



Cross-cultural validation of the Chinese cultural value scale in tourism

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ABSTRACT

This study aims to validate the Chinese Cultural Value Scale in Tourism (CCV-T) across cultures, using a sample of 405 Australian tourists. Through the application of Confirmatory Composite Analysis (CCA) within Partial Least Squares Structural Equation Modelling (PLS-SEM), the study demonstrates that the CCV-T scale exhibits excellent measurement qualities, including indicator reliability, construct reliability, convergent validity, discriminant validity, and nomological validity. The CCV-T scale comprises five dimensions: Life and Leisure Enjoyment (LLE), Filial Piety and Relationship (FPR), Self-fulfilment, Righteousness, and Humanity, consisting of 17 measurement items. The findings indicate that this scale is suitable for use with Australian tourists, representing a Western cultural context. Moreover, the CCV-T scale demonstrates its potential as a universal tool for measuring cultural values in tourism, applicable across various cultural and national contexts. This makes it a valuable instrument for future cross-cultural studies focusing on cultural values within the realm of tourism. This study makes a significant contribution to the field of cultural value studies in tourism by establishing a scale that is valid across different cultures. Industry professionals and policymakers can utilize this scale and its dimensions for purposes such as tourism product development and policy creation.

1. Introduction

Cultural values, encompassing shared beliefs and norms, exert a significant influence on individual behaviors across various life domains [1–3]. Within the realm of tourism, these values are recognized as crucial social-psychological constructs intimately linked with tourist motivations [4,5], ultimately shaping and dictating diverse forms of tourist behavior [6–8]. Extensive attention has been devoted to the study of Chinese cultural values within the broader domain of human values [9–11]. Indeed, the influential work on cultural dimensions by Hofstede [11,12] can be traced back to the foundational research on Chinese cultural values conducted by Bond and his team [9,13].

Hofstede's analogy of culture as the "software of the mind" aptly captures the intricate nature of culture and its values. These values function as the underlying "software" deeply ingrained in individuals' minds, making them inherently challenging to observe or measure directly. Consequently, while cultural values hold paramount significance across various social science disciplines, their quantification at the individual level has proven to be a formidable task [14]. In the field of tourism, scholars have endeavored to

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develop scales for measuring cultural values e.g., [4, 13, 15, 16]. Notably, Huang and Wen [13], building upon the earlier work of Hsu and Huang [4], compiled a comprehensive list of 40 Chinese cultural value items pertaining to tourism. From this foundation, they constructed and validated a 5-dimensional Chinese cultural value scale in tourism (referred to as CCV-T), comprising 17 items.

Recognizing the dynamic and evolving nature of culture within and between societies [11,17,18], it is evident that economic globalization, immigration, and heightened human mobility have engendered a trend toward cultural convergence on a global scale [19]. For example, Ralston et al.'s study [20] confirmed a growing similarity in the work-related values of business professionals in China, Japan, and the US over a two-decade period from 1992 to 2011. Tourism serves as a potent catalyst for this cultural convergence, embodying a modern form of consumption that reflects a spectrum of contemporary life pursuits and values [4]. Some scholars contend that tourism represents a modernized culture intersecting both host and guest cultures within the tourism setting [21], essentially constituting a form of "globalized consumer culture" [22], p.15. A scrutiny of the CCV-T scale and its constituent items reveals their potential cross-cultural applicability. Thus, based on the crossvergence theory in cultural values studies [19,23,24], we posit that the CCV-T scale, as an embodiment of Chinese cultural values in the context of tourism, holds international relevance and applicability.

This study, therefore, endeavors to substantiate this proposition by cross-culturally validating the CCV-T scale using a sample from Western culture, specifically Australian tourists. To be specific, the study aims to address the following research question: can the five dimensions of the CCV-T scale, initially developed within Chinese tourist samples, equally serve as a measure of cultural value orientations among Australian tourists in the tourism setting?

This research tackles two crucial gaps in the field of cultural value studies in tourism. Firstly, despite some efforts by tourism researchers cf. [13, 15, 16], there is an evident scarcity of effective cultural value scales within tourism research. Given that tourism is fundamentally driven by culture and serves as a manifestation of global consumer culture, the absence of robust measurements for cultural values could significantly impede tourism research, particularly in understanding tourist behavior. Although Huang and Wen [13] took on the challenge of developing a cultural value scale in tourism, its universal applicability remains untested.

Secondly, in tourist behavior research, cultural values are often overlooked as explanatory factors for tourist behaviors. Many studies tend to treat culture as a confounding variable in understanding variations in tourist behavior across different cultures. This stems largely from the difficulty in measuring cultural values, compounded by the lack of a cross-culturally valid cultural value scale that can be applied to tourist samples in different countries and cultural contexts.

The cross-cultural validation of a cultural value scale in tourism holds theoretical and practical significance. Theoretically, given the intricacy of cultural values and the challenges in their measurement, a cross-culturally valid scale would significantly enhance the universal applicability of such a tool. Such a scale, applicable across multiple cultural contexts, forms a more robust knowledge base. Practically, a cross-culturally validated scale for measuring cultural values would pave the way for numerous cross-cultural studies in the realm of tourist behavior. Traditionally, culture has been viewed as an influencing factor on tourist behaviors, but its effective incorporation into studies has been elusive. Through this study, we demonstrate that even cultural values can be cross-culturally validated, advocating for more cross-cultural research designs in studies of tourist behavior.

