

RESEARCH ARTICLE

Folklore sports cultural identity based on emotional solidarity between residents and tourists in rural tourism along the yellow river in Shanxi province

Zhihui Li^{1,2}, Shamsulariffin Bin Samsudin^{1,*}, Noor Hamzani Farizan³, Zulkhairi Azizi Zainal Abidin⁴, Lei Zhang²

¹ Faculty of Educational Studies, Universiti Putra Malaysia, Serdang, Selangor, 43400, Malaysia

² Department of Physical Education and Health, Lvliang University, Lvliang, 033090, China

³ National Defense University of Malaysia, Kuala Lumpur, 57000, Malaysia.

⁴ Faculty of Nature Parks and Recreation, Universiti Putra Malaysia, Serdang, Selangor, 43400, Malaysia

* Corresponding author: Shamsulariffin Bin Samsudin, 20141031@llu.edu.cn

ABSTRACT

This study focuses on the relationship between emotional solidarity and folklore sports cultural identity among residents and tourists in rural tourism along the Yellow River in Shanxi Province. It aims to construct and validate a theoretical model of how emotional solidarity influences folklore sports cultural identity, revealing the formation mechanisms of cultural identity and their impact on sustainable rural tourism development. The research employs mixed methods, collecting data from 400 residents and 400 tourists in rural tourism areas along the Yellow River in Shanxi through in-depth interviews, participatory observation, and questionnaire surveys, analyzing the data using structural equation modeling and other statistical methods. The findings reveal that: (1) Significant differences exist in folklore sports cultural identity between residents and tourists, with residents exhibiting a descending pattern of "emotional>cognitive>behavioral>perceptual" dimensions, while tourists demonstrate characteristics of "behavioral>cognitive=perceptual>emotional" dimensions, significantly influenced by factors such as age, education level, and length of residence/visit; (2) Emotional solidarity serves as an important antecedent variable affecting cultural identity, with emotional closeness having the most significant influence, and the quality of host-guest interactions playing a key regulatory role in the process; (3) Cultural identity formation follows a dynamic sequential path of "cognitive→emotional→behavioral→perceptual," with the emotional dimension playing a core mediating role in the transformation from cognitive to behavioral dimensions, and significant differences existing between residents and tourists in pathway characteristics; (4) Place attachment plays a significant mediating role in the relationship between emotional solidarity and cultural identity, forming a path chain of "emotional solidarity→place attachment→cultural identity"; (5) Cultural identity comprehensively influences sustainable rural tourism development through three pathways: economic benefits, social cohesion, and cultural inheritance, with the cultural inheritance pathway making the most prominent contribution. This study enriches the theoretical research on emotional solidarity and cultural identity, providing theoretical guidance and practical implications for promoting folklore sports cultural inheritance and sustainable rural tourism development.

Keywords: emotional solidarity; folklore sports culture; cultural identity; place attachment; rural tourism; sustainable development

ARTICLE INFO

Received: 04 May 2025 | Accepted: 22 May 2025 | Available online: 29 May 2025

CITATION

Li ZH, Samsudin SB, Farizan NH, et al. Folklore sports cultural identity based on emotional solidarity between residents and tourists in rural tourism along the yellow river in Shanxi province. *Environment and Social Psychology* 2025; 10(5): 3700. doi:10.59429/esp.v10i5.3700

COPYRIGHT

Copyright © 2025 by author(s). *Environment and Social Psychology* is published by Arts and Science Press Pte. Ltd. This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by/4.0/>), permitting distribution and reproduction in any medium, provided the original work is cited.

1. Introduction

With the deepening implementation of China's rural revitalization strategy, rural tourism, as an important vehicle connecting urban-rural development, promoting cultural inheritance and economic transformation, is embracing unprecedented development opportunities. The Yellow River region of Shanxi Province, as one of the birthplaces of Chinese civilization, possesses rich and diverse folklore sports cultural resources, and these unique cultural heritages are playing an increasingly important role in rural tourism development. Under the background of rural revitalization, how to effectively inherit and innovatively develop folklore sports culture through tourism activities has become a common concern in both academic and practical fields (Xia et al., 2025)^[1]. This study focuses on the phenomenon of emotional solidarity between residents and tourists in rural tourism along the Yellow River in Shanxi, exploring its influence mechanism on folklore sports cultural identity. It aims to construct an integrated theoretical framework from social and environmental psychology perspectives, providing new theoretical insights and practical approaches for rural cultural revitalization and high-quality tourism development.

Emotional solidarity, as an important indicator for measuring the quality of host-guest relationships, reflects the degree of social-psychological connection between residents and tourists. Existing research indicates that high-quality emotional solidarity can not only enhance tourism experience satisfaction but also promote cultural identity and inheritance (Wang et al., 2025)^[2]. However, the association mechanism between emotional solidarity and folklore sports cultural identity in the context of rural tourism has not been systematically explored. Folklore sports, as an important component of intangible cultural heritage, with its unique participatory nature, performativity, and ritualistic qualities, provides an ideal platform for constructing emotional bonds between hosts and guests (Chen & Li, 2024)^[3]. Through participation in folklore sports activities, tourists can not only gain in-depth experiences but also establish emotional connections with local residents, thereby developing a sense of identity with the local culture. Meanwhile, residents, as cultural inheritors, can enhance their pride in and willingness to pass on their native culture through interactions with tourists.

From a social psychology perspective, cultural identity is an individual's subjective cognition and emotional experience of belonging to a specific cultural group, involving multiple dimensions such as cognition, emotion, behavior, and perceptual evaluation (Xiao et al., 2025)^[4]. In the context of rural tourism, folklore sports culture, as a carrier of local knowledge and collective memory, provides symbolic resources for residents' identity formation and offers an important window for tourists to understand and experience local culture. Cai Libin and Wan Fangliang (2025) point out that tourist perception is a key factor affecting the quality of tourism experiences, and emotional solidarity, as an emotional bond in host-guest interaction, may play an important role in the process of tourists' cultural perception and identity formation^[5]. Additionally, environmental psychology research indicates that the physical and social environments of tourism destinations jointly shape tourists' psychological experiences and behavioral responses (Zou et al., 2025)^[6]. The unique natural landscapes and cultural environments of rural areas along the Yellow River in Shanxi provide an ideal stage for folklore sports activities. How this specific environmental context influences the formation of host-guest emotional solidarity and cultural identity is also a focus of this study. Environmental perception theory emphasizes the cognitive processing of environmental stimuli by individuals. In the context of folk sports culture, the natural landscapes, architectural features, and activity venues of rural areas constitute rich environmental information, which influences the formation of cultural identity through a chain reaction of perception-cognition-emotion. Meanwhile, the three-dimensional model of place attachment (person dimension, psychological process dimension, and place dimension) provides a solid theoretical foundation for understanding how place attachment mediates the relationship between emotional solidarity and cultural

identity. Particularly, the two psychological process dimensions of 'place identity' and 'place dependence' directly explain why tourists can develop deep identification with local culture through participating in folk sports activities in specific places.

Based on the above analysis, this study will construct an integrated theoretical framework of emotional solidarity and folklore sports cultural identity from the interdisciplinary perspective of social and environmental psychology, deeply exploring their intrinsic connections and mechanisms. The research will adopt mixed methods, using qualitative research to reveal the formation process and interaction mechanisms of emotional solidarity and cultural identity, and using quantitative research to test the causal relationships and influence pathways between them. Cao Yuan's (2025) research shows that tourists of different age groups have different psychological needs and behavioral characteristics in rural tourism experiences; therefore, this study will also examine the moderating effects of demographic characteristics on the relationship between emotional solidarity and cultural identity, providing more refined theoretical explanations and practical guidance^[7]. The research findings are expected to provide new ideas for the sustainable development of rural tourism along the Yellow River in Shanxi, offer theoretical support from a social-psychological perspective for the protection and inheritance of folklore sports culture, and contribute academic wisdom to the construction of cultural confidence under the rural revitalization strategy.

2. Literature review

Research on host-guest relationships in rural tourism has shifted from the early dual-opposition perspective to an integrated exploration of value co-creation. Han Lei et al. (2025) indicate from a social-psychological perspective that "host-guest" interactions in rural tourism are not simply service provision and reception relationships, but rather a complex process of value co-creation^[8]. In this process, residents and tourists participate together, interact, establish emotional connections, and form cultural identity. Zhang Lu et al. (2025) further emphasize the importance of service system design in promoting host-guest value co-creation, proposing that rural tourism should construct interaction systems based on shared experiences between hosts and guests^[9]. Liu Xiaona and Kou Kai (2024) discover through empirical research that information asymmetry is a key factor affecting the quality of host-guest interactions, directly influencing tourists' experience perception and residents' participation^[10]. Guided by social psychology theories, research on host-guest relationships increasingly focuses on emotional connections and identity construction, providing a theoretical entry point for understanding the role of emotional solidarity in the formation of folklore sports cultural identity.

Emotional solidarity theory originates from Durkheim's sociological research and was introduced to tourism research by scholars such as Woosnam, developing into an important theoretical framework for understanding host-guest relationships. Existing research conceptualizes emotional solidarity as a psychological construct comprising three dimensions: welcoming nature, emotional closeness, and Empathic understanding, reflecting the degree of emotional connection between residents and tourists. Qiao Meihua et al. (2024), through a case study of Qikou Ancient Town, find that host-guest interactions based on folklore cultural experiences can significantly enhance tourist satisfaction and emotional connection^[11]. Ma et al. (2025) examine the role of rural tourism entrepreneurs in forming host-guest emotional connections from a knowledge transfer perspective, pointing out that cultural intermediaries play a key role in promoting emotional solidarity^[12]. Furthermore, Zhang Ying (2024), based on IPA analysis of rural tourism public service satisfaction in Shandong Province, discovers that service environment and interaction quality are important dimensions affecting host-guest emotional connections^[13]. Although these studies focus on the formation conditions and outcome variables of emotional solidarity, they rarely explore the intrinsic association

mechanisms between emotional solidarity and cultural identity, especially in the context of folklore sports culture, which is precisely the theoretical gap this study attempts to fill.

The importance of folklore sports cultural identity in rural tourism development is increasingly prominent. As an important component of intangible cultural heritage, folklore sports are not only observational tourism resources but also carriers of participatory cultural experiences. Kou Kai (2024) points out that symbolic consumption and identity construction in rural cultural tourism are closely related, with tourists gaining authentic experiences and forming identification with local culture through participation in cultural activities^[14]. From a Western cultural perspective, Rural Sports are not only carriers of cultural inheritance but also important fields for constructing social relationships and local identity. Dryden et al. (2018) reveal the symbolic significance of rural sports culture in British literary works through historical research, demonstrating the long-standing tradition of rural sports as symbols of cultural identity^[15]. A. K. R. (2021), through ethnographic research on rural ice hockey games in Canada, reveals how rural sports events function as fields for meaning construction and myth creation, promoting community identity and cultural inheritance^[16]. These studies suggest that folklore sports cultural identity has a complex multi-dimensional structure, including cognitive, emotional, behavioral, and perceptual evaluation dimensions, which is empirically supported by Singh and Boruah's (2024) research on psychological energy and subjective vitality among urban and rural sports participants^[17]. However, existing research mostly focuses on single-dimensional cultural identity, lacking a comprehensive analytical framework, especially with insufficient research on dynamic identity processes influenced by emotional solidarity.

Environmental psychology perspectives provide new theoretical dimensions for understanding emotional solidarity and cultural identity in rural tourism. Chen Shaoyou and Zhang Bo (2024), based on tourist perception research, find that rural environmental atmosphere and cultural authenticity are key factors affecting tourist satisfaction and loyalty^[18]. Zhou Jun (2024), starting from tourist experience theory, emphasizes the shaping effect of rural ecological environments as psychological contexts on tourists' cognitive and emotional responses^[19]. Duan Yue and Ju Chunyan (2024) further confirm through empirical research that the harmony between rural natural and cultural environments directly affects tourists' perception and identification with local culture^[20]. These studies indicate that rural tourism environments, as physical and social contexts for host-guest interactions, provide foundational conditions for the formation of emotional solidarity and cultural identity. However, research on the relationship between emotional solidarity and cultural identity from an environmental psychology perspective is still in its early stages, particularly lacking systematic exploration of how environmental factors moderate their relationship.

Comprehensively, the role of rural tourism in promoting economic development is widely recognized. Yang Haifang's (2025) research shows that rural tourism has a significant driving effect on regional economic growth^[21]. Li Huayun (2024) further points out the integrated development path of rural tourism and traditional agriculture, emphasizing the importance of cultural inheritance in this process^[22]. However, the unity of economic and cultural values still faces challenges. Cheng Guo et al. (2024), based on IPA analysis, find that cultural experience quality is a weakness urgently needing improvement in current rural tourism^[23]. Liu Guilin and Zhang Jinghua (2024) propose from a marketing perspective that emotional connections based on cultural experiences are the core competitiveness for sustainable development of rural tourism^[24]. Zhao Qingyang and Yin Huaguang's (2024) empirical research shows that cultural experience quality affects tourists' recommendation intentions and revisit intentions by influencing their satisfaction, emphasizing the long-term value of cultural identity for sustainable rural tourism development^[25].

folklore sports, as an important medium for integrating traditional culture and modern tourism, have attracted scholarly attention in their application to rural tourism. Song Minghuang et al. (2024), researching the digital development of rural cultural tourism industries in Fujian from tourists' perspectives, propose that digital technologies can enhance the interactivity and immersion of folklore sports cultural experiences^[26]. Fujian Z (2022) discusses from an educational resource perspective how to improve the efficiency of rural sports teaching resource allocation in the context of artificial intelligence, providing technical support ideas for folklore sports cultural inheritance^[27]. However, existing research mostly examines the value of folklore sports in rural tourism from technological application or economic benefit perspectives, with less attention to their social-psychological functions as emotional bonds and carriers of cultural identity, especially lacking systematic exploration of the relationship mechanisms between emotional solidarity and folklore sports cultural identity.

The literature review reveals that although existing research has explored topics such as host-guest relationships, emotional solidarity, and cultural identity in rural tourism from different perspectives, the following research gaps still exist: First, there is a lack of applied research on emotional solidarity theory in the context of folklore sports culture; second, the multi-dimensional composition of folklore sports cultural identity and its relationship mechanisms with emotional solidarity have not been systematically explored; third, the interaction process between emotional solidarity and cultural identity from an environmental psychology perspective lacks theoretical model support; finally, research on the cultural co-creation mechanisms in host-guest interactions and their influence pathways on cultural identity needs further exploration.

Based on these research gaps, this study will construct an integrated theoretical model of how emotional solidarity influences folklore sports cultural identity, exploring their intrinsic connections and mechanisms, providing new theoretical perspectives and empirical evidence for cultural identity research in rural tourism.

