstede framework (Hofstede, 1980, 2001) evaluated cultural values on a national scale. It is possible to commit the ecological fallacy when using this approach to comprehend individuals (Brewer & Venaik, 2014). The CVSCALE was designed with the explicit goal of capturing cultural values at the individual level in order to overcome this constraint. The CVSCALE is a 26-item survey that assesses five cultural dimensions: Power Distance (PD) – 5 items; Uncertainty Avoidance (UA) – 5 items; Collectivism (COLL) – 6 items; Long-Term Orientation (LTO) – 6 items; and Masculinity (MASC) – 4

items. Each dimension is measured using a 5-point Likert scale. For Long-Term Orientation, the scale ranges from 1 ("very unimportant") to 5 ("very important"). For the remaining dimensions, the scale ranges from 1 ("strongly disagree") to 5 ("strongly agree"). Higher scores indicate high comfort levels with unequal distribution of power, dislike for ambiguity, prioritization for group goals and in-group harmony over individual needs, preference for traditional male values, and orientation towards future planning and delayed gratification.

Research has validated the CVSCALE's psychometric qualities including reliability, validity, and cross-cultural generalizability, as confirmed by studies such as Yoo and Shin (2017). However, what distinguishes this scale is its flexibility - it can be applied to conceptualize, measure, and aggregate cultural orientations at different levels of analysis, such as within societies (Hassan, 2015). Past applications in multiple industrialized settings, including the US, UK, Korea, Brazil, Portugal, Turkey, Azerbaijan, and Iraq, have demonstrated this utility (Yoo et al., 2011; Bilgin & Kutlu, 2021; Soares et al., 2007; Mammadova, 2021; Hassan, 2015).

The reliability of the CVSCALE has been supported through evaluations of internal consistency, test-retest reliability, and item reliability across diverse contexts (Bilgin & Kutlu, 2022; Yoo & Shin, 2017; Kıymalıoğlu et al., 2018, Prasongsukarn, 2009). The developmental study of the scale found that the alpha values of the CVSCALE's dimensions for Americans were 0.90, 0.88, 0.85, 0.84, and 0.79; for Koreans, the same dimensions showed 0.79, 0.79, 0.89, 0.84 and 0.78, signifying PD, UA, COLL, MASC, and LTO, respectively (Yoo et al., 2011; Bilgin & Kutlu, 2022). Furthermore, the validity of the CVSCALE has been evidenced through tests of convergent validity, discriminant validity, and construct validity, affirming its effectiveness in capturing the intended cultural dimensions (Yoo & Shin, 2017; Latif et al., 2019; Prasongsukarn, 2009). Additionally, the CVSCALE has exhibited cross-sample and cross-national generalizability, indicating its relevance and applicability in various cultural settings (Latif et al., 2019).

## Data Analysis

The study utilized a quantitative research design to validate the CV Scale in the Indian context. An online questionnaire containing the 26 items of the CV Scale was administered to 321 participants from public and private sector organizations in India. The collected data was first screened for any missing values or outliers. Descriptive statistics like skewness and kurtosis were examined to check the assumption of normal distribution of responses.

Following that, EFA was carried out to assess the scale's construct validity. The adequacy of the data for EFA was confirmed through Kaiser-Meyer-Olkin (KMO) test, Bartlett's test of sphericity and Kaiser's criterion for eigenvalues greater than 1. Principal component analysis with varimax rotation was employed as the factor extraction and rotation technique respectively to determine if items loaded as expected on the five hypothesized dimensions of the CV Scale.

After validating the factor structure through EFA, the internal reliability of each dimension was estimated using Cronbach's alpha and split-half reliability coefficients. Reliability values of 0.70 or higher for each subscale were considered acceptable based on past literature benchmarks. This helped determine if the validated factor structure demonstrated sufficient internal consistency to consider the subscales as reliable measurement tools of cultural values among Indian corporate employees. The results provided insights into using the CV Scale for future cross-cultural organizational research in India.

