Validating a 17-Item Inventory for Schwartz's Four Higher-Order Values among Chinese General Adults

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Abstract

This study addresses the need for a concise yet robust instrument for assessing Schwartz's four higher-order values—Openness to Change, Conservation, Self-Transcendence, and Self-Enhancement. Given that existing measures are often lengthy and impractical in cross-cultural research contexts, this study aims to validate the psychometric properties of the 17-item Higher-Order Value Scale (HOVS17) among general adults in China. Using a quantitative approach with a sample of 295 Chinese respondents, confirmatory factor analysis demonstrated a strong four-factor structure, with excellent reliability and validity. The findings offer researchers a reliable, brief measurement tool suited for cross-cultural studies and practical assessments of values. Future research should further explore concurrent and predictive validity and extend the validation to diverse cultural and demographic groups.
Keywords: Openness to Change, Conservation, Self-Transcendence, Self-Enhancement, Value, China

Introduction

Values play a fundamental role in shaping human perspectives, judgments, and behaviors across cultures. As defined by Schwartz (2022), values are "desirable trans-situational goals that vary in importance and serve as guiding principles in the life of a person or other social entity." These principles are crucial in cultural and cross-cultural research for highlighting disparities among different cultures, social classes, occupations, religions, and political orientations (Falke, 2022). Values guide moral decisions and delineate notions of right and wrong. For instance, individuals valuing wisdom and virtue may demonstrate fairness and empathy, whereas those prioritizing wealth and status may pursue goals with less regard for ethical considerations, underscoring the role of values in influencing diverse behaviors and attitudes across societies (Schwartz, 2022).

In the three decades since Schwartz (1992) introduced his theory of human values, it has evolved into the foremost framework for researching values, identifying ten basic human

values that form a quasi-circumplex structure consistent across cultures and languages (Schwartz et al., 2012; Lechner, Beierlein, Davidov & Schwartz, 2024). These values are categorized into four higher-order groups reflecting core conflicts: Openness to Change versus Conservation, and Self-Enhancement versus Self-Transcendence (as shown in Figure 1). The higher-order value Openness to Change (i.e., the importance of following one's own intellectual and emotional interests, especially in novel situations) includes the basic values Self-Direction and Stimulation, whereas the opposing higher-order value Conservation (i.e., the importance of self-restriction, preserving the past, order, and resistance to change) includes Tradition, Conformity, and Security. Self-Transcendence (i.e., the importance of transcending selfish concerns and promoting the welfare of other people) is comprised of Benevolence and Universalism, whereas Self-Enhancement (i.e., the importance of enhancing one's own interests, even at the expense of others) includes Achievement and Power. Hedonism encompasses elements from both Openness to Change and Self-Enhancement, which is why it is typically not classified under the aforementioned higher-order values (Lechner et al., 2024).

Schwartz's value framework not only highlights universal aspects of human values but also accommodates cultural differences, emphasizing values' role in understanding global human behavior and societal dynamics (Schwartz, 2022). Building on Schwartz's foundational work, the study of values has expanded across various disciplines within social and behavioral sciences. Research has explored how values influence attitudes and behaviors (Lee et al., 2022), the relationship between values and well-being (Grosz et al., 2021; Sortheix & Schwartz, 2017), the evolution of values over a person's lifetime (Coelho et al., 2023), and the effects of cultural and contextual factors on value formation (Sagiv & Schwartz, 2022; Masuda et al., 2019). This burgeoning field continues to provide profound insights into the predictive power of values and their impact on a wide range of social and personal outcomes, further validating the significance of Schwartz's value theory in contemporary research.

The most widely adopted instruments to assess basic human values in Schwartz's theory are the 57-item Schwartz Value Survey (SVS) (Schwartz, 1992), the 40-item Portrait Value Questionnaire (PVQ) (Schwartz, 2003), and the 57-item Revised PVQ (PVQ-R) (Schwartz & Cieciuch, 2022).