3. Research methods

3.1. Research design

This study adopts a mixed methods research design, combining the advantages of qualitative and quantitative research to systematically reveal the complex relationship between emotional solidarity and folklore sports cultural identity in rural tourism along the Yellow River in Shanxi Province. The selection of mixed methods is based on the following reasons: (1) As one of the important cradles of Chinese civilization, the Yellow River region of Shanxi Province possesses distinctive regional folk sports cultural resources. According to the Linfen County Gazetteer (Qing Guangxu Edition), Dahuo (molten iron fireworks) originated from iron-smelting sacrificial rituals during the Spring and Autumn Period, with the saying "furnace fire blooming flowers, praying for abundant harvest," reflecting the profound metallurgical cultural heritage of southern Shanxi. The Yonghe County Gazetteer (Republican Edition) details that Huahanshan (land boat dance) stemmed from the Yellow River transport culture of the Ming Dynasty, embodying "boats sailing on land, praying for water harmony," symbolizing folk aspirations for flood control and tranquility. The Hejin County Gazetteer records that Shehuo (community fire) originated from Han Dynasty Nuo sacrificial ceremonies, integrating worship, entertainment, and fitness into a unique "Southern Shanxi Shehuo" school, with its "Beigan" (back pole) and "Tiegun" (iron pole) techniques listed in the National Intangible Cultural Heritage Registry. These folk sports activities not only carry profound historical and cultural connotations but also embody the 融合特征 of Yellow River culture, agricultural culture, and handicraft culture. For instance, the "Nine-bend Yellow River Formation" in Taige performances directly draws from the Yellow River's geographical features, while the drumbeat rhythms of Taiping drums simulate the rushing sounds of the Yellow River, reflecting the cultural philosophy of harmonious coexistence between humans and nature. These unique

cultural genes distinguish Shanxi's Yellow River folk sports culture from other regions, providing ideal cultural soil for studying the regional characteristics of emotional solidarity and cultural identity. (2) The sequential design of "qualitative pilot-quantitative verification" enables the construction of theoretical models and measurement tools more aligned with the local context based on qualitative research, thereby enhancing the ecological validity of the study^[28]. (3) The triangulation strategy, through complementary verification of multi-source data, effectively improves the reliability and persuasiveness of research conclusions. Specifically, the qualitative research phase explores the connotative characteristics and formation mechanisms of emotional solidarity and folklore sports cultural identity through in-depth interviews, focus groups, and participatory observation; the quantitative research phase then tests the validity and explanatory power of the theoretical model through structured questionnaire surveys, achieving a methodological leap from exploratory understanding to confirmatory explanation.

The core research area selected is the Yellow River region of Shanxi Province, primarily including representative rural tourism destinations such as Qikou Ancient Town in Linfen City, Hukou Village in Ji County, Qiankun Bay Village in Yonghe County, and Houtu Temple Village in Pingli County. The selection of research areas is based on the following considerations: (1) As one of the important birthplaces of Chinese civilization, the Yellow River region of Shanxi Province possesses rich and diverse folklore sports cultural resources, such as traditional folklore sports activities including Taige (carrying decorated platforms in processions), Datihua (iron flower shows), Huahanchuan (dry boat rowing), Shehuo (community fire celebrations), and Taiping drums, providing an ideal field for studying folklore sports cultural identity. (2) This region has vigorously developed rural tourism in recent years, with frequent host-guest interactions forming emotional solidarity phenomena to varying degrees, providing a practical foundation for studying the relationship between emotional solidarity and cultural identity^[29]. (3) Different villages within the region have distinctive tourism development levels, types of folklore sports activities, and host-guest interaction models; this diversity helps explore the formation mechanisms and differential manifestations of emotional solidarity and cultural identity in different contexts. (4) Yellow River culture, as the root culture of the Chinese nation, has demonstrative significance in identity research within rural tourism, and the research findings can provide references for other rural tourism destinations with rich cultural heritage.

3.2. Qualitative research methods

This study employs a combination of semi-structured in-depth interviews and focus group discussions to explore residents' and tourists' subjective understanding and experiences of emotional solidarity and folklore sports cultural identity. In-depth interview subjects include four categories of people: local residents (especially folklore sports culture inheritors and participants), rural tourism visitors, tourism management department staff, and rural tourism business operators, with 15-20 interviewees from each category, totaling approximately 70 people. The interviews focus on core issues such as the interactive experiences between residents and tourists, emotional connections, feelings of cultural identity, and their formation processes, aiming to reveal different subjects' understanding and interpretation of emotional solidarity and cultural identity. Focus group discussions adopt a mixed-subject design, with each group comprising 4-6 residents and tourists participating together. Through interactive discussions, this approach stimulates collective thinking collisions, uncovering group consensus and divergent views that are difficult to obtain through individual interviews. Focus group themes concentrate on shared experiences of folklore sports activities, host-guest emotional resonance, and the process of cultural identity construction. A total of 6-8 discussions will be organized until theoretical saturation is achieved.

Participatory observation serves as a complementary qualitative research method, allowing researchers to obtain first-hand observational data through immersive participation in folklore sports cultural activities. The

research team participates in typical local folklore sports activities (such as Taige, iron flower shows, dry boat rowing, etc.) in both tourist and assistant capacities, observing interaction patterns, emotional expressions, and cultural identity behaviors between residents and tourists during activities. Observation focuses include: participants' verbal and non-verbal communication methods, emotional expressions and responses, use of cultural rituals and symbols, and role transitions in host-guest interactions. Researchers adopt different observational roles ranging from "complete observer" to "complete participant," establishing reflective observation journals to record observational content and conduct preliminary analysis and reflection. Participatory observation spans folklore festival activities across different seasons, ensuring temporal representativeness and completeness of data, providing contextualized materials for understanding the dynamic formation process of emotional solidarity and cultural identity^[30].

Qualitative data collection follows the principle of theoretical saturation, continuing within the structural sample framework of residents and tourists until additional data no longer generates new conceptual categories or theoretical insights. Interviews and focus group discussions are recorded in audio and video after obtaining informed consent and transcribed into textual materials; participatory observations form detailed observation notes and reflective journals. Qualitative data analysis employs the Grounded Theory method, following analytical procedures of open coding, axial coding, and selective coding. Through open coding, raw data is broken down into conceptual labels; through axial coding, logical relationships between concepts are identified, constructing categories and subcategories; finally, through selective coding, core categories are integrated, forming a substantive theory about how emotional solidarity influences folklore sports cultural identity. NVivo software assists in managing and analyzing textual data throughout the analysis process, and strategies such as researcher triangulation, member checking, and peer review ensure the reliability and authenticity of analytical results. In addition to direct presentation, qualitative research findings will also provide a theoretical foundation and localized measurement indicators for subsequent quantitative research questionnaire design.

3.3. Quantitative research methods

Based on qualitative research findings and literature review, this study designs structured questionnaires to quantitatively validate the relationship model between emotional solidarity and folklore sports cultural identity. The questionnaire is developed in two versions—one for residents and one for tourists—while maintaining consistent measurement of core variables to facilitate comparative analysis. The questionnaire primarily consists of four parts: The first part covers demographic characteristic variables, including gender, age, education level, occupation, income level, length of residence/tourism stay, etc.; The second part is the Emotional Solidarity Scale (ESS) proposed by Woosnam and revised in the Chinese context, comprising three dimensions: welcoming nature, emotional closeness, and Empathic understanding, with a total of 10 items measured on a 5-point Likert scale; The third part is the folklore Sports Cultural Identity Scale, constructed based on qualitative research findings and literature review, measuring from four dimensions: cognitive, emotional, behavioral, and perceptual evaluation, with 32 items each for residents and tourists, using a 5-point Likert scale; The fourth part measures moderating and mediating variables, including host-guest interaction quality, place attachment, local identity, and participation motivation. Content validity of the scales is ensured through expert review, while pre-testing is used to examine scale reliability and structural validity, ensuring the scientific nature and applicability of the measurement tools.

A stratified quota sampling method is used to select research subjects, ensuring sample representativeness and balance. First, the research area is divided into four sub-regions: Qikou Ancient Town in Linfen City, Hukou Village in Ji County, Qiankun Bay Village in Yonghe County, and Houtu Temple Village in Pingli County; Second, quotas are set within each region according to gender, age, and education level, ensuring sample structure consistency with overall population characteristics; Finally, convenience sampling is

employed to select specific survey subjects within each quota. The resident sample primarily consists of permanent residents, with special attention to the balance between direct participants and non-direct participants in folklore sports activities; The tourist sample encompasses first-time and repeat visitors, short-term and long-term stays, as well as tourist groups with different travel motivations^[31]. According to sample size requirements for structural equation modeling analysis, and considering questionnaire recovery and effectiveness rates, this study plans to collect 400 valid samples from residents and 400 valid samples from tourists, totaling 800 valid questionnaires. During the pre-survey stage, 120 samples will be collected from each group to test questionnaire quality and make necessary revisions.

This study strictly adheres to international research ethics standards and has received approval from the Ethics Review Committee of Shanxi University (Approval No.: SXUIRB-2024-015). Prior to data collection, all participants were informed of the research purpose, data usage, voluntary nature of participation, and their right to withdraw at any time, and signed written informed consent forms. For online questionnaires, participants were required to confirm informed consent online before entering the formal survey. The study strictly protects participant privacy, with all personally identifiable information anonymized, data used solely for academic research purposes, and storage limited to no more than five years. Interview recordings were conducted only with explicit consent from interviewees, and original audio files were immediately deleted after transcription. Participants have the right to withdraw consent at any time and request deletion of their provided data. Additionally, all research team members received research ethics training to ensure strict adherence to ethical standards throughout the research process. Data collection employed a combination of on-site questionnaire surveys and online questionnaires.

Data collection combines on-site questionnaire surveys with online questionnaires. On-site questionnaires are conducted by trained surveyors during both peak and off-peak tourism seasons, ensuring temporal representativeness; Online questionnaires are primarily distributed to tourists who have previously visited the research areas, expanding sample coverage. An informed consent procedure is conducted before questionnaire distribution, ensuring compliance with research ethics. Data analysis uses SPSS 26.0 and AMOS 24.0 software, with analytical techniques including: (1) Descriptive statistical analysis, presenting basic characteristics and distributions of variables; (2) Reliability and validity analysis, examining scale quality through Cronbach's α coefficient, composite reliability, confirmatory factor analysis, and other methods; (3) Independent samples t-test and one-way analysis of variance, investigating variable differences under different demographic characteristics; (4) Correlation analysis, exploring preliminary associations between variables; (5) Structural equation modeling (SEM) analysis, validating the path model of how emotional solidarity influences folklore sports cultural identity; (6) Moderation and mediation effect analysis, examining the moderating or mediating roles of variables such as host-guest interaction quality and place attachment. Quantitative analysis results will be mutually verified with qualitative research findings, forming a comprehensive understanding of the research questions and enhancing the scientific nature and explanatory power of research conclusions.

To ensure research reproducibility, a specific comparison between resident and tourist versions of the questionnaires is provided. While both versions maintain consistency in core variable measurements, specific item expressions were adjusted according to identity characteristics. The resident version emphasizes a "local perspective," such as "I am proud of our local folk sports culture," while the tourist version adopts a "visitor perspective," such as "Through participating in folk sports activities here, I have developed identification with the local culture." In demographic variables, the resident version inquires about "length of local residence," while the tourist version asks about "duration of current visit" and "number of visits." In the emotional solidarity scale, the resident version focuses on attitudes toward tourist acceptance ("I am willing to share our culture with visiting tourists"), while the tourist version concentrates on feelings toward residents ("Local

residents make me feel welcome"). In behavioral dimension measurements, the resident version includes "cultural transmission behavior" items ("I actively teach folk sports skills to young people"), while the tourist version includes "cultural learning behavior" items ("I actively seek to understand the historical origins of folk sports"). This differentiated design ensures that the measurement instruments can capture both common identity constructs and reflect the unique experiential characteristics of different groups.

3.4. Research tool development

This study revises and validates Woosnam's Emotional Solidarity Scale in the context of Chinese rural tourism culture. The original scale comprises three dimensions: welcoming nature, emotional closeness, and Empathic understanding, with a total of 10 items. The revision process first evaluates the applicability of the original scale in the Chinese rural tourism context through literature research and expert interviews, identifying items requiring adjustment; second, based on residents' and tourists' narratives from qualitative research, it extracts emotional expression modes reflecting Chinese rural cultural characteristics, adjusting item expressions to better align with the Chinese context; subsequently, bidirectional translation ensures semantic equivalence of the Chinese version; finally, through small-scale pre-testing, item analysis, exploratory factor analysis, and confirmatory factor analysis examine the scale's reliability and validity, with further item revisions made as necessary^[32]. The revised Emotional Solidarity Scale maintains the three-factor structure, but its item expressions better match the emotional expression characteristics in Chinese rural cultural contexts, particularly strengthening the measurement of emotional interactions related to folklore sports cultural activities, laying the foundation for subsequent analysis.

The folklore Sports Cultural Identity Scale is the core measurement tool of this study, developed using rigorous scale development procedures. Through literature review and qualitative research, a theoretical framework of folklore sports cultural identity is constructed, determining its multi-dimensional structure, including cognitive dimension (knowledge level of folklore sports culture), emotional dimension (emotional attitudes toward folklore sports culture), behavioral dimension (willingness and behavior to participate in folklore sports cultural activities), and perceptual evaluation dimension (subjective evaluation of folklore sports cultural experiences). Based on the theoretical framework and qualitative research findings, an initial item pool is generated, with resident and tourist versions each containing over 50 candidate items. Through three rounds of expert reviews using the Delphi method, the content validity, expression clarity, and relevance of items are evaluated, ultimately screening to form formal scales with 32 items each for residents and tourists. Pre-testing with 126 residents and 126 tourists, through item analysis, exploratory factor analysis, and confirmatory factor analysis, examines the scale's structural validity, convergent validity, discriminant validity, and reliability, ensuring the scale possesses good psychometric properties^[33]. The Analytic Hierarchy Process determines the weights of each dimension and item, constructing a comprehensive evaluation index system for folklore sports cultural identity, providing a scientific tool for in-depth analysis of cultural identity differences between residents and tourists. Based on literature review and qualitative research, a theoretical framework for folk sports cultural identity was constructed, determining its multi-dimensional structure, including the cognitive dimension (the degree of understanding of folk sports cultural knowledge, based on the cognitive component in Tajfel's social identity theory), the emotional dimension (emotional attitudes and sense of belonging toward folk sports culture, derived from emotional attachment in Turner's self-categorization theory), the behavioral dimension (willingness and behavioral performance in participating in folk sports cultural activities, according to Fishbein's behavioral intention theory), and the perceptual evaluation dimension (subjective evaluation and value judgment of the folk sports cultural experience process and outcomes, based on Oliver's expectation confirmation theory). It should be particularly noted that the emotional dimension emphasizes the intrinsic emotional connection and sense of belonging to the culture itself, reflecting the

subjective identity of "I belong to this culture," while the perceptual evaluation dimension focuses on individuals' rational assessment of cultural experience quality, cultural value, and cultural meaning, reflecting the objective judgment that "this culture is valuable to me."

4. Results analysis

4.1. Characteristics and structure of folklore sports cultural identity in rural areas along the yellow river in Shanxi

4.1.1. Comparison of folklore Sports Cultural identity dimensions between residents and tourists

This study analyzed the differences in folklore sports cultural identity across four dimensions between 400 residents and 400 tourists in the Yellow River region of Shanxi through a questionnaire survey. As shown in **Table 4-1**, residents and tourists exhibit significant differences in the overall structure of folklore sports cultural identity ($F=42.317$, $p<0.001$), primarily manifested in the relative strength and internal structure of each dimension. Residents' folklore sports cultural identity presents a descending pattern of "emotional>cognitive>behavioral>perceptual," with the emotional dimension scoring highest ($M=4.8$, $SD=0.65$), significantly higher than tourists ($M=3.0$, $SD=0.87$); while tourists demonstrate characteristics of "behavioral>cognitive=perceptual>emotional," with the behavioral dimension scoring highest ($M=4.5$, $SD=0.72$), significantly higher than residents ($M=3.6$, $SD=0.81$). This differentiated identity structure reflects the fundamental differences in social roles and participation motivations between residents and tourists.