The rest of this paper is organized as follows: following the introduction section, we provide a concise review of relevant literature leading to the identified research gaps. In Section 3, we outline our survey research design, including details on data collection and analysis. Section 4 presents our study findings. In Section 5, we discuss the implications of our study, both theoretically and practically, while also acknowledging the limitations associated with our research.

2. Literature review

Cultural values serve as fundamental determinants of human behavior [1,3]. In the case of China, these values encapsulate significant beliefs and social norms that have played a pivotal role in shaping the thoughts and actions of its people over the course of its enduring civilization [4,13]. Present-day China witnesses an ongoing evolution of these values; while certain traditional ones have become less relevant in the modern society, new, contemporary Chinese cultural values have emerged to reflect current social dynamics [4,9,18].

Tourism stands as a prominent consumer choice in modern society. Although cultural values are recognized as one of the key determinants of tourist behavior (4, 6–8, 32), the literature has seen a shortage of effective scales for measuring these values. In the realm of tourism research, some scholars have endeavored to explore the cultural values that underlie Chinese tourist behavior. For instance, Hsu and Huang [4], drawing insights from focus group interviews with Chinese residents in Beijing and Guangzhou, identified 40 Chinese cultural values and discussed their implications for tourism. While their primary aim was not to develop a scale for measuring these values in tourism, their work laid a foundation for potential scale development.

Building upon Hsu and Huang's [4] groundwork, Huang and Wen [13] took a step further by developing a scale to quantify Chinese cultural values in the context of tourism. Through a Delphi study for item generation and rigorous survey data collection, they arrived at a 5-dimensional, 17-item scale demonstrating desirable psychometric properties. The five dimensions encompass Life and Leisure Enjoyment (LLE), Filial Piety and Relationship (FPR), Self-fulfilment, Righteousness, and Humanity.

The Chinese cultural values scale in tourism developed by Huang and Wen [13] appears to hold broad applicability across various tourism contexts. Other scholars have also ventured into developing Chinese cultural value scales tailored to specific niches within tourism and hospitality. For instance, focusing on budget hotel consumers in China, Ren and Qiu [15] devised a scale incorporating three dimensions: traditional virtue, relationship value, and choice norms. Additionally, beyond scale development efforts, researchers have delved into specific Chinese cultural concepts such as face, guanxi, conformity, and respect for authority, examining their respective impacts on Chinese tourist behavior across diverse tourism settings [6–8].

The availability of a Chinese cultural values scale forms the foundation for empirically examining the relationships between distinct cultural values and various forms of tourist behavior across diverse tourism and hospitality contexts. However, the utility of a cultural value measurement scale may be limited if it cannot be effectively applied and validated across different contexts. In this context, the cross-cultural validation of such a measurement scale holds particular significance for several reasons. Firstly, the cross-vergence theory in cultural value studies [19,20] provides theoretical underpinning for these cross-cultural validation endeavors. Secondly, this validation opens up avenues for cross-cultural studies utilizing scales that have universal applicability in various fields of research.

Therefore, we posit that the Chinese cultural value scale in tourism (CCV-T) developed by Huang and Wen [13] likely possesses cross-cultural validity, owing to the convergent evolution of contemporary Chinese cultural values [18,20], coupled with the role of tourism as a contemporary global force driving cultural convergence. With this in mind, the current study endeavors to conduct an empirical investigation to assess the cross-cultural validity of the CCV-T scale.

3. Methods

In this study, we employed a questionnaire survey as our data collection method. Specifically, we utilized the 17-item Chinese cultural value scale developed and validated by Huang and Wen [13]. Additionally, to assess the nomological validity of the scale in a cross-cultural context, we incorporated two individual-level cultural value orientation scales from existing literature: the collectivism scale (consisting of 5 items) from Chen and Zahedi [25], and the consumer indulgence scale (comprising 4 items) from Heydari, Laroche, Paulin, and Richard [26] (refer to [Appendix 1](#)).

For the measurement of Chinese cultural values, respondents were asked to rate the importance of the listed 17 value items in the context of tourism, using a scale ranging from 1 (very unimportant) to 7 (very important). To gauge collectivism, respondents were presented with 5 statements, prefaced by a common question stem "when it comes to my relationship with the groups I belong to, for me ...". For example, one of the statements was "compared to having autonomy, being accepted as a member of a group is" and respondents were asked to rate its importance from 1 (not important at all) to 7 (very important for sure). On the other hand, the consumer indulgence items were assessed using a 7-point Likert scale, ranging from 1 ("strongly disagree") to 7 ("strongly agree").

We contracted a professional survey company to conduct our data collection. We implemented screening questions to identify our target respondents as Australian residents who had engaged in international travel between 2017 and 2019, before the COVID-19 pandemic. Eligible respondents were initially asked to provide demographic information, including age, gender, education level, marital status, and occupation. They were then prompted to rate the importance of the 17 cultural value items in the context of tourism, as adopted from Huang and Wen [13]. Subsequently, they were presented with questions assessing collectivism and consumer indulgence. It's worth noting that these measurements served as parts of a research instrument in a larger research project, which included more items measuring additional research constructs not utilized in this study. Respondents spent an average of 18 min completing the survey. To ensure the quality of the collected questionnaires, we incorporated attention check questions (e.g., please tick "3" in this row) in the survey.