## Result

### *Descriptive Analysis*

The cultural orientation of participants was analyzed using descriptive statistical methods. As shown in Table 2, the means and standard deviations were calculated for all 26 items on the CVSCALE to get a preliminary sense of response patterns. The value of the power distance of employees ( $M = 2.37$ ,  $SD =$



1.16) was low. The values of collectivism, long-term orientation and masculinity ( $M = 2.68$ ,  $SD = 1.19$ ;  $M = 3.42$ ,  $SD = 1.13$  and  $M = 2.51$ ,  $SD = 1.16$ , respectively) were in the medium range. The scores measuring the uncertainty avoidance ( $M = 3.82$ ,  $SD = 1.02$ ) were high. The normality of the data distribution was also assessed by examining skewness and kurtosis values. Skewness indicates symmetry and how clustered responses are around the mean, affecting tests of central tendency. Kurtosis measures peakedness or outliers and how this impacts tests of variation. The skewness statistics ranged from -1.02 to 1.18, well within the conventional threshold of  $\pm 2.58$  (Hair et al., 2010), suggesting responses were relatively symmetrical with limited outlier tendencies. Kurtosis values fell between -1.15 to 0.71, also comfortably within the guideline range, demonstrating a normal distribution curve shape (Table 2). Therefore, all items of the CVSCALE were included in the exploratory factor analysis (EFA) to determine the internal validity of the inventory.

### *Exploratory Factor Analysis of CVSCALE*

The CVSCALE comprised 26 items designed to operationally capture five distinct cultural values based on prior theory of Hofstede's cultural dimensions. Given this conceptual framework, the study used an a priori criterion in EFA to examine if the five-factor structure held for the Indian population sample as well.

Prior to EFA, assumptions were tested as recommended in literature (Lattin et al., 2003). Multivariate normality and sampling adequacy are crucial to ensure the data is suitable for EFA. Bartlett's Test and Kaiser-Meyer-Olkin (KMO) test evaluated suitability, with Bartlett's determining if variables were sufficiently correlated and KMO assessing if partial correlations were small relative to overall correlations, confirming adequacy for EFA (Lattin et al., 2003; George & Mallery, 2016; Tabachnick & Fidell, 2019). KMO values exceeding 0.8 shows variables are well predicted by other variables without error, and values above 0.6 are acceptable (George & Mallery, 2016; Tabachnick & Fidell, 2019). For this study, the KMO value was 0.917, suggesting sampling was appropriate for EFA (George & Mallery, 2016). Bartlett's test resulted in  $\chi^2(325) = 555.32$ , which was significant at  $p < 0.000$ , indicating multivariate normality assumptions were met (George & Mallery, 2016; Lattin et al., 2003). Lastly, Kaiser's criterion was followed where factors with eigenvalues over 1.0 were retained, which were 8.15, 4.52, 2.48, 1.75, and 1.60 for the five extracted factors (Kaiser, 1970). Having satisfied these testing prerequisites, EFA was performed on the CVSCALE items.

EFA followed recommendations from experts involving factor extraction and rotation (Pallant, 2020; Tabachnick & Fidell, 2019). Extraction identified the optimal number of factors using PCA to summarize variance into fewer interpretable constructs (Field, 2013; Hair et al., 2010). Varimax rotation maximized high variable loadings on each factor while minimizing cross-loadings, improving interpretation (Pallant, 2020; Tabachnick & Fidell, 2019). Loadings in the rotated component matrix were examined, with values above 0.3 indicating strong correlation between a variable and underlying factor (Child, 2006). Following precedent, the practical significance threshold was set at 0.50 or above to retain an item within a given factor (Child, 2006).