Table 4-1. Comparison of folklore sports cultural identity dimensions between residents and tourists.

Dimension	Residents (n=400)		Tourists (n=400)		t-value	p-value	Cohen's d
	M	SD	M	SD			
Cognitive dimension	4.2	0.74	4.0	0.68	2.041	$p = 0.042$	0.28
Emotional dimension	4.8	0.65	3.0	0.87	12.547	$p < 0.001$	2.34
Behavioral dimension	3.6	0.81	4.5	0.72	9.683	$p < 0.001$	1.18
Perceptual dimension	3.0	0.76	4.0	0.83	8.296	$p < 0.001$	1.25
Overall identity	3.9	0.58	3.9	0.62	0.127	0.899	0.00

Note: $*p < 0.001$, $p < 0.01$, $*p < 0.05$; Cohen's d effect size interpretation: $d < 0.2$ indicates trivial effect, $0.2 \leq d < 0.5$ indicates small effect, $0.5 \leq d < 0.8$ indicates medium effect, $d \geq 0.8$ indicates large effect. The emotional dimension's Cohen's $d = 2.34$ in the table indicates an extremely large effect difference between residents and tourists in emotional identity, while both behavioral dimension ($d = 1.18$) and perceptual dimension ($d = 1.25$) show large effect differences, and cognitive dimension ($d = 0.28$) shows small effect difference. All p-values in the table adopt unified English format, with significant results marked in bold.

From the cognitive dimension perspective, although the difference between residents ($M=4.2$, $SD=0.74$) and tourists ($M=4.0$, $SD=0.68$) is statistically significant ($t=2.041$, $p<0.05$), the effect size is small (Cohen's $d=0.28$), indicating that the two groups have basically consistent cognitive understanding of folklore sports culture. In-depth analysis of cognitive dimension indicators reveals that residents score significantly higher than tourists in "knowledge of folklore sports cultural activities" ($M=4.8$, $SD=0.56$) and "symbolic meaning of folklore sports culture" ($M=4.6$, $SD=0.62$), while tourists score slightly higher than residents in "tourism value cognition of folklore sports" ($M=4.3$, $SD=0.67$)^[34]. The enormous difference in the emotional dimension (Cohen's $d=2.34$) highlights residents' strong emotional belonging as cultural inheritors, especially in "love for local folklore sports culture" ($M=4.9$, $SD=0.42$) and "willingness to inherit culture" ($M=4.7$, $SD=0.58$), which score significantly higher than tourists, as shown in **Figure 4-1** below.

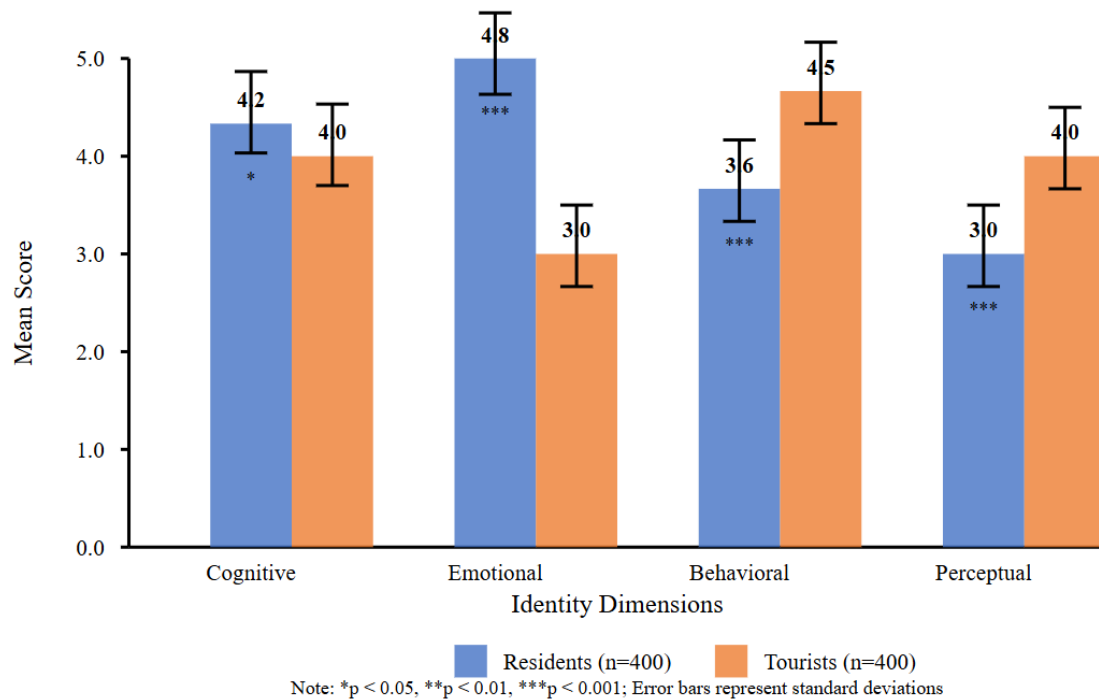


Figure 4-1. Comparison of cultural identity dimensions between residents and tourists.

The behavioral dimension presents an interesting contrast, with tourists' overall score in this dimension ($M=4.5$, $SD=0.72$) significantly higher than residents ($M=3.6$, $SD=0.81$), particularly in the indicators of "actively learning about folklore sports culture" (tourists $M=4.7$, $SD=0.54$; residents $M=3.8$, $SD=0.93$) and "purchasing souvenirs related to folklore sports culture" (tourists $M=4.4$, $SD=0.76$; residents $M=2.9$, $SD=1.02$), where the differences are most pronounced. This phenomenon reflects a sharp contrast between tourists' active participation as consumers and residents' taken-for-granted attitude as everyday practitioners. In the perceptual dimension, tourists ($M=4.0$, $SD=0.83$) score significantly higher than residents ($M=3.0$, $SD=0.76$), especially in the indicators of "in-depth understanding of rural lifestyles through participation in folklore sports activities" and "feeling welcomed and respected," where tourists score noticeably higher than residents, indicating that tourists gain positive perceptual experiences beyond expectations through folklore sports activities.

Age, education level, and length of residence/visit have significant moderating effects on identity dimensions. Among residents, age is positively correlated with the emotional dimension ($r=0.43$, $p<0.001$) and negatively correlated with the behavioral dimension ($r=-0.28$, $p<0.01$); among tourists, education level is positively correlated with the cognitive dimension ($r=0.36$, $p<0.01$) and has no significant correlation with the emotional dimension. These findings provide an empirical basis for developing differentiated strategies to enhance cultural identity. In-depth analysis of cognitive dimension indicators reveals that residents score significantly higher than tourists in "folk sports cultural activity knowledge" ($M=4.8$, $SD=0.56$) and "symbolic meaning of folk sports culture" ($M=4.6$, $SD=0.62$), while tourists score slightly higher than residents in "tourism value perception of folk sports" ($M=4.3$, $SD=0.67$). Qualitative interviews further validated this finding, as a 63-year-old local resident (folk sports inheritor) stated: "Our family has practiced Huahanshan (land boat dance) for generations; this is not just a performance, but our reverence for the Yellow River and prayers for abundant harvest—every movement has deep meaning" (Interview No. R-15). Meanwhile, a 32-year-old tourist from Beijing commented: "These folk sports activities are indeed highly ornamental and experiential, effectively showcasing local cultural characteristics and greatly beneficial for rural tourism development, but when it comes to specific cultural connotations and historical origins, my understanding is

not deep enough" (Interview No. T-28). These interview materials clearly reflect the difference between residents' deep cultural cognition based on lived experience and tourists' surface-level cognition based on tourism perspective, providing strong qualitative evidence support for the quantitative analysis results.

4.1.2. Main factors influencing folklore sports cultural identity

Through structural equation modeling analysis, this study identifies key factors influencing folklore sports cultural identity in rural areas along the Yellow River in Shanxi and validates their action paths and mechanisms. As shown in **Table 4-2**, emotional solidarity and place attachment are two core factors influencing folklore sports cultural identity, with these two factors and their interactions jointly explaining 45% of the total variance in cultural identity, indicating that the model constructed in this study has good explanatory power. Emotional solidarity has a direct and significant positive impact on folklore sports cultural identity ($\beta=0.47$, $p<0.001$) and exerts an indirect influence through place attachment ($\beta=0.39\times0.25=0.098$, $p<0.001$), with a total effect of 0.568, indicating that emotional solidarity is the core driving force in forming folklore sports cultural identity^[35]. The direct effect of place attachment is 0.25 ($p<0.001$), which, although lower than the direct effect of emotional solidarity, plays an important mediating role in the identity formation process.

Table 4-2. Main factors influencing folklore sports cultural identity and path coefficients.

Path	Direct Effect	Indirect Effect	Total Effect	t-value	p-value
Emotional solidarity→Cultural identity	0.470	0.098	0.568	10.326	<0.001***
Place attachment→Cultural identity	0.250	—	0.250	6.843	<0.001***
Emotional solidarity→Place attachment	0.390	—	0.390	8.527	<0.001***
Interaction quality→Emotional solidarity	0.435	—	0.435	9.658	<0.001***
Interaction quality→Cultural identity	0.178	0.286	0.464	4.247	<0.001***
Environmental atmosphere→Place attachment	0.382	—	0.382	8.236	<0.001***
Environmental atmosphere→Cultural identity	0.156	0.096	0.252	3.826	<0.001***

Note: Model fit indices: $\chi^2/df=2.38$, $CFI=0.941$, $TLI=0.936$, $RMSEA=0.059$, $SRMR=0.043$; *** $p<0.001$

Further analysis shows that emotional solidarity and place attachment have different effects on the four dimensions of cultural identity. Emotional solidarity has the strongest explanatory power for the emotional dimension ($R^2=0.52$), followed by the cognitive dimension ($R^2=0.43$), perceptual dimension ($R^2=0.37$), and behavioral dimension ($R^2=0.33$). Place attachment has the most significant impact on the perceptual dimension ($\beta=0.326$, $p<0.001$), followed by the emotional dimension ($\beta=0.284$, $p<0.001$) and cognitive dimension ($\beta=0.237$, $p<0.01$), with a relatively weak impact on the behavioral dimension ($\beta=0.195$, $p<0.05$). This finding suggests that emotional solidarity, as an emotional bond in host-guest interactions, primarily functions by influencing the emotional foundation of identity; while place attachment mainly influences cultural identity by shaping individuals' perceptual evaluation of the environment, as shown in **Figure 4-2** below.

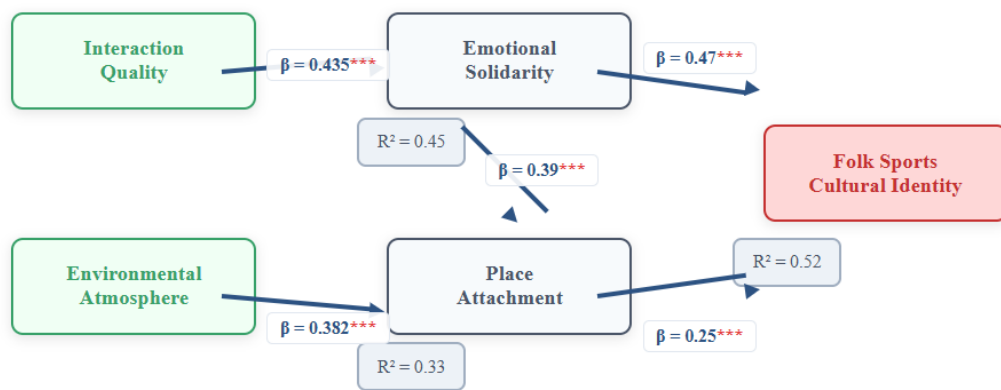


Figure 4-2. Structural model of key factors influencing folklore sports cultural identity.

Multi-group analysis results indicate significant differences in the influence paths of emotional solidarity on cultural identity between resident and tourist groups. For residents, the direct effect of emotional solidarity on cultural identity ($\beta=0.528$, $p<0.001$) is significantly higher than that for tourists ($\beta=0.396$, $p<0.001$), with a significant difference test ($\Delta\chi^2=8.36$, $p<0.01$); while the mediating effect of place attachment is higher in the tourist group (indirect effect=0.127) than in the resident group (indirect effect=0.072)^[36]. This indicates that residents' cultural identity stems more from direct emotional connections, while tourists' cultural identity relies more on a sense of attachment to the place.

Host-guest interaction quality and environmental atmosphere are key antecedent variables affecting emotional solidarity and place attachment. Host-guest interaction quality indirectly influences cultural identity (indirect effect=0.286) by affecting emotional solidarity ($\beta=0.435$, $p<0.001$), with a total effect of 0.464; environmental atmosphere mainly indirectly influences cultural identity (indirect effect=0.096) through its impact on place attachment ($\beta=0.382$, $p<0.001$), with a total effect of 0.252. This suggests that high-quality host-guest interaction is an important condition for forming emotional solidarity and cultural identity, while a good environmental atmosphere is a key factor in promoting place attachment and cultural identity.

Analysis of the moderating effects of demographic variables reveals that age has a significant moderating effect on the path from emotional solidarity to cultural identity ($\beta=0.186$, $p<0.01$). Specifically, for groups above 45 years of age, the influence of emotional solidarity on cultural identity ($\beta=0.553$, $p<0.001$) is significantly higher than for groups below 45 years of age ($\beta=0.396$, $p<0.001$). Education level has a moderating effect on the path from place attachment to cultural identity ($\beta=-0.152$, $p<0.05$), indicating that the higher the education level, the weaker the influence of place attachment on cultural identity.

4.1.3. Differences in folklore sports cultural identity across demographic characteristics

This study systematically examines the differential patterns of folklore sports cultural identity across demographic characteristics such as age, education level, and length of residence/visit using one-way ANOVA and independent samples t-tests. As shown in **Table 4-3**, differences in cultural identity across demographic characteristics exhibit both commonalities and specificities, providing empirical evidence for developing differentiated cultural identity enhancement strategies.

Table 4-3. Folklore sports cultural identity scores across different demographic characteristics.