Australia was selected as the context for cross-cultural scale validation for two key reasons. Firstly, it serves as a representative example of Western culture in the global East-West cultural divide. According to Hofstede's six-dimension national culture model, Australia and China exhibit stark differences in five out of six cultural value dimensions: power distance, individualism, uncertainty avoidance, long-term orientation, and indulgence, while showing some similarity in the masculinity dimension. Given that the CCV-T scale was originally developed within the Chinese cultural context, it is more appropriate to conduct the cross-cultural scale validation study in a typical Western culture country like Australia.

Secondly, the authors have substantial experience living and working in both Australia and China, providing them with a nuanced understanding of both cultures. This familiarity with both Australian and Chinese cultures positions the author team well to choose Australia as the context for the cross-cultural scale validation study.

To ensure the suitability of the sample for the tourism context, respondents were defined broadly as "tourists". The survey company utilized a national consumer panel similar to Amazon Mechanical Turk. By leveraging their panel pool in Australia, the company was able to approach a nationally representative sample for us. To refine the sample further, specific screening questions were implemented to select consumers who had engaged in international travel between 2017 and 2019, accounting for the influence of the COVID-19 pandemic. The data collection took place in July 2022, resulting in a total of 405 valid responses included in our data analysis.

In our data analysis, we adhered to the guidelines outlined by Hair, Howard, and Nitzl [27] for assessing measurement model quality in Partial Least Squares Structural Equation Modeling (PLS-SEM). SmartPLS 4 was employed for the analysis. It is worth noting that since PLS-SEM focuses on examining causal-predictive relationships by maximizing the variances of dependent variables, traditional goodness-of-fit (GOF) indices commonly used in covariance-based SEM practices are less applicable in reporting Confirmatory Composite Analysis (CCA) results. Therefore, it is standard practice to exclude GOF indices from the recommended reporting procedure for CCA results [27–29].

4. Results

4.1. Sample profile

Please refer to [Appendix 2](#) for the detailed sample profile. The female-to-male respondent ratio was approximately 3:2. Nearly half (48.9 %) of the respondents were aged over 44. A significant majority (73.1 %) had completed tertiary-level education, and slightly

more than half (52.6 %) were married. It is important to note that our sample may be slightly skewed towards female participants in terms of gender representation.

4.2. Descriptive statistics

Table 1 presents the descriptive statistics for the CCV-T measurement items, including mean, standard deviation, skewness, and kurtosis. The mean values for all items exceeded 4, indicating that respondents generally considered these values to be somewhat important or important in the context of tourism. Among the 17 measurement items, "being considerate of others" received the highest mean score (6.18), while "filial piety" received the lowest mean score (4.14). Given that Australia is known for its high level of individualism, the lower score for filial piety is understandable.

All skewness values were negative and had an absolute value of no more than 2. The largest kurtosis value was 5.129. According to Kline [30], absolute skewness values of no more than 3 and absolute values of kurtosis of no more than 8 are considered to indicate non-severe skewness or kurtosis. Based on these criteria, our data should not be viewed as severely non-normal. However, it is worth noting that one of the advantages of PLS-SEM over covariance-based SEM is its ability to handle non-normal data. Therefore, the skewness and kurtosis scores should not raise concerns in our data analysis.

4.3. Confirmatory composite analysis

Following the recommended steps outlined by Hair et al. [27], we conducted the confirmatory composite analysis (see Fig. 1). For comprehensive guidelines on this analysis, please refer to Hair et al. [27]. The results were generated using SmartPLS 4, and are presented in Table 2.

Initially, we evaluated the item loadings and their significance. Hair et al. [27] suggest that standardized loadings of the indicator variables should be at least 0.708 and statistically significant. As indicated in Table 2, all standardized loadings exceed 0.708, with the exception of indulgence (0.680), which is just slightly below 0.700. To further validate these results, we employed 5000 subsamples bootstrapping to test the significance level of these standardized loadings. Importantly, all of them were found to be statistically significant at the 0.001 level. Additionally, we provided the 95 % confidence intervals in Table 2, further confirming the robustness of our results.

The second step involves checking indicator reliability by squaring the standardized loadings of individual items [27,31]. Indicator reliability values indicate the extent of shared variance between the indicator variable and the construct it is intended to measure. As demonstrated in the third column of Table 2, all indicators share at least half of their variance with their respective constructs, except for "indulgence," which still exhibits adequate indicator reliability.

Moving on to step 3, we address construct reliability by examining both Cronbach's alpha and composite reliability. As depicted in Table 2, both Cronbach's alpha values and composite reliability values comfortably exceed the threshold value of 0.70 [27], indicating strong construct reliability.

In step 4, we assess convergent validity through the average variance extracted (AVE) values. Table 2 illustrates that all AVE values comfortably surpass the threshold value of 0.50 [27,32]. Consequently, we can confidently assert that the scale exhibits strong convergent validity.

Table 1
Descriptive statistics of CCV-T measurement items (n = 405).