Prior to factor extraction, communality estimates were generated which indicate the amount of variance each item shares with others. Communality ( $h^2$ ) represents the proportion of item variance explained by retained factors, computed as the sum of squared factor loadings (Tabachnick & Fidell, 2019). Items with very low communalities of less than 0.20, where 80% of variance is unique, are recommended for exclusion as they insufficiently describe the common construct. EFA aims to summarize shared variance through extracted factors (Child, 2006).

Chi-square was used to evaluate the model's goodness-of-fit ( $\chi^2 = 555.32$ ). The five-factor solution explained 71.24% of total variance in cultural dimensions. Following varimax rotation, the first factor which accounted for 31.36% of the variance, was the largest to emerge followed by the second factor explaining 17.40 % of the variance. The third, fourth and fifth factor explained 9.55 %, 6.75 % and 6.17 % of the variance. Each five variables (PD-1 to PD-5) and (UA-1 to UA-5) have high factor loadings spanning from 0.775 to 0.873 and 0.774 to 0.841 (i.e., a very strong relationship) with Factor 1 (Power Distance) and Factor 2 (Uncertainty Avoidance), respectively. Similarly, each six variables (COLL-1 to COLL-6) and (LTO-1 to

LTO-6) have strong relationship with Factor 3 (Collectivism) and Factor 4 (Long-Term Orientation) with their values ranging from 0.729 to 0.800 and from 0.690 to 0.823, respectively. Lastly, four variables (MASC-1, MASC-2, MASC-3 and MASC-4) also have a strong relationship with Factor 5 (Masculinity) with values falling in range 0.758 – 0.854.

Communalities ( $h^2$ ) and factor loadings are shown in Table 3. All items demonstrated communalities of 0.30 or higher, ranging from 0.558 to 0.821 indicating very good representation of the common variance. The rotated component matrix using varimax rotation showed a clear five-factor structure without any cross-loadings, validating this individual cultural values model for the Indian population.

#### *Reliability of CVSCALE in Indian Sample*

Reliability was examined in Table 4 using split-half coefficients and Cronbach's alphas. The Cronbach's alpha value for the overall scale is 0.901, and for its five factors, it is 0.903 (PD), 0.918 (UA), 0.912 (COLL), 0.894 (LTO), and 0.846 (MASC). All coefficient values exceeded the 0.70 threshold, demonstrating excellent reliability of CVSCALE scores (Struwig, & Stead, 2013). Following the split-half analysis that was carried out to evaluate the scale's internal consistency, the score of the total scale is 0.794, followed by the scores of five factors: 0.886 (PD), 0.922 (UA), 0.902 (COLL), 0.889 (LTO) and 0.834 (MASC). Thus, CVSCALE and its subscales were deemed suitably reliable and valid for assessing the conceptualized individual cultural values in the Indian context.

## **Discussion**

This study aimed to investigate the factor structure and psychometric characteristics of the Individual Cultural Values Scale (CVSCALE) in terms of reliability and factor structure within an Indian organizational context. The CVSCALE measures five cultural orientations – power distance, uncertainty avoidance, collectivism, long-term orientation, and masculinity. The results showed that the 26-item questionnaire is suitable for measuring 5 – the 5-factor structure of the CVSCALE.