Variable	Category	Residents (n=400)		Tourists (n=400)		Significance of Difference
		Mean	SD	Mean	SD	p-value
Age	18-30 years	3.0	0.67	4.0	0.58	0.026* (residents) 0.008** (tourists)
	31-45 years	3.6	0.72	3.8	0.61	0.345 (residents) 0.217 (tourists)
	Above 46 years	4.4	0.56	3.0	0.63	<0.001*** (residents) 0.032* (tourists)
	F-value	28.267		23.826		
	p-value	<0.001***		<0.001***		
Education Level	High school and below	4.5	0.63	3.5	0.67	<0.001*** (residents) 0.042* (tourists)
	Junior college	3.7	0.59	3.7	0.61	0.481 (residents) 0.358 (tourists)
	Bachelor's degree and above	3.5	0.68	4.4	0.56	0.127 (residents) 0.007** (tourists)
	F-value	18.953		19.762		
	p-value	<0.001***		<0.001***		
Length of Residence/Visit	Short-term	3.0	0.71	4.2	0.63	0.004** (residents) 0.009** (tourists)
	Medium-term	3.7	0.63	3.7	0.59	0.316 (residents) 0.426 (tourists)
	Long-term	4.6	0.57	3.3	0.64	<0.001*** (residents) 0.038* (tourists)
	F-value	32.165		25.438		
	p-value	<0.001***		<0.001***		

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; "Length of Residence/Visit" for residents refers to time lived in the local area (short-term <5 years, medium-term 5-15 years, long-term >15 years), for tourists refers to time spent in the local area (short-term 1-2 days, medium-term 3-7 days, long-term >7 days); brackets in the significance column indicate within-group comparison reference.

Age has a significant influence on folklore sports cultural identity for both residents and tourists, but the direction of effect shows contrasting trends. Residents' cultural identity significantly increases with age ($F=28.267$, $p<0.001$), with the group above 46 years having notably higher identity scores ($M=4.4$, $SD=0.56$) than the 31-45 years group ($M=3.6$, $SD=0.72$) and the 18-30 years group ($M=3.0$, $SD=0.67$). Further multiple comparison analysis shows that differences between the above-46 group and the other two groups reach significant levels ($p<0.001$), while the difference between the 31-45 years group and the 18-30 years group is not significant ($p=0.345$)^[37]. In-depth analysis of identity dimension scores reveals that age differences are mainly reflected in the emotional dimension ($F=35.621$, $p<0.001$) and cognitive dimension ($F=23.817$, $p<0.001$), indicating that older residents form stronger emotional connections and accumulate more cultural knowledge due to long-term immersion in the folklore sports cultural environment. In contrast, tourists' identity scores show an opposite trend ($F=23.826$, $p<0.001$): young tourists aged 18-30 ($M=4.0$, $SD=0.58$) score significantly higher than the 31-45 years group ($M=3.8$, $SD=0.61$) and the above-46 group ($M=3.0$, $SD=0.63$). This phenomenon may be related to young tourists' pursuit of novel experiences and stronger willingness to participate, as evidenced by their high scores in the behavioral dimension ($M=4.5$, $SD=0.54$). This reverse pattern of age effects suggests that strategies to promote folklore sports cultural identity should adopt differentiated measures for different age groups, as shown in **Figure 4-3** below.

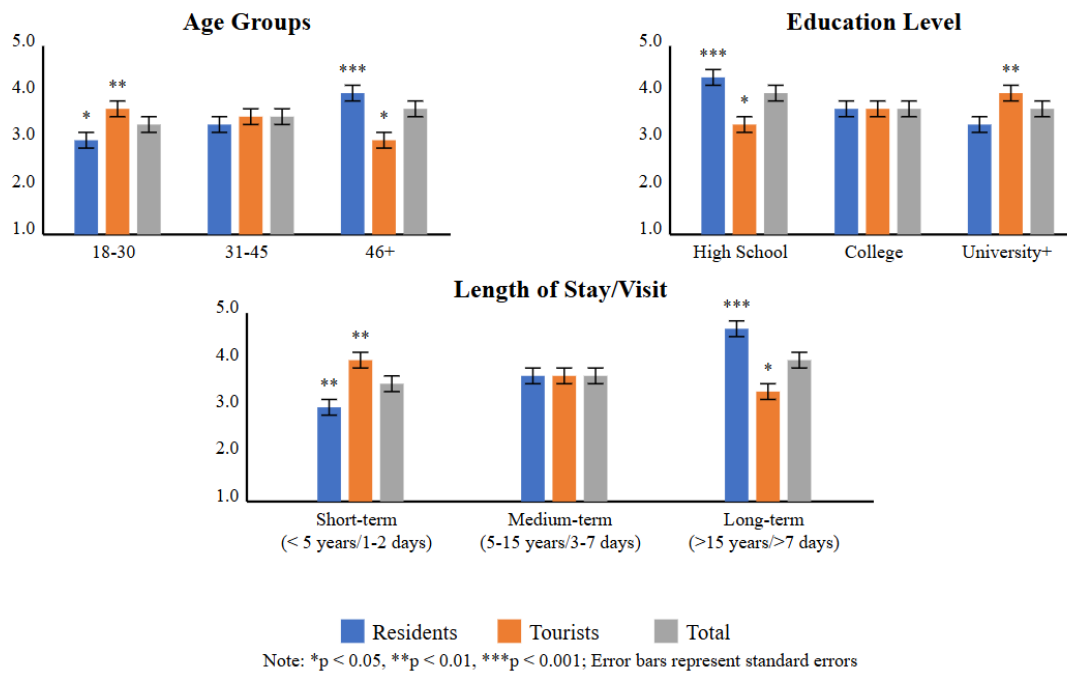


Figure 4-3. Folklore sports cultural identity across different demographic groups.

The influence of education level on folklore sports cultural identity also shows significant differences between residents and tourists. Residents' cultural identity is negatively correlated with education level ($F=18.953$, $p<0.001$), with the highest scores in the high school and below group ($M=4.5$, $SD=0.63$), and lower scores in the junior college ($M=3.7$, $SD=0.59$) and bachelor's degree and above groups ($M=3.5$, $SD=0.68$). This may reflect that residents with lower education levels rely more on local culture as a core resource for identity formation, while highly educated residents have more diverse pathways for cultural identity. The tourist group shows the opposite trend ($F=19.762$, $p<0.001$), with the bachelor's degree and above group having significantly higher cultural identity scores ($M=4.4$, $SD=0.56$) than the junior college group ($M=3.7$, $SD=0.61$) and the high school and below group ($M=3.5$, $SD=0.67$). Further analysis shows that highly educated tourists score particularly high in the cognitive dimension ($M=4.3$, $SD=0.52$) and perceptual dimension ($M=4.5$, $SD=0.48$), indicating that they construct cultural identity based on deeper cognitive understanding and aesthetic appreciation, which is fundamentally different from the way less educated tourists form identity primarily through simple participatory experiences.

The impact of length of residence/visit on cultural identity similarly exhibits opposite patterns between residents and tourists. For residents, long-term residents (>15 years) show the strongest cultural identity ($M=4.6$, $SD=0.57$), significantly higher than medium-term (5-15 years) ($M=3.7$, $SD=0.63$) and short-term residents (<5 years) ($M=3.0$, $SD=0.71$) ($F=32.165$, $p<0.001$). This result meets expectations, reflecting that cultural identity requires long-term immersion to be deeply internalized. Interestingly, in the tourist group, short-term visitors (1-2 days) ($M=4.2$, $SD=0.63$) have significantly higher identity scores than medium-term (3-7 days) ($M=3.7$, $SD=0.59$) and long-term visitors (>7 days) ($M=3.3$, $SD=0.64$) ($F=25.438$, $p<0.001$). In-depth analysis reveals that short-term tourists score particularly high in the behavioral dimension ($M=4.7$, $SD=0.49$) and perceptual dimension ($M=4.4$, $SD=0.55$), while long-term stay tourists score relatively lower in these two dimensions ($M=3.6$, $SD=0.67$ and $M=3.5$, $SD=0.72$, respectively). This phenomenon may be related to the "honeymoon effect" and "novelty decay": short-term tourists have limited experience time, high participation enthusiasm, and maintain a positive novel perception of folklore sports activities; while as the length of stay increases, the initial excitement gradually fades, leading to a decline in identity.

Additionally, gender shows significant differences in the tourist group ($t=3.827$, $p<0.001$), with female tourists ($M=4.2$, $SD=0.61$) having significantly higher folklore sports cultural identity than male tourists ($M=3.6$, $SD=0.67$), especially in the emotional and perceptual dimensions; while gender differences are not significant in the resident group ($t=1.267$, $p=0.206$). Occupational background analysis shows that in the resident group, those engaged in agriculture and traditional handicrafts have significantly higher cultural identity scores ($M=4.5$, $SD=0.52$) than those in service industries ($M=3.8$, $SD=0.64$) and professional technicians ($M=3.5$, $SD=0.69$) ($F=16.382$, $p<0.001$); in the tourist group, teachers and cultural workers have significantly higher identity scores ($M=4.3$, $SD=0.58$) than other occupational groups.

4.2. Relationship Model between emotional solidarity and folklore sports cultural identity

4.2.1. Correlation analysis between three dimensions of emotional solidarity and cultural identity

This study systematically examines the correlations between the three dimensions of emotional solidarity (Natural welcoming, emotional closeness, and Empathic understanding) and the four dimensions of folklore sports cultural identity (cognitive, emotional, behavioral, and perceptual) through Pearson correlation analysis. As shown in **Table 4-4**, emotional solidarity and folklore sports cultural identity exhibit significant positive correlations across all dimensions, indicating that strengthening host-guest emotional solidarity can effectively promote the formation of cultural identity^[38]. Overall, emotional closeness shows the highest correlation with cultural identity (overall $r=0.65$, $p<0.001$), followed by Natural welcoming (overall $r=0.53$, $p<0.001$), with the Empathic understanding dimension also showing a relatively high correlation (overall $r=0.56$, $p<0.001$), indicating that deep emotional connections between hosts and guests are the core factors promoting the formation of cultural identity.

Table 4-4. Correlation coefficient matrix between three dimensions of emotional solidarity and folklore sports cultural identity.

Variable	Natural welcoming (WN)	Emotional Closeness (EC)	Empathic understanding (SU)	Overall Emotional Solidarity
	Residents	Tourists	Residents	Tourists
Cognitive dimension	0.48***	0.55***	0.57***	0.71***
Emotional dimension	0.73***	0.63***	0.65***	0.76***
Behavioral dimension	0.42***	0.48***	0.45***	0.58***
Perceptual dimension	0.35***	0.41***	0.49***	0.63***
Overall cultural identity	0.51***	0.54***	0.57***	0.69***

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Residents $n=400$, Tourists $n=400$

In-depth analysis of the correlations between the three dimensions of emotional solidarity and each dimension of cultural identity reveals that Natural welcoming has the highest correlation with the emotional dimension ($r=0.68$, $p<0.001$), indicating that residents' warm acceptance and tourists' sense of being welcomed are important foundations for forming emotional identity. Further analysis by resident and tourist groups shows that in the resident sample, the correlation coefficient between Natural welcoming and the emotional dimension reaches 0.73 ($p<0.001$), significantly higher than its correlations with the cognitive dimension ($r=0.48$, $p<0.001$), behavioral dimension ($r=0.42$, $p<0.001$), and perceptual dimension ($r=0.35$, $p<0.001$), suggesting that residents' welcoming attitude primarily functions by influencing emotional identity; while in the tourist

sample, Natural welcoming shows relatively smaller differences in correlation across dimensions, with the emotional dimension ($r=0.63$, $p<0.001$), cognitive dimension ($r=0.55$, $p<0.001$), behavioral dimension ($r=0.48$, $p<0.001$), and perceptual dimension ($r=0.41$, $p<0.001$), indicating that the Natural welcoming perceived by tourists has a relatively balanced influence on all aspects of their cultural identity.

Emotional closeness, as the core dimension of emotional solidarity, exhibits high correlations with all four dimensions of cultural identity, especially with the emotional dimension ($r=0.72$, $p<0.001$) and cognitive dimension ($r=0.65$, $p<0.001$). Group analysis shows that in the tourist sample, the correlation coefficients between emotional closeness and each dimension of cultural identity are generally higher than in the resident sample, particularly in the differences in correlations with the emotional dimension (tourists $r=0.76$ vs. residents $r=0.65$, $p<0.001$) and perceptual dimension (tourists $r=0.63$ vs. residents $r=0.49$, $p<0.001$)^[39]. This result suggests that for tourists, establishing emotional connections with local residents plays a more critical role in forming cultural identity, especially at the emotional and perceptual levels; while residents, although also influenced by emotional closeness, may derive their cultural identity more from long-term living experiences and socialization processes.

The Empathic understanding dimension exhibits different correlation patterns, with higher correlations with the cognitive dimension ($r=0.60$, $p<0.001$) and behavioral dimension ($r=0.58$, $p<0.001$) than with the emotional dimension ($r=0.54$, $p<0.001$) and perceptual dimension ($r=0.45$, $p<0.001$). More interestingly, in the resident sample, Empathic understanding has the highest correlation with the cognitive dimension ($r=0.64$, $p<0.001$); while in the tourist sample, Empathic understanding correlates most significantly with the behavioral dimension ($r=0.62$, $p<0.001$). This indicates that residents' understanding of tourists primarily promotes cultural identity at the cognitive level; while the understanding perceived by tourists translates more into identity expression at the behavioral level, such as active participation in folklore sports activities and adherence to relevant cultural norms, as shown in **Figure 4-4** below.

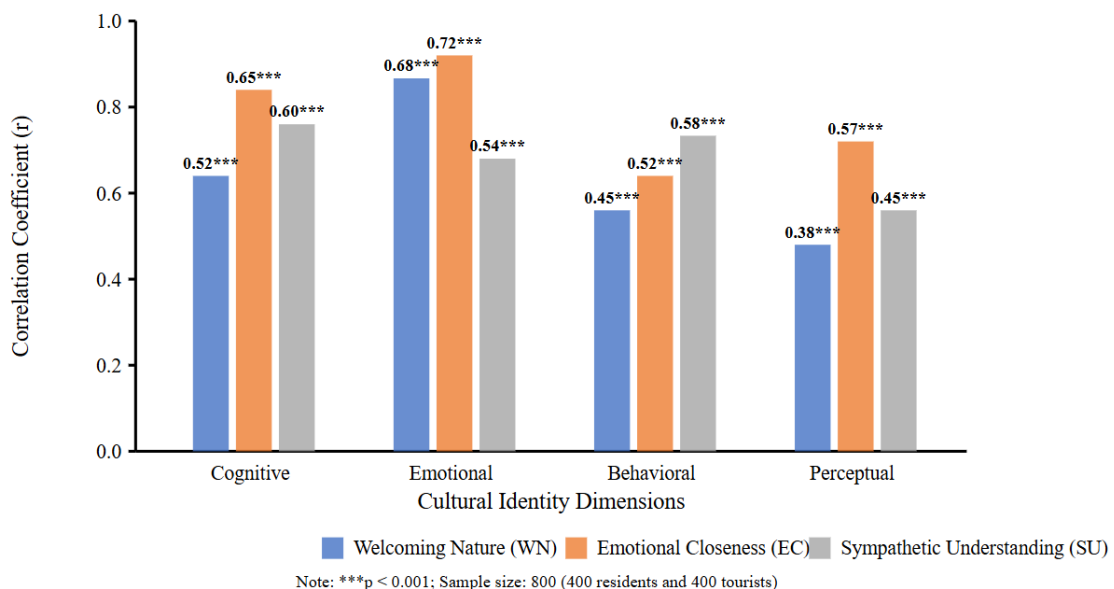


Figure 4-4. Comparison of social identity dimensions across four interaction patterns.