Latent variable/indicators	Mean	Std. Dev.	Skewness	Kurtosis
<i>Leisure and Life Enjoyment</i>	5.87	1.047	-1.513	3.942
Leisure	4.83	1.466	-0.721	0.270
Indulgence	5.91	1.041	-1.590	4.248
Easy and comfortable	6.08	0.980	-1.700	5.129
Have fun and enjoyment				
<i>Filial Piety and Relationship</i>	4.14	1.327	-.206	.837
Filial piety	5.18	1.446	-.910	.770
Family orientation/kinship	5.39	1.231	-1.247	2.442
Friendship				
<i>Self-fulfilment</i>	4.91	1.222	-.796	1.214
Being an experienced person	5.22	1.226	-.944	1.495
Self-development	5.52	1.172	-1.022	1.715
Life enrichment				
<i>Righteousness</i>	5.61	1.152	-1.103	1.779
Sincerity	5.78	1.077	-1.123	2.162
Integrity	5.76	1.135	-1.220	2.198
Morality				
<i>Humanity</i>	6.11	0.961	-1.530	4.010
Honesty	6.18	0.938	-1.610	4.296
Being considerate of others	5.96	0.964	-1.245	3.071
Down-to-earth	6.16	0.943	-1.665	4.738
Kindness				

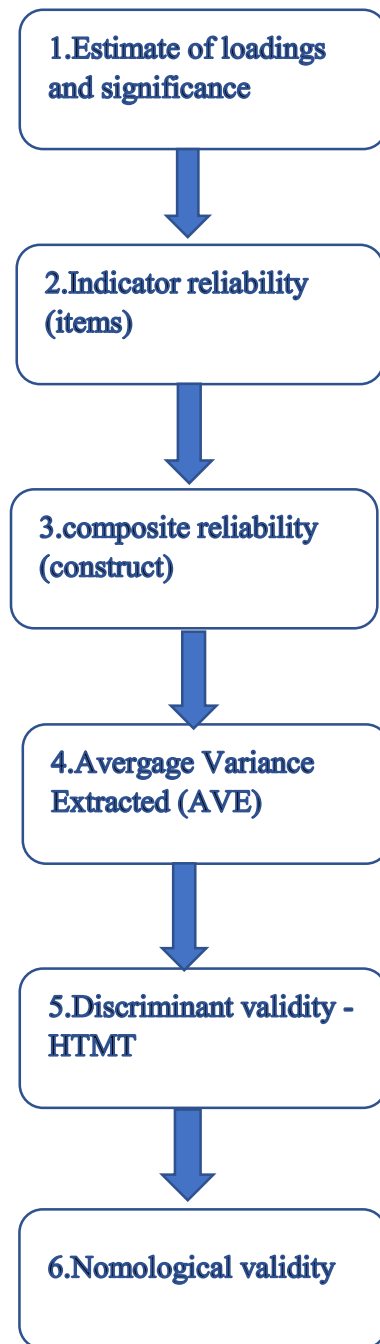


Fig. 1. Steps in Confirmatory Composite Analysis with reflective measurement models; Source: Hair et al. (2020) [27].

For step 5, we utilized both the Fornell-Larcker criteria [32] and the heterotrait-monotrait ratio of correlation (HTMT) approach [33] to evaluate the scale's discriminant validity. As highlighted in Table 3, all inter-construct correlations are below the square root values of the AVEs, thereby satisfying the Fornell-Larcker criteria. Additionally, all HTMT values are well below the lower threshold value of 0.85. These findings affirm that the scale successfully meets the criteria for discriminant validity.

In step 6, we address the crucial aspect of testing the nomological validity of the CCV-T scale. This step, often overlooked in tourism research [34], holds particular significance in our study since we are validating an existing scale cross-culturally. Nomological validity testing seeks to establish that the construct being measured is closely associated with other relevant constructs or concepts within the nomological network.

Given our focus on cultural values, we selected two individual-level cultural value constructs - namely, collectivism and consumer

Table 2
Confirmatory composite analysis results (n = 405).

Latent variable/ indicators	Standardised loading	Indicator reliability	Sample Mean (5000 samples bootstrapping)	95 % Confidence Interval	Composite Reliability (rho_a)	Cronbach's alpha	AVE
<i>Leisure and life enjoyment</i>	.805**	.648	.801	(.729; .855)	.796	.788	.612
Leisure	.680**	.462	.679	(.577; .762)			
Indulgence	.836**	.699	.832	(.758; .883)			
Easy and comfortable	.798**	.636	.799	(.721; .862)			
Have fun and enjoyment							
<i>Filial piety and relationship</i>	.711**	.506	.708	(.626;.775)	.814	.765	.680
Filial piety	.871**	.759	.870	(.824; .904)			
Family orientation/ kinship	.881**	.776	.881	(.848; .908)			
Friendship							
<i>Self-fulfilment</i>	.863**	.745	.862	(.819; .895)	.884	.877	.803
Being an experienced person	.938**	.880	.937	(.914; .954)			
Self-development	.885**	.783	.885	(.849; .913)			
Life enrichment							
<i>Righteousness</i>	.925**	.856	.925	(.899; .947)	.923	.919	.860
Sincerity	.954**	.910	.954	(.936; .968)			
Integrity	.903**	.815	.901	(.841; .940)			
Morality							
<i>Humanity</i>	.890**	.792	.891	(.852; .923)	.919	.915	.797
Honesty	.905**	.819	.903	(.858; .937)			
Being considerate of others	.872**	.760	.870	(.820; .908)			
Down-to-earth Kindness	.904**	.817	.903	(.866; .935)			

Note: **denotes p value < .01.