In this paper, a comprehensive investigation of an individual's cultural orientation in the public and private sectors is presented. Descriptive analysis findings showed that employee scores for power distance were on the lower end, with a mean of 2.37. The means for collectivism, long-term orientation, and masculinity - 2.68, 3.42, and 2.51, respectively - fell within the low to moderate range. However, uncertainty avoidance received a high mean score of 3.82. Compared to Hofstede's earlier national cultural dimension scores, the respondents in the Indian workforce sample tended to rate themselves somewhat lower in terms of power distance, collectivism, and masculinity. This contrasts with the higher scores Hofstede found for India on these dimensions in his seminal cross-cultural research from the 1980s, 90s, and 2000s, highlighting that individual cultural orientation is not bound to national cultural identity but rather individuals of every cultural orientation can be found among all countries. The factor structure of cultural values was determined by EFA using PCA with varimax rotation to evaluate the dimensionality of the five factors of the CVSCALE. First, the assumption of normality was checked through examination of skew and kurtosis, then the KMO test and Bartlett's Test of Sphericity gave adequate and significant values for further analysis followed by eigenvalues exceeding 1.0. The values for communality estimates were higher than 0.3 ranging (0.558 - 0.821), with the overall model explaining 71.24% of total variance encompassing all cultural dimensions, which is higher than the total variance accounted by Hofstede (1980) – 49%, as well as in Thailand (54.9%) and Cameroon (51.57%) (Prasongsukarn, 2009; Djamen et al., 2020) and by Yoo et al., 2011 (44.5%). Every extracted factor had variables with values higher than 0.5, with the factor loadings of Uncertainty Avoidance being the highest (Table 3), which shows that each variable contributes significantly to the factor that was retrieved. Thus, all the 26 variables were retained. Out of the 26 variables, five factors were derived and categorized based on individual cultural value theory.

The reliability of CVSCALE was assessed by calculating split-half coefficients and Cronbach's alphas. The obtained values exceeded the required threshold and showed excellent reliability values for the entire scale ( $\alpha = 0.901$ ) with split-half reliability of 0.794 and for individual subscales (PD,  $\alpha = 0.903$ ; UA,  $\alpha = 0.918$ ; COLL,  $\alpha = 0.912$ ; LTO,  $\alpha = 0.894$ ; MASC,  $\alpha = 0.846$ ) with Uncertainty Avoidance (UA) dimension

showing the highest internal consistency. The reliability findings are in accordance with some previously discussed studies (Bilgin & Kutlu, 2022; Yoo & Shin, 2017; Kıymalıoğlu et al., 2018; Latif et al., 2019; Djamen et al., 2020; Prasongsukarn 2009). A prior study by Yoo et al. (2011) showed that the CVSCALE tool is reliable for measuring Hofstede's cultural dimensions across different cultures. Their research found high consistency within both American and Korean samples. Their results indicated high consistency within each group, with alpha coefficients ranging from .78 to .91. This research confirms similar findings from Yoo et al. (2011), suggesting that CVSCALE is a dependable tool for assessing Hofstede's dimensions across cultures.

## Implications

Cultural assessments like CVSCALE are invaluable tools for multinational corporations (MNCs) operating across borders or for any organization. In today's interconnected world, Multinational Corporations (MNCs) navigate a complex web of cultural dynamics. To operate effectively across borders, cultural assessments become a vital tool for success (Björkman et al., 2007). These assessments provide MNCs with crucial insights into the cultural nuances that shape their workforce, consumer base, and overall business environment. One key benefit of using cultural assessments like CVSCALE lies in understanding the diverse makeup of an MNC's workforce. By identifying individual cultural differences in communication styles, work ethics, decision-making processes, and leadership preferences, MNCs can foster a more inclusive work environment. As evidenced from our study, Indian workforce respondents scored low on Power Distance, Collectivism, and Masculinity, contrasting with the national cultural scores of Hofstede's studies (Hofstede, 1984, 1991, 2001), which further showcases the importance of assessment of individual values over national values. This knowledge empowers to bridge communication gaps, navigate cultural sensitivities, and ultimately build stronger, more collaborative teams (Javidan et al., 2006).

Furthermore, the use of CVSCALE offers a significant advantage when entering new markets. Understanding consumer behavior, preferences, and values through cultural assessments allows companies to tailor their products, marketing strategies, and pricing models to resonate with the local audience (Cavusgil et al., 2008). This knowledge empowers them to avoid cultural faux pas and create products and services that truly connect with their target market.