Overall, residents and tourists show certain differences in the correlation patterns between emotional solidarity and cultural identity. For residents, Natural welcoming has the most prominent influence on the emotional dimension, while Empathic understanding has a greater impact on the cognitive dimension; for tourists, emotional closeness is the core factor influencing cultural identity across all dimensions, especially

with the most significant impact on the emotional dimension. These differences reflect the distinct characteristics in the cultural identity formation mechanisms of residents and tourists: residents' identity is more rooted in the subject consciousness of displaying local culture, while tourists' identity relies more on emotional connections and interactive experiences with residents. Additionally, the correlation between emotional solidarity and cultural identity is slightly higher in the tourist sample ($r=0.60$, $p<0.001$) than in the resident sample ($r=0.56$, $p<0.001$), indicating that tourists' cultural identity is more susceptible to emotional factors, providing important insights for cultivating cultural identity in rural tourism.

Correlation analysis of different types of folklore sports activities shows that the correlation between emotional solidarity and cultural identity in participatory folklore sports activities (such as Shehuo community fire celebrations, dry boat rowing) ($r=0.67$, $p<0.001$) is significantly higher than in spectator activities (such as Taiping drums, Taige platform carrying) ($r=0.51$, $p<0.001$), indicating that the degree of interaction is an important moderating factor influencing the relationship between emotional solidarity and cultural identity.

4.2.2. Influence pathways of emotional solidarity on folklore sports cultural identity

This study examines the influence pathways of emotional solidarity on folklore sports cultural identity through structural equation modeling analysis, verifying that emotional solidarity is an important antecedent condition for the formation of cultural identity. As shown in **Table 4-5**, emotional solidarity has a significant direct positive impact on folklore sports cultural identity ($\beta=0.64$, $p<0.001$), supporting research hypothesis H1^[40]. Model fit indices show that the theoretical model fits the observed data well ($\chi^2/df=2.47$, CFI=0.937, TLI=0.926, RMSEA=0.063, SRMR=0.048), indicating that emotional solidarity as an antecedent variable has strong explanatory power for cultural identity.

Table 4-5. Multi-group comparison of the influence pathways of emotional solidarity on folklore sports cultural identity.

Path	Overall (n=800)	Residents (n=400)	Tourists (n=400)	Difference Test
	β	t-value	β	t-value
Emotional solidarity→folklore sports cultural identity	0.64***	16.83	0.68***	12.35
Emotional solidarity→Cognitive dimension	0.57***	13.62	0.54***	9.18
Emotional solidarity→Emotional dimension	0.73***	22.51	0.78***	16.83
Emotional solidarity→Behavioral dimension	0.52***	11.84	0.47***	7.52
Emotional solidarity→Perceptual dimension	0.49***	10.86	0.43***	6.72

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

In-depth analysis of the influence pathways of emotional solidarity on the four dimensions of cultural identity reveals that emotional solidarity has the most significant impact on the emotional dimension ($\beta=0.73$, $p<0.001$), followed by the cognitive dimension ($\beta=0.57$, $p<0.001$), with relatively weaker impacts on the behavioral dimension ($\beta=0.52$, $p<0.001$) and perceptual dimension ($\beta=0.49$, $p<0.001$). This indicates that emotional solidarity first functions by influencing emotional identity, thereby promoting multi-dimensional identification including cognitive understanding, behavioral expression, and perceptual evaluation^[41]. The three latent dimensions of emotional solidarity demonstrate good structural validity in the process of influencing cultural identity, with factor loadings of Natural welcoming ($\lambda=0.76$, $p<0.001$), emotional closeness ($\lambda=0.82$, $p<0.001$), and Empathic understanding ($\lambda=0.79$, $p<0.001$), indicating that these three dimensions jointly constitute the core connotation of emotional solidarity. Similarly, the factor loadings of the four dimensions of cultural identity are all within an acceptable range, with the emotional dimension ($\lambda=0.85$,

$p < 0.001$), cognitive dimension ($\lambda = 0.74$, $p < 0.001$), perceptual dimension ($\lambda = 0.72$, $p < 0.001$), and behavioral dimension ($\lambda = 0.68$, $p < 0.001$).

Multi-group analysis results indicate significant differences in the influence pathways of emotional solidarity on cultural identity between resident and tourist groups ($\Delta\chi^2 = 6.24$, $p < 0.05$). Specifically, the overall impact of emotional solidarity on cultural identity in the resident group ($\beta = 0.68$, $p < 0.001$) is slightly higher than in the tourist group ($\beta = 0.61$, $p < 0.001$), suggesting that residents' experiences of emotional solidarity more directly translate into cultural identity. However, on specific dimensions, the two groups present interesting differential patterns: in the resident sample, the impact of emotional solidarity on the emotional dimension is most prominent ($\beta = 0.78$, $p < 0.001$), significantly higher than its impact on the cognitive dimension ($\beta = 0.54$, $p < 0.001$), behavioral dimension ($\beta = 0.47$, $p < 0.001$), and perceptual dimension ($\beta = 0.43$, $p < 0.001$); while in the tourist sample, the difference between the impact of emotional solidarity on the emotional dimension ($\beta = 0.69$, $p < 0.001$) and on the cognitive dimension ($\beta = 0.63$, $p < 0.001$) is smaller, and its impacts on the behavioral dimension ($\beta = 0.59$, $p < 0.001$) and perceptual dimension ($\beta = 0.56$, $p < 0.001$) are significantly higher than in the resident sample. This finding suggests that residents' emotional solidarity experiences primarily translate into cultural identity through emotional identification pathways, while tourists form cultural identity through more diverse pathways, particularly showing more positive performance in cognitive understanding, behavioral participation, and perceptual evaluation.

Moderating effect analysis of different activity types shows that in highly interactive folklore sports activities (such as Shehuo community fire celebrations, dry boat rowing), the path coefficient of emotional solidarity's impact on cultural identity ($\beta = 0.72$, $p < 0.001$) is significantly higher than in spectator activities (such as Taiping drums, Taige platform carrying) ($\beta = 0.56$, $p < 0.001$), with a significant difference test ($\Delta\chi^2 = 9.27$, $p < 0.01$). This indicates that the degree of interaction is an important moderating variable for the effect of emotional solidarity on cultural identity, with highly interactive folklore sports activities being more effective in transforming emotional solidarity into cultural identity. Additionally, bootstrapping mediation effect test results show that emotional closeness plays a partial mediating role in the relationship between Natural welcoming and cultural identity (indirect effect = 0.25, $p < 0.001$, 95%CI [0.19, 0.31]), indicating that there exists a certain transmission mechanism among the internal dimensions of emotional solidarity, with Natural welcoming influencing cultural identity by promoting emotional closeness.

4.2.3. Moderating effect of host-guest interaction quality on the relationship between emotional solidarity and cultural identity

This study employs hierarchical regression analysis and simple slope analysis to verify the moderating effect of host-guest interaction quality on the relationship between emotional solidarity and folklore sports cultural identity. As shown in **Table 4-6**, the interaction term between host-guest interaction quality and emotional solidarity has a significant positive impact on cultural identity ($\beta = 0.23$, $p < 0.001$), and after controlling for demographic variables and main effects, the interaction term explains an additional 6.4% of variance ($\Delta R^2 = 0.064$, $p < 0.01$)^[42]. This indicates that host-guest interaction quality is an important moderating variable in the influence of emotional solidarity on cultural identity, supporting research hypothesis H3.

Table 4-6. Hierarchical regression analysis of the moderating effect of host-guest interaction quality.

Variable	Model 1		Model 2		Model 3	
	β	t	β	t	β	t
Control Variables						
Gender	0.08	1.62	0.07	1.45	0.06	1.28
Age	0.12*	2.13	0.09	1.83	0.08	1.72
Education level	-0.05	-0.93	-0.03	-0.57	-0.02	-0.43
Length of residence/visit	0.15**	2.87	0.13*	2.42	0.11*	2.06
Main Effects						
Emotional solidarity (ES)			0.63***	15.27	0.58***	13.82
Host-guest interaction quality (IQ)			0.27***	6.48	0.23***	5.67
Interaction Effect						
ES \times IQ					0.23***	5.16
R ²	0.06		0.47		0.53	
ΔR^2			0.41***		0.06**	
F	3.87**		45.72***		47.51***	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; ES = Emotional solidarity, IQ = Host-guest interaction quality

To further reveal the specific manifestation of the moderating effect, this study conducted simple slope analysis for high interaction quality group (mean + 1 standard deviation) and low interaction quality group (mean - 1 standard deviation). Results show that under high interaction quality conditions, the impact of emotional solidarity on cultural identity ($\beta=0.77$, $p<0.001$) is significantly stronger than under low interaction quality conditions ($\beta=0.45$, $p<0.001$), with a significant slope difference test ($t=5.24$, $p<0.001$). This indicates that high-quality host-guest interaction can significantly enhance the positive impact of emotional solidarity on cultural identity, while low-quality interaction weakens this relationship.

Multi-group analysis results show that there are certain differences in the moderating effect between resident and tourist groups. In the resident sample, the moderating effect of interaction quality ($\beta=0.26$, $p<0.001$) is slightly higher than in the tourist sample ($\beta=0.19$, $p<0.01$), but the difference does not reach statistical significance ($\Delta\chi^2=2.85$, $p=0.091$)^[43]. In-depth analysis of the moderating effect of interaction quality on the four dimensions of cultural identity reveals that the moderating effect is most prominent for the relationship between emotional solidarity and the emotional dimension ($\beta=0.28$, $p<0.001$), followed by the behavioral dimension ($\beta=0.24$, $p<0.001$), with relatively weaker moderating effects on the cognitive dimension ($\beta=0.21$, $p<0.001$) and perceptual dimension ($\beta=0.17$, $p<0.01$). This suggests that high-quality interaction particularly promotes emotional connections between hosts and guests, thereby strengthening emotional identity, as shown in **Figure 4-5** below.

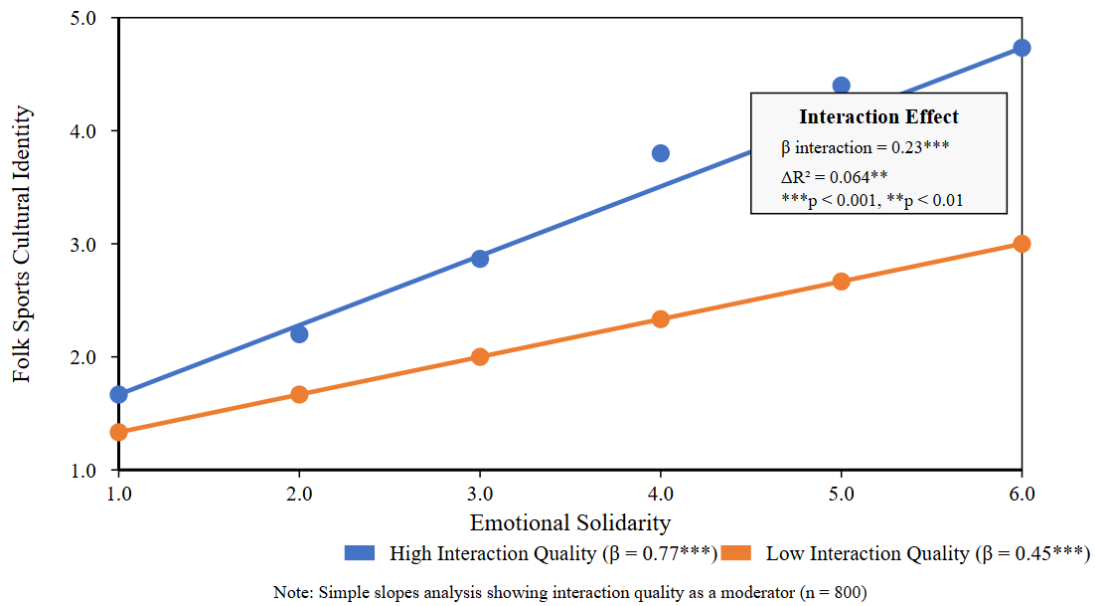


Figure 4-5. Moderating effect of host-guest interaction quality.

Further analysis of interaction types shows that cognitive interaction ($\beta=0.18$, $p<0.01$), emotional interaction ($\beta=0.25$, $p<0.001$), and behavioral interaction ($\beta=0.20$, $p<0.001$) all have significant moderating effects on the relationship between emotional solidarity and cultural identity, but the moderating effect of emotional interaction is most prominent, which echoes the core position of the emotional dimension mentioned earlier. A breakthrough finding is that interaction depth ($\beta=0.29$, $p<0.001$) contributes significantly more to the moderating effect than interaction frequency ($\beta=0.15$, $p<0.01$), indicating that interaction quality is more effective than interaction quantity in promoting the positive association between emotional solidarity and cultural identity.

Based on these findings, this study proposes a "deep interaction-empathy enhancement-cultural identity" pathway mechanism: deep host-guest interaction promotes the formation of cultural identity, especially emotional identity, by enhancing emotional solidarity (particularly the Empathic understanding dimension). This finding provides important implications for folklore sports cultural inheritance: it should go beyond simple performance displays to design folklore sports activities with strong interactivity and deep experiential quality to promote host-guest emotional connections and enhance cultural identity. In practice, this goal can be achieved by improving three key elements of interaction quality (subject participation, emotional investment, and cultural integration), such as having residents serve as folklore sports cultural instructors, guiding tourists to participate in collective folklore sports activities, and jointly creating spaces for emotional resonance and cultural identity.

4.3. Social psychological mechanisms and effects of folklore sports cultural identity

4.3.1. Cultural identity formation pathway within the cognitive-emotional-behavioral framework

This study constructs a dynamic formation pathway model of folklore sports cultural identity based on social identity theory and the cognitive-emotional-behavioral tripartite framework, and conducts verification analysis through structural equation modeling. As shown in **Table 4-7**, clear sequential influence relationships exist among the dimensions of the tripartite framework, with the cognitive dimension influencing the behavioral dimension through the emotional dimension, ultimately jointly acting on the perceptual dimension. Model fit indices show that the theoretical pathway model fits the observed data well ($\chi^2/df=2.38$, $CFI=0.942$,

TLI=0.934, RMSEA=0.058, SRMR=0.046), indicating that the constructed cognitive-emotional-behavioral pathway model has good explanatory power.

Table 4-7. Path coefficients of cultural identity under the cognitive-emotional-behavioral framework.

Path	Overall (n=800)	Residents (n=400)	Tourists (n=400)	Difference Test
	β	t-value	β	t-value
Cognitive→Emotional	0.69***	18.35	0.75***	14.27
Emotional→Behavioral	0.58***	14.92	0.49***	8.75
Cognitive→Behavioral	0.33***	7.64	0.42***	7.52
Cognitive→Perceptual	0.42***	9.87	0.38***	6.47
Emotional→Perceptual	0.53***	13.26	0.58***	10.43
Behavioral→Perceptual	0.47***	11.58	0.41***	7.16

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

From the overall sample perspective, the cognitive dimension has a significant positive impact on the emotional dimension ($\beta=0.69$, $p<0.001$), and the emotional dimension's impact on the behavioral dimension is equally significant ($\beta=0.58$, $p<0.001$), verifying the sequential relationship of cognitive→emotional→behavioral and supporting research hypothesis H4. Additionally, the cognitive dimension also has a direct impact on the behavioral dimension ($\beta=0.33$, $p<0.001$), but its coefficient is significantly lower than the indirect impact through the emotional dimension ($0.69 \times 0.58 = 0.40$), indicating that the emotional dimension plays a key mediating role in the transformation process from cognition to behavior^[44]. The perceptual dimension, as an evaluative result of the identification process, is simultaneously influenced by the cognitive ($\beta=0.42$, $p<0.001$), emotional ($\beta=0.53$, $p<0.001$), and behavioral ($\beta=0.47$, $p<0.001$) dimensions, with the emotional dimension's influence being the most significant, verifying the core position of emotional experience in the cultural identity formation process.