Despite being validated as reliable and valid tools for evaluating human values (Anglim et al., 2022), researchers have raised concerns that these instruments are overly lengthy. Their extended duration could deter potential respondents, potentially leading to lower participation rates (Lechner et al., 2024; Lee et al., 2022; Grosz et al., 2021). In this regard, Lechner et al. (2024) argue that for certain research questions, particularly those involving higher-order values, it can be both sufficient and advantageous to evaluate these values using a more concise set of items. To support this approach, they created the Higher-Order Value Scale (HOVS17), an inventory comprising 17 items that measure the four higher-order Schwartz values, with each value assessed by 3 to 5 items. The HOVS17 was originally developed in German (Lechner et al., 2024). However, given the diverse cultural backgrounds of individuals across different countries and languages, there is potential for varied interpretations of the same questions. Accordingly, its psychometric properties (e.g., factor structure, validity, reliability) may differ among different types of samples across countries. As such, researchers may find it necessary to validate the questionnaire in their own countries to

ensure its cross-cultural applicability and reliability. Although HOVS17 demonstrated satisfactory psychometric properties in the German context (Lechner et al., 2024), it has not been validated among general adults in China. In response, this study aims to investigate whether HOVS17 can reliably and accurately assess the four higher-order Schwartz values (Openness to Change, Conservation, Self-Transcendence, and Self-Enhancement) among general adults in China.

Literature Review

Previous studies have extensively explored Schwartz's theory of human values using various instruments. These instruments have been widely validated across different cultural contexts and have significantly advanced our understanding of value structures (Schwartz & Cieciuch, 2022; Lee et al., 2022). Nevertheless, a notable limitation highlighted by researchers is their considerable length, which often leads to respondent fatigue, reduced participation rates, and potentially compromised data quality (Lechner et al., 2024; Anglim et al., 2022). Furthermore, translating these questionnaires into various languages can create ambiguity and cultural bias, potentially affecting the psychometric properties and interpretative validity of these instruments in different cultures (Masuda et al., 2019; Sagiv & Schwartz, 2022).

To address these concerns, recent research efforts have focused on developing shorter, more efficient scales, such as the HOVS17, to reliably capture Schwartz's four higher-order value dimensions (Lechner et al., 2024). Although the HOVS17 has demonstrated promising psychometric properties within German populations, its validity and reliability have not yet been adequately explored in diverse, particularly non-Western contexts such as China. Consequently, it remains uncertain whether the psychometric characteristics observed in European samples generalize to culturally distinct populations. Hence, the current study contributes to existing research by addressing these limitations, providing empirical validation of HOVS17 in a Chinese context, and offering insights into the cross-cultural applicability of this concise value measurement tool.

Research Methodology

This study employed a quantitative research approach to validate the psychometric properties of the HOVS17 among Chinese adults. The methodology encompasses participant recruitment, instrument translation and administration, and rigorous statistical analyses to assess content validity, factor structure, and reliability of the scale in the Chinese cultural context.

Participants

General adults (aged over 18) in China were targeted as the research population. Convenience sampling was applied to draw samples. Data was collected through self-reported questionnaires facilitated by WenJuanXing (an online survey platform in China). Potential participants were contacted through WeChat, where they first received a cover letter detailing the research objectives. They were assured of the confidentiality of their responses and informed of their right to withdraw from the survey at any time should they feel uncomfortable. Those who agreed to participate provided informed consent. From these procedures, a total of 300 samples were initially gathered. Upon examining for irregular response patterns, five samples exhibited straight-lining behavior and were therefore excluded. Consequently, the study proceeded with data analysis using 295 samples.

The participant demographics showed that 42.4% were females (N=125) and 57.6% were males (N=170). Regarding age, 14.2% (N=42) of the participants were 25 years old or younger. The majority, or 51.9% (N=153), fell within the 26 to 30 years age range, and the next largest group, those between 31 and 40 years old, made up 33.9% (N=100) of the sample.

Research Instrument

The four Schwartz higher-order values (Openness to Change, Conservation, Self-Transcendence, and Self-Enhancement) were evaluated using the HOVS17, where each value was assessed with 3 to 5 items (see Table 1). The HOVS17 scale uses a 6-point scale ranging from 1 (not at all similar to me) to 6 (very similar to me) (Lechner et al., 2024). Initially developed in German, the scale was translated into English by Lechner et al. (2024). Given that the study's focus was on general adult populations in China, where English might not be the first language for many, the scale items were also translated into Chinese. This translation aimed to facilitate understanding of the questions, potentially increasing the response rate and reducing the likelihood that respondents might select answers without fully understanding the questions (Sekaran & Bougie, 2016).