Table 3
Discriminant validity analysis.

construct	Fornell-Larcker criteria					Heterotrait-Monotrait ratio				
	1	2	3	4	5	1	2	3	4	5
1. Filial piety and relationship	0.824									
2. Humanity	0.436	0.893				0.494				
3. Leisure and life enjoyment	0.322	0.432	0.782			0.393	0.502			
4. Righteousness	0.482	0.705	0.329	0.927		0.558	0.764	0.380		
5. Self-fulfilment	0.493	0.431	0.325	0.513	0.896	0.592	0.476	0.383	0.567	

Note: Bold type values in the Fornell-Larcker criteria part of the table (diagonal line) denote the squared root values of AVE.

indulgence - and examined the correlations of the five CCV-T dimensions with these related constructs. Since all constructs pertain to cultural values, they are expected to be somewhat correlated with each other. However, depending on their position within the nomological network, some correlations may be stronger than others.

To establish the nomological validity of the scale, we correlated the factor scores of the five CCV-T dimensions with those of collectivism and consumer indulgence, employing 5000 subsamples bootstrapping. Table 4 reveals that, on the whole, the CCV-T value dimensions exhibit stronger correlations with collectivism than with consumer indulgence. Specifically, among the CCV-T value

Table 4
Nomological validity test results.

	Collectivism	Consumer indulgence
1. Filial piety and relationship	.364** (.257; .463)	.288** (.153; .414)
2. Humanity	.455** (.330; .561)	.236** (.114; .352)
3. Leisure and life enjoyment	.296** (.162; .421)	.277** (.172; .378)
4. Righteousness	.427** (.311; .540)	.253** (.125; .364)
5. Self-fulfilment	.305** (.185; .420)	.320** (.201; .421)

**p < .01; 95 % confidence intervals are shown in the brackets.

dimensions, humanity, righteousness, and filial piety and relationship show higher correlations with collectivism compared to self-fulfilment and leisure and life enjoyment. Conversely, self-fulfilment demonstrates a stronger correlation with consumer indulgence than any other CCV-T dimension. This pattern of correlations is readily interpretable. Thus, we have successfully demonstrated that the CCV-T scale also upholds its nomological validity in this cross-cultural validation test.

5. Discussion and conclusions

5.1. Discussion

This study aimed to validate the CCV-T scale developed by Huang and Wen [13] in a cross-cultural setting, using a sample of Australian tourists as respondents. Through the application of confirmatory composite analysis (CCA) within PLS-SEM, we established the cross-cultural reliability and validity of the CCV-T scale. Cultural values are considered fundamental beliefs and norms, which play an equally crucial role alongside tourist motivations in explaining consumer behaviors in tourism [35]. However, the absence of reliable and valid cultural value scales in tourism has hindered progress in research aimed at understanding the relationship between cultural values and tourist behaviors.

Analyzing the specific findings with the Australian tourist sample, we observed that Australian respondents rated the item "filial piety" comparatively lower in importance within the cultural value dimension of Filial Piety and Relationship. However, in the same dimension, family orientation/kinship and friendship were assigned high importance. Overall, it suggests that relationship and friendship hold significant cultural value dimensions across both Eastern and Western cultures.

Additionally, our study revealed that among Australian respondents, "indulgence" received a relatively lower rating in terms of importance compared to "leisure," "easy and comfortable," and "have fun and enjoyment." This finding appears contradictory to the high rating of Australia's national culture in terms of "indulgence" (71, compared to China: 24, USA: 68; UK: 69). This inconsistency warrants further investigation. One potential explanation could be the emergence of cultural convergence towards a more sustainable, green, and energy-saving global consumer culture, which might lead to the marginalization of "indulgence" as a consumer value.

Likewise, within the dimension of self-fulfilment, "being an experienced person" received a lower rating compared to "self-development" and "life enrichment". Given that self-enhancement and self-transcendence are fundamental human values [36], which prominently manifest in the context of tourism [37], it's reasonable to see self-fulfilment as a prevalent cultural value in this domain. However, it's worth noting that the specific items composing this dimension may demonstrate inter-cultural variability. It would be intriguing to conduct a comparative analysis across different cultural groups to assess the consistency or variability of these composing items and the overall assessment of this dimension.

Overall, the findings demonstrate that the CCV-T scale can be equally applied to a culturally distinct group of tourists – specifically, Australian tourists – when compared to the original Chinese tourist samples from the scale's initial development. The CCA analysis affirms that the scale exhibits cross-cultural validity and reliability, rendering it a valuable tool for cultural value measurement in future studies related to tourist behavior research.

5.2. Theoretical implications

This study makes significant contributions to the literature in several key areas. Firstly, it reinforces the value and applicability of the CCV-T in understanding Chinese tourist behaviors. As China continues to play a pivotal role in international tourism, gaining a more precise understanding of Chinese tourist behaviors through the lens of specific cultural values holds both theoretical and practical significance for tourism research. The CCV-T scale, tailored to the tourism context, offers insights that are more directly relevant to tourism practices. While concepts like "face" and "guanxi" are pertinent to explaining Chinese tourist behaviors [6–8], they may only capture limited facets of Chinese cultural values in tourism. The CCV-T scale, on the other hand, may provide a more comprehensive framework for examining these influences. For instance, the Filial Piety and Relationship (FPR) dimension encompasses items related to filial piety, family orientation/kinship, and friendship, potentially covering the influence of guanxi on Chinese tourist behaviors. Thus, the CCV-T scale is poised to serve as a concise instrument for exploring the cultural underpinnings of Chinese tourist behaviors.