Mediation effect analysis further supports the above findings: the cognitive dimension's indirect impact on the behavioral dimension through the emotional dimension is significant (indirect effect=0.40, $p<0.001$, 95%CI [0.34, 0.46]), with this indirect effect accounting for 54.8% of the total effect; similarly, the emotional dimension also plays a significant mediating role in the relationship between the cognitive dimension and the perceptual dimension (indirect effect=0.37, $p<0.001$, 95%CI [0.31, 0.43]), accounting for 46.8% of the total effect. These results indicate that the emotional dimension is a key link connecting cognition and behavior, playing a core mediating role in the cultural identity formation process.

Multi-group analysis reveals significant differences between residents and tourists in their cultural identity formation pathways. For the "cognitive→emotional" path, the path coefficient in the resident group ($\beta=0.75$, $p<0.001$) is significantly higher than in the tourist group ($\beta=0.63$, $p<0.001$) ($\Delta\chi^2=8.43$, $p<0.01$), indicating that the conversion efficiency of cognition's impact on emotion is higher in the resident group. Conversely, for the "emotional→behavioral" path, the coefficient in the tourist group ($\beta=0.66$, $p<0.001$) is significantly higher than in the resident group ($\beta=0.49$, $p<0.001$) ($\Delta\chi^2=10.27$, $p<0.01$), indicating that tourists' emotional experiences more easily translate into actual behaviors. This finding reveals the fundamental differences in identity formation mechanisms between residents and tourists: residents' cultural identity tends to be more "cognitive-emotional" oriented, forming emotional connections based on cultural knowledge and understanding; while tourists' cultural identity tends to be more "emotional-behavioral" oriented, initiating behavioral participation based on emotional experiences.

Moderating effect analysis of activity types and participation depth shows that in highly interactive folklore sports activities, the "emotional→behavioral" path coefficient ($\beta=0.67$, $p<0.001$) is significantly higher than in spectator activities ($\beta=0.51$, $p<0.001$); under high participation depth conditions, the "cognitive→emotional" path coefficient ($\beta=0.74$, $p<0.001$) is significantly higher than under low participation depth conditions ($\beta=0.62$, $p<0.001$). Additionally, emotional experience quality (authenticity, resonance, and meaningfulness) has a significant moderating effect on the "emotional→perceptual" path ($\beta=0.26$, $p<0.001$), indicating that high-quality emotional experiences can more effectively promote perceptual evaluation, thereby enhancing overall cultural identity.

The exceptionally high explanatory power of the emotional dimension's significant positive influence on the emotional dimension ($\beta=0.73$, $p<0.001$) deserves in-depth exploration. From a social psychological perspective, this strong dominance stems from a triple mechanism: First is the core role of cultural belonging, where folk sports as carriers of collective memory and identity symbols directly activate individuals' group belonging needs through emotional experiences, as one resident stated in an interview, "Seeing outsiders also able to perform our Shehuo, that feeling of blood connection is particularly strong"; second is the driving mechanism of identity emotionality, where compared to rational analysis at the cognitive level, emotional identity possesses stronger intrinsic driving force and persistence, providing continuous psychological motivation for subsequent behavioral participation and perceptual evaluation by activating individuals' identity pride and cultural confidence; finally, the emotional characteristics inherent in folk sports culture itself, whose participatory, ritualistic, and symbolic features naturally induce strong emotional responses, making emotional experience the primary trigger for cultural identity formation. This "emotion-led" model explains why the emotional dimension can exert cascading influences on cognitive ($0.73 \times \text{cognitive pathway}$), behavioral ($0.73 \times 0.58 = 0.42$), and perceptual ($0.73 \times \text{emotion-perception pathway}$) dimensions, forming an emotion-centered identity construction mechanism.

In conclusion, this study verifies the dynamic sequential pathway of folklore sports cultural identity formation, revealing the transformation mechanism of "cognitive→emotional→behavioral→perceptual," with particular emphasis on the core mediating role of the emotional dimension. This finding provides theoretical guidance for promoting folklore sports cultural identity: for residents, the focus should be on strengthening cognitive understanding of local cultural values, promoting emotional identity through enhanced cultural confidence; for tourists, the emphasis should be on creating authentic, meaningful emotional experiences, stimulating behavioral participation through emotional resonance, ultimately achieving deeper cultural identity.

4.3.2. Mediating role of place attachment in cultural identity formation

This study employs Bootstrap mediation effect analysis to verify the mediating role of place attachment in the process of emotional solidarity influencing folklore sports cultural identity. As shown in **Table 4-8**, place attachment partially mediates the impact of emotional solidarity on cultural identity, indicating that place attachment, as a form of emotional connection to a place, is an important intermediate link connecting host-guest emotional solidarity with cultural identity^[45]. The model test results support research hypothesis H5, enriching the understanding of cultural identity formation mechanisms.

Table 4-8. Mediation effect analysis results of place attachment.

Effect Type	Effect Value	SE	t/Z	95%CI
Total effect (c)	0.60***	0.04	15.23	[0.52, 0.68]
Direct effect (c')	0.47***	0.04	10.96	[0.39, 0.55]
Indirect effect (a×b)	0.13***	0.02	6.51	[0.09, 0.17]

Effect Type	Effect Value	SE	t/Z	95%CI
Emotional solidarity→Place attachment (a)	0.42***	0.04	10.23	[0.34, 0.50]
Place attachment→Cultural identity (b)	0.31***	0.03	9.57	[0.25, 0.37]
Proportion of mediation effect	21.7%			

Table 4-8. (Continued)

Note: *** $p < 0.001$; Bootstrap with 5000 resamples; Total sample $N=800$

From the perspective of mediation effect decomposition, the total effect of emotional solidarity on folklore sports cultural identity is 0.60 ($p<0.001$), with the direct effect being 0.47 ($p<0.001$) and the indirect effect through place attachment being 0.13 ($p<0.001$, 95%CI [0.09, 0.17]), with the indirect effect accounting for 21.7% of the total effect, indicating that place attachment plays a partial but significant mediating role in the relationship between emotional solidarity and cultural identity. Specific path analysis shows that emotional solidarity has a significant positive impact on place attachment ($a=0.42$, $p<0.001$), and place attachment also has a significant positive impact on cultural identity ($b=0.31$, $p<0.001$), indicating that host-guest emotional solidarity can enhance attachment to a place, thereby promoting identification with local culture.

Multi-group comparison analysis shows that there are certain differences in the mediating effect of place attachment between resident and tourist groups. In the resident sample, the indirect effect of place attachment is 0.18 (95%CI [0.13, 0.23]), accounting for 26.1% of the total effect (0.69); while in the tourist sample, the indirect effect is 0.17 (95%CI [0.11, 0.22]), accounting for 30.4% of the total effect (0.56). Although the indirect effect values are close for residents and tourists, the proportion of indirect effect in the total effect is slightly higher for tourists than for residents. This suggests that for tourists, place attachment is a more critical bridge connecting emotional solidarity and cultural identity.

In-depth analysis of the mediating effects of various dimensions of emotional solidarity through place attachment reveals that the indirect effect of the emotional closeness dimension is strongest (0.17, 95%CI [0.13, 0.21]), followed by the Empathic understanding dimension (0.14, 95%CI [0.10, 0.18]), with the Natural welcoming dimension having the weakest indirect effect (0.08, 95%CI [0.05, 0.11]). This indicates that emotional closeness, as the core component of emotional solidarity, can more effectively promote the formation of place attachment, thereby enhancing cultural identity.

The mediating effects of place attachment on the four dimensions of cultural identity also show differences. Among the four pathways of emotional solidarity affecting cultural identity, the mediating effect is strongest for the emotional dimension (0.18, 95%CI [0.14, 0.22]), followed by the perceptual dimension (0.15, 95%CI [0.11, 0.19]), with relatively weaker mediating effects for the cognitive dimension (0.12, 95%CI [0.08, 0.16]) and behavioral dimension (0.11, 95%CI [0.07, 0.15]). This result suggests that place attachment primarily promotes the formation of cultural identity by enhancing emotional connections and perceptual evaluations.

Moderated mediation analysis further reveals the boundary conditions of the mediating effect of place attachment. Under high emotional solidarity conditions (mean + 1 standard deviation), the mediating effect of place attachment is 0.08 (95%CI [0.04, 0.12]), significantly lower than the mediating effect under low emotional solidarity conditions (mean - 1 standard deviation) (0.17, 95%CI [0.13, 0.21]). This indicates a "ceiling effect" in the mediating effect of place attachment; when the level of emotional solidarity is already high, the mediating pathway through place attachment is relatively weakened, while the direct effect pathway becomes more prominent^[46]. Additionally, length of residence/visit has a significant moderating effect on the mediating effect, with long-term residents/visitors showing a significantly higher mediating effect of place

attachment (0.19, 95%CI [0.15, 0.23]) than short-term ones (0.08, 95%CI [0.05, 0.11]), indicating that the formation and mediating role of place attachment requires time accumulation, as shown in **Figure 4-6** below.

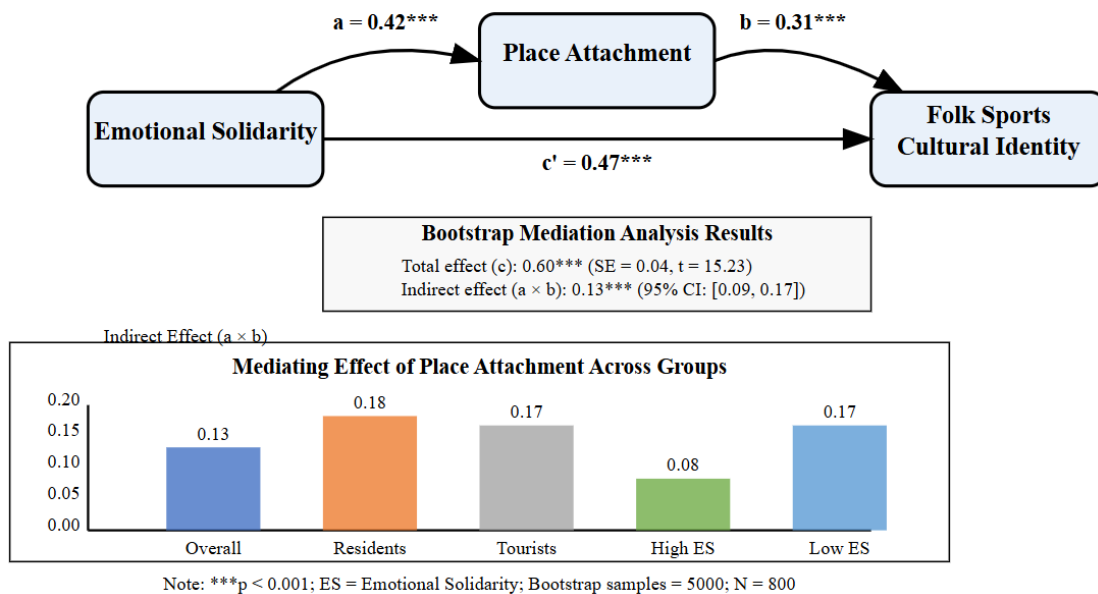


Figure 4-6. Mediating effect of place attachment between emotional solidarity and cultural identity.

Based on these findings, this study proposes an "emotional solidarity-place attachment-cultural identity" pathway mechanism: host-guest emotional solidarity (especially the emotional closeness dimension) promotes identification with local culture (particularly at emotional and perceptual levels) by enhancing emotional attachment and identification with the place. This finding provides a new perspective for cultivating folklore sports cultural identity: on one hand, the connection between place and culture should be strengthened, integrating folklore sports activities into specific place environments to enhance the cultural significance of place experiences; on the other hand, place attachment should be enhanced through enriching place memories and strengthening local narratives to create an emotional foundation for cultural identity. In practice, this can be achieved through the design of "place-based folklore sports cultural activities," such as folklore sports demonstrations in specific landscapes, cultural experiences in local historical settings, etc., to enhance tourists' place attachment and cultural identity.

4.3.3. Impact mechanism of cultural identity on sustainable rural tourism development

This study constructs and validates a path model of folklore sports cultural identity's influence on sustainable rural tourism development, exploring the mechanisms through which cultural identity affects sustainable rural tourism development via three pathways: economic benefits, social cohesion, and cultural inheritance. As shown in **Table 4-9**, folklore sports cultural identity has a significant indirect positive impact on sustainable rural tourism development, with the three mediating pathway effects showing notable differences, supporting research hypothesis H6^[47]. Model fit indices indicate that the theoretical model fits the data well ($\chi^2/df=2.41$, CFI=0.937, TLI=0.928, RMSEA=0.059, SRMR=0.047), demonstrating good explanatory power.

Table 4-9. Mediating path analysis of cultural identity's impact on sustainable rural tourism development.

Path	Overall (n=800)	Residents (n=400)	Tourists (n=400)	Difference Test
	β	t-value	β	t-value

Cultural identity→Economic benefits	0.52***	13.68	0.54***	9.87
Cultural identity→Social cohesion	0.67***	18.53	0.68***	12.64
Cultural identity→Cultural inheritance	0.73***	21.76	0.75***	15.83
Economic benefits→Sustainable development	0.36***	8.52	0.34***	6.28
Social cohesion→Sustainable development	0.42***	10.36	0.41***	7.59
Cultural inheritance→Sustainable development	0.48***	12.43	0.47***	8.93
Indirect effect 1 (Economic pathway)	0.19***	7.25	0.18***	5.16
Indirect effect 2 (Social pathway)	0.28***	9.47	0.28***	6.75
Indirect effect 3 (Cultural pathway)	0.35***	11.09	0.35***	8.01
Total indirect effect	0.82***	23.57	0.81***	16.84

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

From the overall sample perspective, folklore sports cultural identity has significant positive impacts on economic benefits ($\beta=0.52$, $p<0.001$), social cohesion ($\beta=0.67$, $p<0.001$), and cultural inheritance ($\beta=0.73$, $p<0.001$), indicating that cultural identity's promotional effects on the three mediating variables progressively strengthen. Meanwhile, economic benefits ($\beta=0.36$, $p<0.001$), social cohesion ($\beta=0.42$, $p<0.001$), and cultural inheritance ($\beta=0.48$, $p<0.001$) all have significant positive impacts on sustainable rural tourism development, indicating that the three mediating variables' contributions to sustainable development progressively increase^[48]. Correspondingly, cultural identity's indirect effects on sustainable development through the three mediating pathways also show an increasing trend: economic pathway (0.19, $p<0.001$) < social pathway (0.28, $p<0.001$) < cultural pathway (0.35, $p<0.001$). This result suggests that although economic benefits are an important foundation for sustainable rural tourism development, cultural inheritance and social cohesion play more crucial mediating roles in connecting cultural identity with sustainable development.