Table 1

The Items of Higher-Order Value Scale (HOVS17)

Higher-Order Value	Item	Basic value
Conservation	CO1: It is important to her/him to obey all laws.	Conformity
	CO2: It is important to her/him that the state is strong and can defend its citizens.	Security
	CO3: It is important to her/him to maintain traditional values and ways of thinking.	Tradition
Openness to Change	OC1: It is important to her/him to develop her/his own opinions.	Self-direction
	OC2: It is important to her/him to expand her/his knowledge.	Self-direction
	OC3: It is important to her/him to be free to choose by herself/himself what s/he does.	Self-direction
	OC4: It is important to her/him to figure things out herself/himself.	Self-direction
	OC5: It is important to her/him to have all kinds of new experiences.	Stimulation
Self-Enhancement	SE1: It is important to her/him to show that her/his performance is better compared to the performance of other people.	Achievement
	SE2: It is important to her/him that people recognize what s/he achieves.	Achievement
	SE3: It is important to her/him to be rich.	Power
	SE4: It is important to her/him to be the one who tells others what to do.	Power
Self-Transcendence	ST1: It is important to her/him to help the people dear to her/him.	Benevolence
	ST2: It is important to her/him to concern herself/himself with every need of her/his dear ones.	Benevolence
	ST3: It is important to her/him to care for nature.	Universalism

Higher-Order Value	Item	Basic value
	ST4: It is important to her/him to be tolerant toward all kinds of people and groups.	Universalism
	ST5: It is important to her/him that everyone be treated justly, even people s/he doesn't know.	Universalism

Data Analysis
The data analysis for this study followed a comprehensive approach to evaluate multiple aspects of the HOVS17's psychometric properties in the Chinese context. We employed several established analytical techniques to systematically assess content validity, factor structure, convergent and discriminant validity, and reliability of the instrument, adhering to rigorous standards in psychometric evaluation.

Content Validity
The content validity of the HOVS17 was assessed using the Content Validation Index (CVI) (Yusoff, 2019). Two experts specializing in human values were enlisted to evaluate the relevance of each measurement item in capturing the four Schwartz higher-order values. They rated each item on a 4-point scale ranging from 1 (not relevant) to 4 (highly relevant). According to Yusoff's guidelines, an item was considered valid if it received a rating of "3" or "4", while it was deemed invalid if rated "1" or "2". Subsequently, the proportion of valid items in the total items of each higher-order value was calculated to determine the CVI.

To derive an overall assessment of content validity, the two CVI scores were averaged. Yusoff (2019) emphasized that for a measurement scale to demonstrate adequate content validity, it should achieve an overall CVI score of at least 0.8. If the overall CVI falls below 0.8, adjustments to or elimination of the invalid items should be considered. Furthermore, the two experts identified grammatical errors and ambiguous items and offered suggestions for revision. Prior to large-scale questionnaire distribution, a preliminary check was conducted using a sample of 15 general adults in China to ensure clarity and understanding of the question terms and meanings.

Factor Structure
Given the established 4-dimensional structure of the HOVS17 (Lechner et al., 2024), this study aimed to validate this structure among Chinese general adults rather than exploring or specifying new dimensions. Confirmatory Factor Analysis (CFA) was chosen over Exploratory Factor Analysis (EFA) due to the clear prior knowledge on the factor structure (Memon et al., 2017). The fit of a measurement model with 17 items specified to 4 Schwartz higher-order values was examined. According to Hair et al. (2019), a good model fit is indicated when the Parsimony Normed Fit Index (PNFI) is 0.50 or higher, the Root Mean Square Error of Approximation (RMSEA) is 0.08 or lower, the Comparative Fit Index (CFI) is 0.90 or higher, the Normed Chi-Square (χ^2/df) is 3 or lower, and the Tucker-Lewis Index (TLI) is 0.90 or higher.

Convergent Validity
Convergent validity was evaluated using the guidelines set by Hair et al. (2019). Specifically, a measurement scale is deemed to possess good convergent validity if all its items have a factor loading (FL) of at least 0.60 and an average variance extracted (AVE) of 0.50 or greater.

Discriminant Validity

The assessment of discriminant validity was conducted using the Heterotrait-Monotrait (HTMT) criterion. According to Henseler et al. (2015), for discriminant validity to be established, the HTMT ratio should be less than 0.90.

Reliability

Reliability was evaluated using the standards suggested by Hair et al. (2019). The study determined that a measurement scale exhibits good internal consistency or reliability if it achieves scores of 0.70 or higher on composite reliability.