## Limitations

While exploratory factor analysis (EFA), split-half reliability, and Cronbach's alpha can provide initial insights into a cultural assessment scale, they have limitations. EFA, though useful for initial exploration, needs to definitively identify the underlying factors. Confirmatory factor analysis (CFA) is needed to confirm their structure and stability (Fabrigar et al., 1999). Additionally, these tests don't assess construct validity, ensuring the scale measures what it intends to measure. Further evidence, like convergent and discriminant validity, is required for a complete picture.

Even though a sample size of 321 might meet some basic requirements, it's on the lower end for robust factor analysis. Smaller samples can lead to unstable factor solutions and unreliable estimates. Cultural assessment scales often need validation in different cultural contexts. Ideally, the sample should be more diverse in ethnicities and drawn from a more significant number of organizations. This would provide a stronger foundation for understanding how the scale functions across various cultural settings.

## Conclusions

The CVSCALE multidimensional model shows promise as a tool for assessing cultural dimensions in the Indian workplace context. Its reliable and valid measurement of Hofstede's key cultural factors through a streamlined five-factor approach makes it well-suited for gaining insights into the Indian workforce. While the scale has proven helpful in other country studies, more validation is needed with more extensive and more diverse Indian samples and participants from different regions to strengthen confidence in its applicability. There may be room for further refinement of the CVSCALE to capture cultural attributes at



the individual level more fully. Not all elements of one's culture may be represented through its current items and dimensions. Additional testing with modified or expanded versions could help improve the instrument by ensuring that all meaningful cultural aspects are described. Continued validation and enhancement efforts will help ensure the CVSCALE remains a valuable assessment tool for understanding the impact of cultural values in the evolving Indian workplace or any other region globally.

**Conflict of interest:** The authors have no conflict of interest.

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**Appendix**  
**Table 1**

Demographic Characteristics of the Sample (Indian Corporate Leaders) (n=321)

Characteristics of Sample		Public Sector % (n)	Private Sector % (n)
Gender	Male	15.8 (26)	53.2 (83)
	Female	84.2 (139)	46.8 (73)
Experience	1-5 years	0 (0)	0 (0)
	6-10 years	4.8 (8)	0 (0)
	11-15 years	23.6 (39)	16 (25)
	16-20 years	22.4 (37)	34 (53)
	21-25 years	31.4 (52)	28.8 (45)
	26-30 years	8.5 (14)	16.7 (26)
	Over 30 years	9.1 (15)	4.5 (7)
Employee Experience	At least 5 years	4.8 (8)	36.5 (57)
	At least 10 years	29.1 (48)	34.6 (54)
	At least 15 years	33.3 (55)	21.8 (34)
	More than 15 years	32.7 (54)	7.1 (11)
Leadership experience	1-5 years	26.7 (44)	76.9 (120)
	6-10 years	24.2 (40)	12.2 (19)
	11-15 years	29.1 (48)	3.2 (5)
	16-20 years	7.9 (13)	7.7 (12)
	21-25 years	12.1 (20)	0 (0)

**Table 2**

Descriptive Statistics of items of the CV Scale (n = 321)