Secondly, this study affirms the cross-cultural relevance and reliability of the CCV-T scale. Similar to Hofstede's foundational work rooted in the study of Chinese cultural values [9], our research demonstrates that cultural values derived from the modern tourism context with Chinese tourists can be extended to tourists from Western cultural backgrounds. This underscores the cross-cultural adaptability and utility of the CCV-T scale. To a significant extent, the cross-cultural validity of the CCV-T scale furnishes robust empirical evidence that tourism fosters cultural convergence in our contemporary world, thereby serving as an effective tool for cross-cultural understanding between nations. Consequently, while the acronym "CCV-T" still applies, it can now be regarded as an abbreviation for "common cultural value scale in tourism" rather than exclusively a "Chinese cultural value scale in tourism".

Thirdly, this study lays the groundwork for future cross-cultural inquiries into the relationship between cultural values and tourist behavior. Historically, early scales in tourism predominantly emerged within Western cultural contexts e.g., [38,39]. There has been a dearth of research providing measurement scales in tourism that can be applied across diverse cultural settings. Our study stands as one of the few endeavors within the tourism research community that recognizes the imperative of achieving cross-cultural equivalence in measurement instruments for studies on tourist behavior. In light of this, we advocate for more research scales in tourism research that are cross-culturally validated. The availability of robust, cross-culturally sound research instruments will facilitate a broader range of cross-cultural studies on tourist behavior in the future.

5.3. Practical implications

Cultural values are deeply ingrained beliefs that shape human behavior. This study affirms that the five dimensions of the CCV-T scale are equally applicable within a Western cultural context. These findings hold practical implications for policy makers and industry practitioners, guiding the formulation of industry policies and the design of experience-based tourism products.

Leisure and life enjoyment emerge as universal values that underpin tourism activities. Consequently, government policies aimed at fostering tourism industry development should prioritize the creation of infrastructural supplies and facilities that cater to people's desires for leisure, fun, convenience, and enjoyment. Relationships constitute another pivotal value in the realm of tourism. For industry practitioners, it is crucial to devise and implement a service provision system that addresses people's aspirations to strengthen family ties or kinship and fortify existing friendships. Experience-based tourism products can be tailored to meet families' desires for quality time together, adult children's wish to offer gratitude to their elderly parents through family reunions [40], and close friends' preference for holidaying together, such as guimi holidays [41].

Self-fulfilment reflects individuals' yearning for personal development and enrichment of life. Diverse forms of tourism and products can be developed to satisfy these fundamental needs for self-improvement and self-transcendence. The tourism industry provides a platform for extraordinary life experiences. Industry practitioners should focus on crafting tourism experiences that are enlightening, educational, transformative, and rehabilitative, thereby aiding individuals in achieving self-fulfilment.

Righteousness and humanity, as intrinsic human values, largely establish the benchmarks for interpersonal interactions in our contemporary society. These two cultural value dimensions, along with their constituent value items, can serve as guidelines for regulating employee behavior in customer service within the tourism sector. Tourism service providers might also consider developing codes of conduct for their employees based on these values. Adhering to these values in service provision is believed to yield satisfactory customer experiences, ultimately contributing to business and industry sustainability.

5.4. Limitations and future research

The current study employed a cross-sectional survey design, which prevented us from testing the predictive validity of the CCV-T scale, as recommended by Hair et al. [27], in the final step (Step 7) of evaluating measurement qualities using CCA. Methodologically, this stands as a limitation of our study. Since CCA has only recently gained recognition as a PLS-SEM analysis approach [27,42,43], its applications in assessing scale validity in tourism may be limited. Nevertheless, our study, by explicitly showcasing the use of CCA to evaluate cross-cultural measurement qualities of the CCV-T scale, contributes methodologically to research in tourism scale development.

It's important to note that the cultural values encompassed by the CCV-T scale may not cover the full spectrum of potential cultural influences on tourist behaviors. Therefore, we advise against assuming that the CCV-T scale comprehensively captures all cultural effects on tourist behaviors. Instead, it serves as a valuable tool for empirically studying cultural values in a tourism context. Researchers are encouraged to explore additional dimensions and cultural constructs to enrich this line of inquiry.

Our study relied on self-report measures, which may introduce a degree of bias, such as the social desirability effect. Future research could consider alternative methodologies for measuring cultural values, such as word association and projection methods. Additionally, since we commissioned a survey company to collect data and emphasized voluntary participation, our study may be susceptible to non-response bias. Subsequent research could employ street intercept survey methods and specifically address the non-response bias issue by interviewing those who chose not to participate in the survey, in order to understand their reasons for non-participation.

While Australian tourists represent a typical Western culture sample, it is important to note that our study findings may not be readily generalizable to other Western culture tourism groups, such as individuals from the United States or European countries, who may exhibit cultural differences from Australians. Therefore, we encourage fellow researchers to further validate the CCV-T scale with other Western culture tourist samples.

Data availability statement

The dataset in this study is made publicly available online with the paper on the Journal's website.

CRedit authorship contribution statement

Songshan (Sam) Huang: Writing – review & editing, Writing – original draft, Project administration, Methodology, Investigation, Funding acquisition, Formal analysis, Conceptualization. **Jian Xu:** Writing – review & editing, Funding acquisition, Conceptualization. **Jin Wang:** Writing – review & editing, Funding acquisition, Conceptualization.

Declaration of AI and AI-assisted technologies in the writing process

During the preparation of this work the authors used ChatGPT in order to improve the clarity and readability of the paper. After using this tool/service, the authors reviewed and edited the content as needed and take full responsibility for the content of the publication.

Declaration of competing interest

The authors declare that there is no financial or personal interest or belief that could affect our objectivity in the investigation as shown in this paper. We also declare there is no conflict of interest associated with submission and subsequent publication of this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.heliyon.2023.e22474>.