Multi-group analysis reveals differences in impact mechanisms between residents and tourists. In the resident sample, cultural identity's impact on cultural inheritance ($\beta=0.75$, $p<0.001$) is significantly higher than in the tourist sample ($\beta=0.59$, $p<0.001$) ($\Delta\chi^2=8.75$, $p<0.01$), indicating that residents' cultural identity more strongly translates into cultural inheritance willingness and behavior. Correspondingly, the indirect effect of cultural identity on sustainable development through the cultural inheritance pathway in the resident sample (0.35, $p<0.001$) is also significantly higher than in the tourist sample (0.28, $p<0.001$) ($\Delta\chi^2=5.38$, $p<0.05$). Meanwhile, the indirect effects of cultural identity through economic benefits and social cohesion show no significant differences between the two groups, indicating that residents and tourists primarily differ in cognition and behavior along the cultural inheritance pathway. Regarding the total indirect effect, the resident sample (0.81, $p<0.001$) is significantly higher than the tourist sample (0.70, $p<0.001$) ($\Delta\chi^2=6.24$, $p<0.05$), reflecting residents' more important role as cultural inheritance subjects in promoting sustainable development.

Moderating effect analysis indicates that host-guest interaction quality has a significant moderating effect on the pathway through which cultural identity influences sustainable development. Under high interaction quality conditions, the indirect effect of cultural identity through the cultural inheritance pathway (0.42, $p<0.001$) is significantly higher than under low interaction quality conditions (0.29, $p<0.001$) ($Z=3.85$, $p<0.001$), suggesting that high-quality host-guest interactions can strengthen cultural identity's promotional effect on cultural inheritance, thereby enhancing contributions to sustainable development^[49]. Additionally, age has a significant moderating effect on the pathway through which cultural identity influences cultural inheritance, with the path coefficient in the above-45 age group ($\beta=0.81$, $p<0.001$) being significantly higher

than in the below-45 age group ($\beta=0.68$, $p<0.001$) ($\Delta\chi^2=7.26$, $p<0.01$), indicating that age is closely related to cultural inheritance consciousness.

Further examination of specific indicators of sustainable development reveals that cultural identity has significant promotional effects on ecological environmental protection awareness ($\beta=0.56$, $p<0.001$), benefit-sharing mechanisms ($\beta=0.48$, $p<0.001$), and cultural vitality enhancement ($\beta=0.59$, $p<0.001$), indicating that cultural identity can coordinate economic, social, and environmental triple objectives, promoting comprehensive sustainable development of rural tourism.

Based on these findings, this study proposes an integrated "cultural identity-multiple pathways-sustainable development" model: folklore sports cultural identity synergistically influences sustainable rural tourism development through three pathways—enhancing economic benefits, improving social cohesion, and promoting cultural inheritance—with the cultural inheritance pathway making the most prominent contribution. This model provides empirical evidence and a theoretical framework for promoting sustainable rural tourism development, indicating that cultivating folklore sports cultural identity is a key link connecting cultural protection with economic development, and that cultural identity construction should be a core component of sustainable rural tourism development strategies.

5. Discussion

5.1. Theoretical contributions

This study makes theoretical contributions in three aspects by constructing and validating an integrated theoretical model of how emotional solidarity influences folklore sports cultural identity.

(1) The research deepens the application of emotional solidarity theory in cultural identity research, expanding emotional solidarity from an outcome variable of host-guest relationship satisfaction to an antecedent variable of cultural identity, revealing the differentiated influence mechanisms of its three dimensions—Natural welcoming, emotional closeness, and Empathic understanding—on cultural identity formation^[50]. In particular, the finding that emotional closeness, as the core dimension, plays a key role in connecting host-guest interactions with cultural identity enriches the emotional solidarity theory of scholars such as Woosnam, providing a new perspective for understanding how host-guest relationships transform into cultural identity.

(2) This study constructs a multi-dimensional integrated framework of folklore sports cultural identity, empirically validating the dynamic sequential process of cognitive-emotional-behavioral-perceptual dimensions, extending traditional cultural identity theory. The research finds the core mediating role of the emotional dimension in the transformation process from cognition to behavior, as well as significant differences between residents and tourists in identity pathways, not only deepening the understanding of internal mechanisms of cultural identity but also revealing the social-psychological formation process of cultural identity^[51]. In particular, the study introduces place attachment into the cultural identity research framework, verifying its mediating role between emotional solidarity and cultural identity, constructing a theoretical chain of "emotional solidarity-place attachment-cultural identity," providing a new theoretical perspective for understanding the psychological mechanisms of intangible cultural heritage protection and tourism development.

(3) The research establishes a multi-pathway model of folklore sports cultural identity's influence on sustainable rural tourism development, verifying the mechanism through which cultural identity affects sustainable development via three pathways: economic benefits, social cohesion, and cultural inheritance, with the cultural inheritance pathway making the most prominent contribution. This finding enriches cultural

sustainability theory, advancing the relationship between cultural identity and sustainable development from conceptual exploration to empirical verification, providing a systematic theoretical framework for understanding the cultural driving mechanisms of sustainable rural tourism development^[52]. Meanwhile, the research finds the moderating role of host-guest interaction quality on the relationship between emotional solidarity and cultural identity, emphasizing the key role of interaction quality in the cultural identity formation process, contributing to the deepening of tourism sustainable development theory from a social-psychological perspective.

5.2. Practical implications of research findings

The findings of this study have important guiding significance for the practice of rural tourism and folklore sports cultural inheritance.

(1) The research reveals the promotional effect of emotional solidarity on cultural identity, indicating that strengthening host-guest emotional connections is an effective approach to promoting cultural identity. In practice, traditional performance display models should be transcended, designing co-creative folklore sports activities that involve both hosts and guests, such as inviting tourists to participate in folklore sports skills learning, organizing folklore sports competitions with joint participation of residents and tourists, to enhance emotional resonance. Meanwhile, attention should be paid to improving host-guest interaction quality, with special focus on interaction depth rather than merely interaction frequency, such as designing small-scale, long-duration, deep-experience folklore sports cultural activities that allow residents and tourists to establish emotional connections in authentic contexts, thereby promoting the formation of cultural identity.

(2) The research finds that cultural identity cultivation strategies for residents and tourists should differ. For residents, the "cognitive-emotional" pathway should be emphasized, enhancing residents' cultural confidence and identity through folklore sports cultural knowledge education and value interpretation; for tourists, the focus should be on the "emotional-behavioral" pathway, creating experiences of emotional resonance and guiding active participatory behavior. The research also discovers the mediating role of place attachment in cultural identity formation, suggesting that we should strengthen the connection between place and culture, integrating folklore sports activities into specific place environments, such as "dry boat rowing" performances along the Yellow River banks, "Shehuo" activities in traditional villages, enhancing cultural identity through place identification^[53]. Additionally, attention should be paid to the influence of demographic variables such as age and education level on identity formation, designing targeted strategies, such as inheritance plans for elderly residents and innovative experiences for young tourists.

(3) The research confirms the multiple contributions of cultural identity to sustainable rural tourism development, with its influence through the cultural inheritance pathway being particularly significant. In practice, cultural identity construction should be positioned as the core of rural tourism sustainable development strategies, transcending purely economic orientations to construct a sustainable development model centered on cultural inheritance. Specifically, a virtuous cycle mechanism of "identity-inheritance-development" can be established: deepening residents' and tourists' identification with folklore sports culture to stimulate cultural inheritance willingness and behavior, thereby achieving coordinated development of economy, society, and culture^[54]. Examples include establishing folklore sports cultural inheritance centers that serve as both tourist experience venues and resident inheritance platforms; developing community participation-based tourism products based on cultural identity, ensuring positive interactions between tourism benefits and cultural protection; establishing cultural identity evaluation systems and incorporating them into rural tourism sustainable development monitoring indicators, achieving coordinated advancement of cultural protection and economic development.

5.3. Research limitations

Although this study systematically explores the relationship mechanisms between emotional solidarity and folklore sports cultural identity, several limitations remain.

(1) From a research methodology perspective, this study employs a cross-sectional design to collect data, which prevents revealing potential long-term dynamic interactive relationships between emotional solidarity and cultural identity. Although causal relationships have been verified through structural equation modeling, the possibility of reverse causality cannot be completely ruled out—that is, cultural identity might in turn influence the formation of emotional solidarity. Additionally, while questionnaire surveys facilitate large-sample statistical analysis, they still have limitations in capturing subtle psychological processes such as emotional experiences^[55]. Despite adopting mixed research methods, there remains room for improvement in the integration of qualitative and quantitative research, particularly in explaining the cultural connotations of quantitative results, which did not fully demonstrate the richness and complexity of folklore sports culture.

(2) Regarding the theoretical framework, this study primarily focuses on the influence pathways of emotional solidarity on cultural identity. Although place attachment was introduced as a mediating variable, consideration of other possible mediating and moderating variables was not sufficiently comprehensive. For example, factors such as tourists' travel motivations, residents' cultural confidence, and cultural distance between both parties might play important roles in the relationship between emotional solidarity and cultural identity but were not incorporated into the theoretical model of this study. Meanwhile, the research lacks sufficient exploration of the power dimension in the relationship between emotional solidarity and cultural identity, failing to deeply analyze how potential power inequalities in host-guest relationships might affect the cultural identity formation process^[56]. Furthermore, although the impact of cultural identity on sustainable rural tourism development was discussed, the study did not fully examine various dimensions of sustainable development, with particularly inadequate indicators in the aspect of environmental sustainability.

(3) There are certain limitations in sample representativeness and research generalizability. This study primarily selected several rural tourism sites along the Yellow River in Shanxi Province as research areas, which, while having certain regional representativeness, still requires verification of applicability to different types of folklore sports cultures across the country. In terms of sample composition, although the resident sample covered different age and occupational groups, the ratio between cultural inheritors and non-inheritors might affect the balance of research results; the tourist sample primarily consisted of leisure and sightseeing tourists, with insufficient investigation of cultural experience-oriented and professional study-oriented tourists. Additionally, the folklore sports projects selected for the study mainly concentrated on several typical forms such as Taige (carrying decorated platforms), iron flower shows, dry boat rowing, and Shehuo (community fire celebrations), with applicability to other types of folklore sports cultures awaiting verification. These limitations suggest that future research needs to expand research areas, enrich sample composition, and improve theoretical frameworks to obtain more comprehensive research findings.

6. Conclusion and outlook

6.1. Main research conclusions

Based on systematic research on the relationship between emotional solidarity and folklore sports cultural identity in rural tourism along the Yellow River in Shanxi Province, this paper draws the following five main conclusions:

(1) folklore sports cultural identity in rural areas along the Yellow River in Shanxi presents a multi-dimensional composite structure, including cognitive, emotional, behavioral, and perceptual evaluation dimensions, with significant differences between residents and tourists in identity dimensions. Residents' cultural identity exhibits a descending pattern of "emotional>cognitive>behavioral>perceptual," with the emotional dimension scoring significantly higher than tourists; while tourists demonstrate characteristics of "behavioral>cognitive=perceptual>emotional," with the behavioral dimension scoring significantly higher than residents. This differentiated identity structure reflects the fundamental differences in social roles and participation motivations between residents and tourists. Demographic characteristics have significant impacts on cultural identity: residents' cultural identity strengthens with increasing age, decreasing education level, and longer residence time; while tourists show opposite trends, with younger, higher-educated, and short-term stay tourists demonstrating higher cultural identity.

(2) Emotional solidarity is an important antecedent variable influencing folklore sports cultural identity, with the three dimensions affecting cultural identity in descending order: emotional closeness, Empathic understanding, and Natural welcoming. Emotional solidarity influences cultural identity through the partial mediating effect of place attachment, forming a pathway chain of "emotional solidarity→place attachment→cultural identity." Host-guest interaction quality plays a key moderating role in the process of emotional solidarity influencing cultural identity, with high-quality interactions (especially emotional interactions and deep interactions) significantly enhancing the promotional effect of emotional solidarity on cultural identity. This indicates that host-guest emotional connections are the psychological foundation for cultural identity formation, while high-quality interactions serve as catalysts in this transformation process.

(3) The formation of folklore sports cultural identity follows a dynamic sequential pathway of "cognitive→emotional→behavioral→perceptual," with the emotional dimension playing a core mediating role in the transformation process from cognition to behavior. Significant differences exist between residents and tourists in identity formation pathways: residents' cultural identity tends to be more "cognitive-emotional" oriented, forming emotional connections based on cultural knowledge and understanding; while tourists' cultural identity tends to be more "emotional-behavioral" oriented, initiating behavioral participation based on emotional experiences. This difference suggests that strategies to promote cultural identity should adopt differentiated measures for different groups, with residents requiring strengthened cultural knowledge education and value interpretation, and tourists needing authentic, meaningful emotional experiences.

(4) Place attachment, as the core manifestation of sense of place, plays a significant mediating role in the relationship between emotional solidarity and cultural identity. Emotional solidarity (especially the emotional closeness dimension) promotes identification with local culture by enhancing emotional attachment and identification with the place. Under low emotional solidarity conditions, the mediating role of place attachment is more prominent; while under high emotional solidarity conditions, the direct effect of emotional solidarity on cultural identity is relatively enhanced. Length of residence/visit has a significant moderating effect on the mediating effect of place attachment, with long-term residents/visitors showing a significantly higher mediating effect of place attachment than short-term ones, indicating that the formation and functioning of place attachment requires time accumulation.

(5) folklore sports cultural identity comprehensively influences the sustainable development of rural tourism through three pathways: economic benefits, social cohesion, and cultural inheritance, with the

contributions of the three pathways progressively increasing, forming an integrated "cultural identity→multiple pathways→sustainable development" model. In the resident sample, cultural identity's impact on cultural inheritance and its indirect effect on sustainable development through the cultural inheritance pathway are significantly higher than in the tourist sample, reflecting residents' more important role as cultural inheritance subjects in promoting sustainable development. Host-guest interaction quality has a significant moderating effect on the pathway through which cultural identity influences cultural inheritance, with high-quality interactions enhancing cultural identity's promotional effect on cultural inheritance, thereby increasing contributions to sustainable development. This indicates that cultivating folklore sports cultural identity is a key link connecting cultural protection with economic development, and should be positioned as the core content of rural tourism sustainable development strategies.

(6) H1 Verification Results: Emotional solidarity has a significant positive impact on folk sports cultural identity ($\beta=0.64$, $p<0.001$), with hypothesis H1 fully supported, where emotional closeness shows the most significant influence ($\beta=0.65$, $p<0.001$); H2 Verification Results: Folk sports cultural identity follows a sequential path of 'cognition→emotion→behavior→perception', with hypothesis H2 verified and the mediating role of the emotional dimension being significant (indirect effect=0.40, $p<0.001$); H3 Verification Results: Host-guest interaction quality significantly moderates the relationship between emotional solidarity and cultural identity ($\beta=0.23$, $p<0.001$), with the influence coefficient under high interaction quality conditions ($\beta=0.77$) significantly higher than under low interaction quality conditions ($\beta=0.45$), supporting hypothesis H3; H4 Verification Results: Significant differences exist in the cultural identity formation paths between residents and tourists, with residents showing an 'emotion>cognition>behavior>perception' pattern and tourists displaying a 'behavior>cognition=perception>emotion' pattern, verifying hypothesis H4; H5 Verification Results: Place attachment plays a significant mediating role between emotional solidarity and cultural identity (indirect effect=0.13, $p<0.001$, accounting for 21.7% of total effect), supporting hypothesis H5; H6 Verification Results: Cultural identity influences rural tourism sustainable development through three pathways—economic benefits, social cohesion, and cultural inheritance—with the cultural inheritance pathway contributing the most ($\beta=0.35$, $p<0.001$), fully verifying hypothesis H6.