Result

This section presents the findings from comprehensive psychometric evaluation of the HOVS17 among Chinese adults. The results systematically address each aspect of validity and reliability, demonstrating the scale's performance in terms of content validity, factor structure, convergent and discriminant validity, and internal consistency when applied in the Chinese cultural context.

Content Validity

For the HOVS17 to establish content validity, the overall Content Validity Index (CVI) must reach at least 0.80. As illustrated in Table 2, two experts evaluated all 17 items as valid for representing the four Schwartz higher-order values. Consequently, with an overall CVI of 1, the content validity of the scale was considered satisfactory.

Additionally, experts pointed out ambiguity and grammatical errors in some of the measurement items and offered suggestions for corrections. Following these recommendations, the problematic items were revised to improve clarity and grammatical accuracy. As noted in Section 3.3.1, 15 general adults in China were invited to review the clarity and understandability of the terms and questions used in the 17 measurement items. After their review, they reported that all the terms and the meanings of the questions were clear and understandable, and they encountered no difficulties in responding to the questions.

Table 2
Content Validation Index

Higher-Order Value	Total number of items	Expert 1			Expert 2			Overall CVI
		Valid items	Invalid items	CVI	Valid items	Invalid items	CVI	
Conservation	3	3	0	1	3	0	1	1
Openness to Change	5	5	0	1	5	0	1	1
Self-Enhancement	4	4	0	1	4	0	1	1
Self-Transcendence	5	5	0	1	5	0	1	1

Factor Structure

As shown in Table 3, the four-factor model structure was found to have 1.283 on normed chi-square (χ^2/df), 0.989 on TLI, 0.797 on parsimony normed fit index (PNFI), 0.031 on root mean square error of approximation (RMSEA), 0.991 on comparative-fit-index (CFI), and 0.948 on GFI. These results demonstrate a good model fit of the four-factor model structure.

Table 3
Measurement Model Fit

Goodness-of-fit indices	Threshold value for good fit	Actual value
Root Mean Square Error of Approximation (RMSEA)	≤0.08	0.031
Goodness-of-Fit-Index (GFI)	≥0.90	0.948
Comparative-Fit-Index (CFI)	≥0.90	0.991
Tucker Lewis Index (TLI)	≥0.90	0.989
Parsimony Normed Fit Index (PNFI)	≥0.50	0.797
Normed Chi-square (χ^2/df)	1.0-3.0	1.283

Convergent Validity

All 17 measurement items exhibited factor loadings higher than 0.60, indicating strong relationships with their respective latent constructs. Additionally, all the latent constructs were found to have an average variance extracted (AVE) exceeding 0.50. This signifies that more than 50% of the variance in the measurement items is accounted for by their underlying latent constructs. These findings collectively suggest adequate convergent validity (refer to Table 4 for more details).

Table 4
Convergent Validity and Reliability

	Items	Factor Loading	Composite Reliability	Average Variance Extracted (AVE)
Conservation	CO1	0.956	0.936	0.829
	CO2	0.890		
	CO3	0.885		
Openness to Change	OC1	0.752	0.853	0.538
	OC2	0.683		
	OC3	0.744		
	OC4	0.763		
	OC5	0.723		
Self-Enhancement	SE1	0.847	0.915	0.729
	SE2	0.909		
	SE3	0.831		
	SE4	0.825		
Self-Transcendence	ST1	0.820	0.920	0.698
	ST2	0.779		
	ST3	0.909		
	ST4	0.862		
	ST5	0.802		

Discriminant Validity

The discriminant validity was evaluated using the Heterotrait-Monotrait (HTMT) criterion. As suggested by Henseler et al. (2015), HTMT values should be below 0.90 to confirm discriminant validity. According to the data presented in Table 5, all HTMT values are under this threshold, indicating adequate discriminant validity. This implies that the constructs are distinct and can be clearly differentiated from one another within the study.

Table 5
Discriminant Validity (HTMT)

	1	**2**	**3**	**4**
1. Self-Enhancement				
2. Openness to Change	0.657			
3. Self-Transcendence	0.115	0.068		
4. Conservation	0.079	0.094	0.066	

Reliability

The composite reliability values surpassed 0.70, indicating strong internal consistency and reliability of the HOVS17 (refer to Table 4). This suggests that the measurement items within each dimension exhibit internal consistency or a high degree of correlation with each other.