Appendix 1 measurement scales

The CCV-T scale (Huang and Wen, 2021)

How important are the following cultural values to you in the tourism context (from 1 = very unimportant to 7 = very important)

1. Leisure and life enjoyment

Leisure.
Indulgence.
Easy and comfortable.
Have fun and enjoyment.

2. Filial piety and relationship

Filial piety.
Family orientation/kinship.
Friendship.

3. Self-fulfilment

Being an experienced person.
Self-development.
Life enrichment.

4. Righteousness

Sincerity.
Integrity.
Morality.

5. Humanity

Honesty.
Being considerate of others.
Down-to-earth.
Kindness.
Collectivism (Chen & Zahedi, 2016):
When it comes to my relationship with the groups I belong to, for me.

1. Compared to having autonomy, being accepted as a member of a group is (not important at all/very important for sure)
2. Compared to individual success, group success is (not important at all/very important for sure)
3. Compared to individual freedom, belonging to a group is (not important at all/very important for sure)
4. Compared to receiving personal rewards, taking care of group welfare is (not important at all/very important for sure)
5. Compared to personal gain, being loyal to a group is (not important at all/very important for sure)

Consumer Indulgence (Heydari et al., 2021)

1. There should not be any limits on individuals' enjoyment
2. Societies should value relatively free gratification of desires and feelings
3. Desire, especially with respect to sensual pleasures, should not be suppressed
4. The gratification of desires should not be delayed

Appendix 2Sample profile

Category	Percentage (N = 405)
Gender	
Female	61.7 %
Male	38.3 %
Age	
18-24	5.4 %
25-34	19.8 %
35-44	23.7 %
45-54	17.3 %
55 or older	33.8 %
Education	
High school graduate or less	26.9 %
Some college education	22.5 %
Bachelor degree	36.5 %
Postgraduate degree	14.1 %
Marital status	
Single	29.9 %
Married without children	10.1 %
Married with children	42.5 %
Separated/Divorced	7.7 %
Defacto relationship	8.4 %
Others	1.0 %
Prefer Not to say	.5 %
Annual income (Australian dollar)	
Under 25,000	18.3 %
Between 25,000 and 55,000	26.7 %
Between 55,001 and 90,000	19.3 %
Between 90,001 and 135,000	21.7 %
Between 135,001 and 280,000	7.7 %
Above 280,000	.5 %
Prefer not to say	5.9 %

References

- [1] G. Hofstede, *Culture's Consequences: International Differences in Work-Related Values*, Sage, Beverly Hills, CA, 1980.
- [2] W. Qian, M.A. Razzaque, K.A. Keng, Chinese cultural values and gift-giving behaviour, *J Consum Mark* 24 (4) (2007) 214–228.
- [3] S.H. Schwartz, W. Bilsky, Toward a universal psychological structure of human values, *J. Pers. Soc. Psychol.* 53 (3) (1987) 550–562.
- [4] C.H.C. Hsu, S. Huang, Reconfiguring Chinese cultural values and their tourism implications, *Tourism Manag.* 54 (2016) 230–242.
- [5] J. Wen, S. Huang, T. Ying, Relationships between Chinese cultural values and tourism motivations: a study of Chinese tourists visiting Israel, *J. Destin. Market. Manag.* 14 (2019), 100367.
- [6] H. Gao, S. Huang, G. Brown, The influence of face on Chinese tourists' gift purchase behaviour: the moderating role of the gift giver-received relationship, *Tourism Manag.* 62 (2017) 97–106.
- [7] A. Kwek, Y.-S. Lee, Chinese tourists and Confucianism, *Asia Pac. J. Tourism Res.* 15 (2) (2010) 129–141.
- [8] A. Kwek, Y.-S. Lee, How "face" matters: Chinese corporate tourists in Australia, *J. Trav. Tourism Market.* 32 (2015) 120–140.
- [9] The Chinese Culture Connection, Chinese values and the search for culture-free dimensions of culture, *J. Cross Cult. Psychol.* 18 (2) (1987) 143–164.
- [10] G. Hofstede, M.H. Bond, The Confucius connection: from cultural roots to economic growth, *Organ. Dynam.* 16 (4) (1988) 5–21.
- [11] G. Hofstede, *Cultures and Organizations: Software of the Mind*, McGraw-Hill, London, 1991.
- [12] M. Minkov, G. Hofstede, Is national culture a meaningful concept? Cultural values delineate homogeneous national clusters of in-country regions, *Cross Cult. Res.* 46 (2) (2012) 133–159.
- [13] S. Huang, J. Wen, Developing and validating a Chinese cultural value scale in tourism, *Tourism Manag.* 86 (2021), 104327.
- [14] B. Yoo, N. Donthu, T. Lezartowicz, Measuring Hofstede's five dimensions of cultural values at the individual level: development and validation of CVSCALE, *J. Int. Consum. Market.* 23 (3–4) (2011) 193–210.
- [15] L. Ren, H. Qiu, Developing a measurement scale for cultural values and norms of Chinese mass travellers, *J. Hospit. Tourism Manag.* 38 (2019) 168–175.
- [16] N.K.F. Tsang, Dimensions of Chinese culture values in relation to service provisions in hospitality and tourism industry, *Int. J. Hospit. Manag.* 30 (2011) 670–679.
- [17] T. Fang, Yang Yin, A new perspective on culture, *Manag. Organ. Rev.* 8 (1) (2012) 25–50.
- [18] Y. Yan, The Chinese path to individualization, *Br. J. Sociol.* 61 (3) (2010) 489–512.