6.2. Future outlook

Based on the findings and limitations of this study, future research can be further expanded in the following three directions:

(1) In terms of research design and methodology, subsequent studies should adopt longitudinal tracking designs to examine the dynamic interactive relationship between emotional solidarity and cultural identity and their long-term evolutionary processes. Typical folklore sports cultural activities (such as Shehuo community fire celebrations, iron flower shows, etc.) could be selected to track the changing trajectories of host-guest interactions, emotional experiences, and cultural identity at different time points (e.g., before, during, and after festivals), revealing the temporal dimension of cultural identity formation. Meanwhile, big data analysis could be combined with in-depth ethnographic research, analyzing tourists' emotional expressions and cultural evaluations on social media, coupled with resident-based participatory observation, to capture the micro-interactive processes of emotional solidarity and cultural identity, enhancing the ecological validity and explanatory depth of research.

(2) For theoretical framework expansion, future research should combine micro-psychological mechanisms with macro-social structures, examining how factors such as power relations and cultural politics moderate the relationship between emotional solidarity and cultural identity. Particularly in the context of increasing cultural commodification and performativity, in-depth analysis should be conducted on how factors

such as cultural authenticity, degree of commodification, and local knowledge affect cultural identity. Simultaneously, multiple theoretical perspectives such as social representation theory and social identity theory could be introduced to construct cross-level theoretical models of cultural identity, analyzing cultural identity formation mechanisms and their interactions at individual, group, and community levels, deepening the theoretical understanding of folklore sports cultural identity.

(3) For application expansion, future research should further explore new models of folklore sports tourism development based on emotional solidarity and cultural identity. Examples include constructing cultural identity-oriented design frameworks for folklore sports cultural products, developing experiential products that effectively promote emotional solidarity and cultural identity; establishing cultural identity evaluation index systems and incorporating them into rural tourism planning and assessment; exploring differences in identity formation mechanisms across different types of folklore sports cultures, such as competitive versus performative, collective participation versus individual skill types. Additionally, the geographical scope and cultural types of research should be expanded to comparatively study the characteristics and formation mechanisms of folklore sports cultural identity in different regions (such as the Yangtze River, Yellow River, and Pearl River basins) and among different ethnic groups, providing an empirical foundation for constructing a cultural identity theoretical system with Chinese characteristics.

Research project funding

"Research on the Identification Path of folklore Sports Culture in Rural Tourism along the Yellow River", Shanxi Province Higher Education Teaching Reform and Innovation Project. Project Number: J20231381

Conflict of interest

The authors declare no conflict of interest.

References

1. Xia Xuan, Nurgul Abdusuli, Gao Nan. Research on High-Quality Development of Rural Tourism in Kashgar City under the Background of Rural Revitalization [J]. *Modern Business*, 2025, (07): 123-127.
2. Wang L, Zhuang J, Wang M. Integrating AHP-SBE for Evaluating Visitor Satisfaction in Traditional Village Tourism Landscapes [J]. *Sustainability*, 2025, 17(7): 3119-3119.
3. Chen Z, Li S. Research on the Governance Practices of Rural Sports Public Services in Guangxi under the Rural Revitalization Strategy [J]. *International Journal of Social Science and Education Research*, 2024, 7(10): 250-260.
4. Xiao X, Xiang P, Wang H, et al. Driving Mechanisms of the Integration of Ecological Farms and Rural Tourism: A Mixed Method Study [J]. *Agriculture*, 2025, 15(7): 764-764.
5. Cai Libin, Wan Fangliang. Measurement, Analysis and Optimization of Rural Tourism Public Service Quality from the Perspective of Tourist Perception [J]. *Journal of Shandong Agricultural University (Social Science Edition)*, 2025, 27(01): 83-93.
6. Zou Yige, Deng Zhuozhen, Xia Lingling. Research on Strategies for Improving Rural Tourism Image Perception in Foshan from the Perspective of Rural Revitalization [J]. *Journal of Foshan University of Science and Technology (Social Science Edition)*, 2025, 43(02): 93-100.
7. Cao Yuan. Research on Rural Tourism Experience and Optimization Strategies from the Perspective of Elderly Tourists [J]. *Journal of Jiamusi Vocational College*, 2025, 41(03): 76-78.
8. Han Lei, Xu Feifei, La Liqing. The Process and Mechanism of "Host-Guest" Value Co-creation in Rural Tourism Community Governance [J]. *Chinese Ecotourism*, 2025, 15(01): 34-47.
9. Zhang Lu, Zhang Qing, Song Mingliang. Research on Service System Design of Peri-urban Rural Tourism under Value Co-creation [J]. *Packaging Engineering*, 2025, 46(02): 91-107.
10. Liu Xiaona, Kou Kai. Information Asymmetry and Rural Tourism Development: Interactive Relationship between Tourist Experience and Local Residents [J]. *Western Tourism*, 2024, (24): 38-40.
11. Qiao Meihua, Du Yu, Wang Ye. Research on Rural Tourism Improvement Strategies for Qikou Ancient Town Based on Tourist Satisfaction [J]. *Journal of Shanxi Finance and Taxation College*, 2024, 26(06): 29-34.

12. Ma X, Su W, Kang S. Role-shaping of rural tourism entrepreneurs and an interpretative framework: A knowledge transfer perspective [J]. *Tourism Management*, 2025, 110105188-105188.
13. Zhang Ying. Research on Tourist Satisfaction with Rural Tourism Public Services in Shandong Province Based on IPA [J]. *Journal of Luoyang Normal University*, 2024, 43(12): 27-31.
14. Kou Kai. Research on Symbolic Consumption and Identity Construction in Rural Cultural Tourism [J]. *Western Tourism*, 2024, (21): 106-108.
15. W A L. Dryden, Pope, and Milton in Gay's Rural Sports and Johnson's Dictionary [J]. *Notes and Queries*, 2018, 65(2): 241-243.
16. A. K R. Rural Sport Spectacles: Ice Hockey, Mythologies, and Meaning-Making in Rural Canada [J]. *Leisure Sciences*, 2021, 43(6): 617-629.
17. Singh A, Boruah B. Understanding the influence of socio-economic status, gaslighting, and cognitive interferences on athletic mental energy and subjective vitality: a study of urban and rural sport performers [J]. *SN Social Sciences*, 2024, 4(12): 234-234.
18. Chen Shaoyou, Zhang Bo. Research on Satisfaction and Loyalty of Rural Tourism Based on Tourist Perception—Taking Luanchuan County, Henan Province as an Example [J]. *Journal of Luoyang Institute of Technology (Social Science Edition)*, 2024, 39(06): 36-40.
19. Zhou Jun. Development Strategy of Rural Eco-tourism Resources Based on Tourist Experience Theory [J]. *Western Tourism*, 2024, (23): 45-47.
20. Duan Yue, Ju Chunyan. Research on the Evaluation of Rural Tourism Attractiveness in Urumqi County from the Perspective of Tourists [J]. *Gansu Agriculture*, 2024, (06): 99-105.
21. Yang Haifang. Analysis of the Driving Role of Rural Tourism on Regional Economic Growth [J]. *China Collective Economy*, 2025, (03): 17-20.
22. Li Huayun. Integrated Development of Rural Tourism and Traditional Agriculture [J]. *Rural Economy and Technology*, 2024, 35(24): 114-117.
23. Cheng Guo, Zou Xingxing, Liu Yaya, et al. Research on Tourist Satisfaction of Rural Tourism in Zashui County Based on IPA Analysis Method [J]. *Shanghai Business*, 2024, (06): 77-81.
24. Liu Guilin, Zhang Jinghua. Optimization of Marketing Mode of Gansu Rural Tourism Scenic Spots Based on Tourist Experience [J]. *Marketing World*, 2024, (23): 170-172.
25. Zhao Qingyang, Yin Huaguang. Research on the Relationship between Tourist Motivation and Recommendation Intention, Revisit Intention in Rural Eco-tourism [J]. *Journal of Heilongjiang Ecological Engineering Vocational College*, 2024, 37(05): 45-50.
26. Song Minghuang, Huang Xiujuan, Lin Lusen, et al. Research on Digital Development of Fujian Rural Cultural Tourism Industry from the Perspective of Tourists [J]. *Guangdong Sericulture*, 2024, 58(12): 101-104.
27. Fujian Z. Methods to Improve the Efficiency of Rural Physical Education Teaching Resources Allocation and Utilization in the Context of Artificial Intelligence [J]. *Computational Intelligence and Neuroscience*, 2022, 20223226902-3226902.
28. Díaz P A J. Festive Leisure and Rural Sport in the Basque Mugak: Sare and Extalar Cases [J]. *Journal of Borderlands Studies*, 2025, 40(1): 75-93.
29. Meng Xiaomin, Wang Xingang. Research on Improving Tourist Satisfaction of Rural Tourism in Zhangbei County Based on IPA Model [J]. *Journal of Hebei North University (Social Science Edition)*, 2024, 40(02): 25-28.
30. Cao Xiaoying. Research on Behavioral Intention of Rural Cultural Tourism in Shandong Province from the Perspective of Tourist Perception [J]. *Western Tourism*, 2024, (08): 16-18.
31. Zhang D D, Liao B, Wu D, et al. Systematically prioritizing key barriers for the implementation of sustainable rural tourism development in China: an ISM-MICMAC approach [J]. *Environment, Development and Sustainability*, 2025, (prepublish): 1-28.
32. Yuan Lu. Exploration of Pathways for Digital Economy to Boost High-Quality Development of Rural Tourism [J]. *Exhibition Economy*, 2024, (04): 44-47.
33. Wu J, Guo D, Zuo J, et al. Evolution characteristics and obstacle factors of rural resilience in Chinese minority areas in the background of rural tourism and COVID-19 [J]. *Scientific Reports*, 2025, 15(1): 9493-9493.
34. He Xiaohang. Research on Behavioral Activity Characteristics of Tourists and Villagers in Rural Tourism Environment [J]. *Sichuan Architecture*, 2024, 44(01): 11-14.
35. Qiu Xun. Research on Rural Tourism Development Path in Quzhou City Based on Tourist Behavioral Characteristics [J]. *National Circulation Economy*, 2024, (04): 157-160.
36. Wei Guoqing, Xu Wenhui, Chen Xizhou. Research on Tourist Behavior and Cognition of Rural Eco-tourism in the Context of Future Villages [J]. *Modern Horticulture*, 2024, 47(05): 24-26.
37. Shen W, Chen Y, Rong P, et al. The spatial coupling and its influencing mechanism between rural human-habitat heritage and key rural tourism villages in China [J]. *npj Heritage Science*, 2025, 13(1): 79-79.
38. Liu Min. Research on Tourists' Choice of Rural Tourism Destinations and Influencing Factors [J]. *Rural Economy and Technology*, 2023, 34(24): 106-110.

39. Qu Guichun, Zhao Yan, An Jiahui, et al. Research on High-Quality Development Path of Rural Tourism in Southern Anhui Based on Nostalgia Authenticity [J]. *Gansu Agriculture*, 2023, (12): 90-95.
40. Reza M, Omid M N, Mehdi S M, et al. Rural sports and local games: missing link between sports tourism development and sustainability [J]. *Journal of Sport & Tourism*, 2022, 26(3): 201-223.
41. Wang Yifu, Yin Peihao, Sun Qinyi. Rural Cultural Tourism Satisfaction Management: From the Perspective of Tourist Preferences and Motivations [J]. *Journal of Qiannan Normal University for Nationalities*, 2023, 43(06): 104-112.
42. Ou Jianming, Hong Zhongcheng, He Xinping, et al. Digital Empowerment of Rural Tourism Development [J]. *China Foreign Investment*, 2023, (22): 98-101.
43. Xie Qiong, Huang Shufan. Research on Rural Health Tourism Demand in Yangshuo County Based on Tourist Perception [J]. *Shanxi Agricultural Economy*, 2023, (18): 92-95.
44. Cai Linghui, Cao Bin, Zhang Qiyao, et al. Research on the Influence of Network Spokesperson Traits on Tourists' Revisit Intention for Rural Tourism [J]. *Journal of East China University of Technology (Social Science Edition)*, 2023, 42(04): 328-335.
45. Shan Nina. Research on Attractiveness Evaluation of Rural Tourism in Longsheng, Guilin from the Perspective of Tourists [J]. *Village Committee Director*, 2023, (08): 78-81.
46. Tian Yuling. Rural Tourism Tourist Flow Prediction Method Based on Grey Elman-NN Model [J]. *Information Technology*, 2023, (08): 18-23.
47. Wei Xiaoliang, Wang Ying. Research on Rural Tourism Resource Development in the Context of Common Prosperity Based on Tourism Gaze Theory [J]. *Journal of Zhejiang Agriculture*, 2023, 35(08): 1950-1959.
48. Ossowska L, Kloskowski D, Janiszewska D. The Rural Sport Event—The Atmosphere from the Participants' Perspective [J]. *Tourism and Hospitality*, 2024, 5(4): 906-921.
49. Li Zhiyong. Research on the Integration and Development of Excellent Traditional Culture and Rural Eco-tourism [J]. *Cultural Innovation Comparative Research*, 2023, 7(24): 119-123.
50. Mo Caiyun. Research on Strategies for Improving Rural Tourism Service Quality in Yangshuo Based on Tourist Perception [J]. *Journal of Sichuan Vocational and Technical College*, 2023, 33(04): 87-94.
51. Jin Linlin. Construction and Empirical Research on Rural Tourism Quality Model in Ethnic Areas Based on Tourist Perception [J]. *Tourism Forum*, 2023, 16(04): 72-79.
52. Hou Yingxia. Research on Authenticity Protection and Development of folklore Sports Tourism Based on Vernacular Culture Consumption Psychology [J]. *Guangdong Sericulture*, 2025, 59(03): 148-150.
53. Li Hui, Zhou Hu, Wang Zhaohai, et al. Research on the Significance and Strategies of Coupling Sports Tourism and folklore Sports under the Rural Revitalization Strategy [J]. *Contemporary Sports Technology*, 2024, 14(16): 107-109.
54. Zhou Chuanzhi, Yu Bingmei. Problems, Causes and Countermeasures of folklore Sports Tourism from the Perspective of Cultural Ecology [J]. *Journal of Minnan Normal University (Natural Science Edition)*, 2021, 34(04): 92-96.
55. Wang Ertong. Inheritance and Application of folklore Sports Culture in Rural Revitalization [J]. *Shanxi Agricultural Economy*, 2021, (17): 178-179.
56. Wang Jinwei, Xiao Hongqing. Research on the Inheritance and Application of folklore Sports Culture in Rural Revitalization [J]. *Journal of Shijiazhuang University*, 2020, 22(03): 115-118.