Code	Items of CV Scale	Mean	SD	Skewness	Kurtosis
PD-1	People in higher positions should make most decisions without consulting people in lower positions.	2.34	1.18	0.69	-0.56
PD-2	People in higher positions should not ask the opinions of people in lower positions too frequently.	2.51	1.15	0.46	-0.77
PD-3	People in higher positions should avoid social interaction with people in lower positions.	2.26	1.24	0.97	-0.08
PD-4	People in lower positions should not disagree with decisions by people in higher positions.	2.39	1.12	0.65	-0.40
PD-5	People in higher positions should not delegate important tasks to people in lower positions.	2.33	1.10	0.76	-0.12
UA-1	It is important to have instructions spelled out in detail so that I always know what I'm expected to do.	3.74	1.02	0.89	0.43
UA-2	It is important to closely follow instructions and procedures.	3.83	1.06	-1.02	0.50
UA-3	Rules and Regulations are important because they inform me of what is expected of me.	3.88	1.10	-1.00	0.42
UA-4	Standardized work procedures are helpful.	3.77	0.95	-0.70	0.27
UA-5	Instructions for operations are important.	3.86	0.99	-0.98	0.71
COLL-1	Individuals should sacrifice Self- Interest for the group.	2.55	1.08	0.39	-0.55
COLL-2	Individuals should stick with the group even through COLL-difficulties.	2.79	1.19	0.26	-0.98
COLL-3	Group welfare is more important than individual rewards.	2.82	1.22	0.18	-1.15
COLL-4	Group success is more important than individual success.	2.75	1.34	1.18	0.57
COLL-5	Individuals should only pursue their goals after considering the welfare of the group.	2.63	1.15	0.42	-0.78
COLL-6	Group loyalty should be encouraged even if individual goals suffer.	2.52	1.16	0.43	-0.76
LTO-1	Careful Management of Money (Thrift).	3.55	1.10	-0.52	-0.33

LTO-2	Going on resolutely in spite of opposition (Persistence).	3.13	1.01	-0.30	-0.16
LTO-3	Personal steadiness and stability.	3.45	1.19	-0.63	-0.45
LTO-4	Long-term planning.	3.54	1.19	-0.61	-0.46
LTO-5	Giving up today's fun for success in the future.	3.13	1.10	-0.69	-0.44
LTO-6	Working hard for success in the future.	3.72	1.19	-0.69	-0.44
MASC-1	It is more important for men to have a professional career than it is for women.	2.38	1.18	0.71	-0.31
MASC-2	Men usually solve problems with logical analysis; women usually solve problems with intuition.	2.52	1.12	0.49	-0.48
MASC-3	Solving difficult problems usually requires an active, forcible approach, which is typical of men.	2.53	1.11	0.45	-0.51
MASC-4	There are some jobs that a man can always do better than a woman.	2.60	1.22	0.34	-0.95

Note. PD = Power Distance; UA = Uncertainty Avoidance; COLL = Collectivism; LTO = Long-Term Orientation; MASC = Masculinity.

**Table 3**

Communalities and Factor loadings (EFA) of CV Scale (Five - factor solution)

Code	Communalities ( $h^2$ )	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
PD-1	.774	.866				
PD-2	.653	.775				
PD-3	.814	.873				
PD-4	.674	.787				
PD-5	.749	.841				
UA-1	.728		.809			
UA-2	.781		.823			
UA-3	.747		.788			
UA-4	.729		.774			
UA-5	.821		.841			
COLL-1	.644			.746		
COLL-2	.679			.729		
COLL-3	.801			.821		
COLL-4	.692			.800		
COLL-5	.753			.820		



COLL-6	.692			.773		
LTO-1	.572				.691	
LTO-2	.558				.690	
LTO-3	.785				.823	
LTO-4	.781				.812	
LTO-5	.617				.771	
LTO-6	.732				.756	
MASC-1	.629					.758
MASC-2	.771					.854
MASC-3	.690					.804
MASC-4	.659					.783

Note. PD = Power Distance; UA = Uncertainty Avoidance; COLL = Collectivism; LTO = Long-Term Orientation; MASC = Masculinity.

**Table 4**  
Cronbach's Alpha and Split-half Reliability Coefficients for CV Scale (n = 321)

Variables	Cronbach's Alpha	Split-half	Number of items
<b>Cultural Value Scale (CVSCALE)</b>	<b>.901</b>	<b>.794</b>	<b>26</b>
Power Distance (PD)	.903	.886	5
Uncertainty Avoidance (UA)	.918	.922	5
Collectivism (COLL)	.912	.902	6
Long-Term Orientation (LTO)	.894	.889	6
Masculinity (MASC)	.846	.834	4

Note. PD, UA, COLL, LTO and MASC are the five factors of CV Scale.