- [19] D.A. Ralston, C.P. Egri, S. Stewart, R.H. Terpstra, K. Yu, Doing business in the 21st century with the new generation of Chinese managers: a study of generational shifts in work values in China, *J. Int. Bus. Stud.* 30 (2) (1999) 415–428.
- [20] D.A. Ralston, C.P. Egri, I. Naoumova, L.J. Treviño, K. Shimizu, Y. Li, An empirical test of the trichotomy of values crossvergence theory, *Asia Pac. J. Manag.* 37 (2020) 65–90.
- [21] B. Canavan, Tourism culture: nexus, characteristics, context and sustainability, *Tourism Manag.* 53 (2016) 229–243.
- [22] Y. Reisinger, F. Dimanche, *International Tourism: the Global Environment*, London: Routledge, 2020.
- [23] D.A. Ralston, D.J. Gustafson, F.M. Cheung, R.H. Terpstra, Differences in managerial values: a study of U.S., Hong Kong and PRC managers, *J. Int. Bus. Stud.* 24 (2) (1993) 249–275.
- [24] D.A. Ralston, D.H. Holt, R.H. Terpstra, K. Yu, The impact of national culture and economic ideology on managerial work values: a study of the United States, Russia, Japan, and China, *J. Int. Bus. Stud.* 28 (1) (1997) 177–207.
- [25] Y. Chen, F.M. Zahedi, Individuals' internet security perceptions and behaviours: polycontextual contrasts between the United States and China, *MIS Q.* 40 (1) (2016) 205–222.
- [26] A. Heydari, M. Laroche, M. Paulin, M.-O. Richard, Hofstede's individual-level indulgence dimensions: scale development and validation, *J. Retailing Consum. Serv.* 62 (2021), 102640.
- [27] J.F. Hair Jr., M.C. Howard, C. Nitzl, Assessing measurement model quality in PLS-SEM using confirmatory composite analysis, *J. Bus. Res.* 109 (2020) 101–110.
- [28] F. Ali, S.M. Rasoolimanesh, M. Sarstedt, C.M. Ringle, K. Ryu, An assessment of the use of partial least squares structural equation modeling (PLS-SEM) in hospitality research, *Int. J. Contemp. Hospit. Manag.* 30 (1) (2018) 514–538.
- [29] J.F. Hair Jr., G.T.M. Hult, C.M. Ringle, M. Sarstedt, *A Primer on Partial Least Squares Structural Equation Modelling (PLS-SEM)*, third ed., Sage, Los Angeles, 2022.
- [30] R.B. Kline, *Principles and Practice of Structural Equation Modelling*, fourth ed., The Guilford Press, New York, 2016.
- [31] J.F. Hair Jr., W.C. Black, R.F. Anderson, B.J. Babin, *Multivariate Data Analysis*, eighth ed., Cengage Learning, London, 2019.
- [32] C. Fornell, D.F. Larcker, Evaluating structural equation models with unobservable variables and measurement error, *J. Mar. Res.* 18 (1) (1981) 39–50.
- [33] J. Henseler, C.M. Ringle, M. Sarstedt, A new criterion for assessing discriminant validity in variance-based structural equation modelling, *J. Acad. Market. Sci.* 43 (1) (2015) 115–135.
- [34] F. Kock, A. Josiassen, A.G. Assaf, Scale development in tourism research: advocating for a new paradigm, *J. Trav. Res.* 58 (7) (2019) 1227–1229.
- [35] S. Huang, Tourist motivation: a critical overview, in: R. Sharpley (Ed.), *Routledge Handbook of the Tourist Experience*, Routledge, New York, NY, 2022, pp. 200–211.
- [36] S.H. Schwartz, J. Cieciuch, M. Vecchione, E. Davidov, R. Fischer, C. Beierlein, Ramos A, M. Verkasolo, J.E. Lönnqvist, K. Demirutku, O. Dirilen-Gumus, M. Konty, Refining the theory of basic individual values, *J. Pers. Soc. Psychol.* 103 (4) (2012) 663–688.
- [37] G. Dann, Anomie, ego-enhancement and tourism, *Ann. Tourism Res.* 4 (4) (1977) 184–194.
- [38] S. Baloglu, K.W. McCleary, A model of destination image formation, *Ann. Tourism Res.* 26 (4) (1999) 868–897.
- [39] W.C. Gartner, Tourism image: attribute measurement of state tourism products using multidimensional scaling techniques, *J. Trav. Res.* 28 (1989) 16–20.
- [40] W. Wang, L. Yi, M.Y. Wu, P. Pearce, S. Huang, Examining Chinese adult children's motivations for traveling with their parents, *Tourism Manag.* 69 (2018) 422–433.
- [41] X. Chen, B. Mak, I. Calder, The guimi holidays of young Chinese women: evidence from cyber communities, *J. China Tourism Res.* 17 (2) (2021) 230–248.
- [42] E.E. Rigdon, Rethinking partial least squares path modelling: breaking chains and forging ahead, *Long. Range Plan.* 47 (3) (2014) 161–167.
- [43] M. Sarstedt, C.M. Ringle, J. Hensler, J.F. Hair, On the emancipation of PLS-SEM: a commentary on Rigdon (2012), *Long. Range Plan.* 47 (3) (2014) 154–160.