Discussion

This research aimed to validate the HOVS17, which was developed by Lechner et al. (2024). The study specifically focused on validating the factor structure of the scale and evaluating its reliability and validity among general adults in China. Before commencing extensive data collection, the relevance of the 17 measurement items was initially examined by two human values experts to determine how well these items measured the four Schwartz higher-order values.

As discussed, all 17 items were identified as valid and highly relevant for measuring the four Schwartz higher-order values. Despite the fact that HOVS17 was recently developed and less validated in the current literature, this finding was not surprising because the items were carefully chosen from the 57-item Revised PVQ (PVQ-R) (Schwartz & Cieciuch, 2022) and identified by Shalom H. Schwartz and his colleagues as items capable of capturing the breadth of the four Schwartz higher-order values (Lechner et al., 2024). The assessment of content validity in this study and verification of the measurement items by Schwartz in the study of Lechner et al. (2024) have provided support to the relevance of the 17 items in HOVS17 for assessing the four Schwartz higher-order values.

Regarding its factor structure, as noted in section 4.2, the four-factor model structure demonstrated good model fit among general adults in China. This finding supports and confirms the four-factor model structure identified by Lechner et al. (2024). In section 4.3, the study addressed the convergent validity of the four Schwartz higher-order values in the HOVS17, noting that it is satisfactory. Specifically, the 17 measurement items showed strong loadings on their respective factors and were found to share a high proportion of variance. This finding demonstrates that the items measure what they intended to measure.

The study also found that the four Schwartz higher-order values exhibit good discriminant validity, meaning that these latent factors are distinct and can be clearly differentiated from one another within this study. These evidences add value to the existing literature since they were absent from the original study of HOVS17 (Lechner et al., 2024).

Lastly, this study found good reliability or internal consistency of the HOVS17 among general adults in China. It is important to highlight, however, that the reliability of the four Schwartz higher-order values measured by HOVS17 was found to be slightly unsatisfactory in the original study conducted by Lechner et al. (2024). This discrepancy suggests that HOVS17 may yield different results in various contexts, potentially due to varied interpretations of the same measurement items. These findings support the study's earlier assertion that validating the questionnaire across different countries is essential for ensuring its cross-cultural applicability.

Conclusion

This study provides strong empirical support for the validity and reliability of the HOVS17 as a measure of Schwartz's four higher-order values among Chinese adults. The four-factor model structure was confirmed through rigorous statistical analysis, with excellent fit indices demonstrating the scale's structural integrity in the Chinese context. All psychometric properties examined content validity, factor structure, convergent validity, discriminant validity, and reliability met or exceeded established thresholds, indicating that the HOVS17 functions effectively as a concise yet comprehensive measure of higher-order values in China.

These findings have important theoretical and practical implications. Theoretically, they extend the cross-cultural applicability of Schwartz's value framework and provide further evidence of the universality of the four higher-order value dimensions. Practically, the validation of this brief 17-item scale offers researchers and practitioners in China a reliable and efficient tool for assessing values in various contexts, including educational, organizational, and clinical settings, without imposing undue burden on respondents.

Despite these contributions, several limitations warrant consideration. First, our validation focused primarily on construct validity and internal consistency, leaving aspects of criterion-related validity unexplored. Future research should examine both concurrent validity (by comparing HOVS17 scores with other established value measures) and predictive validity (by investigating relationships between HOVS17 scores and relevant behavioral outcomes). Second, our sample, while adequate in size, primarily comprised young to middle-aged Chinese adults from urban areas, potentially limiting generalizability. Further validation studies should include more diverse samples representing various age groups, educational backgrounds, and geographic regions within China.

Additionally, longitudinal studies would be valuable to assess the temporal stability of HOVS17 scores and investigate how values measured by this instrument evolve over time. Cross-cultural comparative studies using the HOVS17 would also enhance understanding of value similarities and differences across diverse cultural contexts. Finally, exploring measurement invariance across different demographic groups within China would provide important insights into the scale's universal applicability within this culturally diverse nation.

In conclusion, the HOVS17 demonstrates strong psychometric properties in the Chinese context, offering researchers a valid, reliable, and practical alternative to longer value assessment instruments. This validation contributes to the growing body of cross-cultural research on human values and provides a solid foundation for future studies examining the role of values in shaping attitudes and behaviors in Chinese society.

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