

A stratified study of Shui horsetail embroidery consumer behavior from the perspective of economic capital and cultural capital

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Abstract. Focusing on Shui horsetail embroidery, a form of national intangible cultural heritage, this paper employs an exploratory mixed-methods approach combining both closed and open questionnaires. It examines how different social groups perceive, value, and consume horsetail embroidery. The study begins with descriptive and cross-tabulation analyses of 180 closed questionnaires, using educational level and monthly income as indicators of cultural and economic capital, to explore their links with purchase experience, recognition, pricing, and usage motives. It then analyzes 20 open-ended responses through thematic analysis to clarify the disconnect between "cultural identity" and actual consumption. Findings show that horsetail embroidery consumption varies by social capital, gender, and age. This research deepens understanding of how intangible cultural heritage consumption relates to social stratification among ethnic minorities and offers insights for promoting and transforming cultural products.

Keywords: Shui horsetail embroidery, intangible cultural heritage consumption, cultural capital, economic capital, social stratification

1. Introduction

Shui horsetail embroidery is a traditional handicraft inscribed in China's first batch of *National Intangible Cultural Heritage Lists* in 2006, primarily circulating in the Shui (meaning "water" in Chinese) ethnic community concentrated areas of Sandu, Guizhou [1]. It uses horsetail hair as the core wrapped with silk thread to make embroidery thread, which is then coiled and embroidered into shape through multiple manual processes, featuring a distinctive relief texture. Patterns such as butterflies and Shui character motifs carry the creation myths, local knowledge, and ethnic memories of the Shui people, making horsetail embroidery an important manual skill passed down through generations of Shui women. It has not been included in the official *UNESCO Intangible Cultural Heritage Lists*, though one of its representative works received the UNESCO Seal of Excellence for Handicrafts in 2012 as an international craft certification rather than formal heritage accreditation [2].

In recent years, horsetail embroidery has taken steps to transition from a local handicraft into the fields of Intangible Cultural Heritage (ICH) protection, cultural tourism development, and cultural consumption [3].

Currently, the production of horsetail embroidery primarily presents a coexisting pattern of inheritor workshops, family workshops, and enterprise-based production. Since the core processes remain highly dependent on manual labor, the long production cycle and high labor costs easily lead to issues such as price range polarization, limited supply scale, and insufficient acceptance by mass consumers. Meanwhile, the daily use scenarios of traditional products are relatively limited, and the younger generation lacks sufficient cognition of their history, craftsmanship, and cultural connotation. Thus, while horsetail embroidery is endowed with high cultural value by China's national ICH system, it simultaneously faces the problems of limited brand awareness, low purchase conversion rates, and narrow market acceptance. This contradiction shows that ICH's cultural value does not necessarily lead to purchases.

Existing research on horsetail embroidery mostly focuses on skill preservation, pattern interpretation, the inheritor system, and cultural tourism development, while rarely examining how ICH products are understood, evaluated, and purchased from the consumer perspective [4]. For an ICH transitioning towards a market-oriented product, consumers are not passive recipients but important actors determining whether cultural products can enter daily life. Whether consumers are willing to purchase horsetail embroidery depends not only on product price and function, but is also jointly influenced by educational experiences, aesthetic habits, cultural exposure opportunities, economic capability, and life scenarios. Therefore, horsetail embroidery purchases can be viewed as a social practice simultaneously influenced by economic capital and cultural capital.

In light of the remarkable transition, this paper examines three research questions with a focus on consumer stratification:

- 1) First, how do different social groups understand the cultural value of horsetail embroidery?
- 2) Second, how do variables such as educational level and income relate to horsetail embroidery purchasing experience, reservation price, and context of purchases?
- 3) Third, why does there exist a fracture of "high cultural identity, low actual consumption" in horsetail embroidery?

Utilizing Bourdieu's theoretical perspective on economic capital, cultural capital, and cultural distinction [5], this paper analyzes how different consumers understand and consume horsetail embroidery, thereby enriching localized empirical research on the relationships among ICH consumption, cultural symbols, and social stratification.

2. Literature review

2.1. Cultural consumption, cultural capital, and social stratification

Cultural consumption is not a simple commodity purchasing behavior, but is closely related to social stratification, aesthetic taste, and identity expression. Bourdieu's discussion of cultural capital, economic capital, and "distinction" points out that the consumption of cultural products depends not only on economic purchasing power, but also on whether individuals possess the knowledge resources and aesthetic habits to understand, appreciate, and assign value to cultural symbols [5]. For traditional ICH handicrafts, consumers purchase not only the product itself, but also the tradition, craftsmanship, locality, and symbolic value behind it.

In relevant research, income and education are commonly used as indicators of economic and cultural capital. Economic capital determines the consumers' affordability, while education and cultural exposure influence their capacity to understand and value cultural meaning, as well as their willingness to pay. China's domestic studies on traditional handicrafts and creative ICH products show that middle-to-high income and

highly educated groups are more likely to engage in cultural consumption, expressing their aesthetic taste and identity through traditional handicrafts, museum products, or ICH items [6]. However, whether this conclusion applies directly to ethnic minority handicraft products remains open for discussion.

2.2. Commercialization and consumption transformation of ICH handicrafts

During the marketization transition, ICH handicrafts are caught between cultural and commercial values. On the one hand, manual production, complex craftsmanship, and cultural scarcity increase the symbolic value of ICH products; on the other hand, long production cycles and high labour costs may also drive-up prices, limiting mass consumption. Ethnic embroidery-type ICH also frequently faces issues such as traditional product forms, a lack of adaptation to modern aesthetics, limited daily-use scenarios, and unstable purchasing channels, thereby creating consumption thresholds.

Meanwhile, the commercialization of ICH also involves the relationship between authenticity and innovation. To expand the market, traditional handicrafts are often transformed into cultural and creative products, tourist souvenirs, or gifts. Such transformations help increase the visibility of ICH, but may also bring about cultural simplification and symbolic consumption. Therefore, researching ICH consumption cannot solely focus on purchase rates; it also needs to analyze how consumers understand its cultural value, aesthetic value, and practical value.

2.3. Dissemination channels, cultural identity, and attitude-behavior gap

Campus education, museum exhibitions, social media platforms, and cultural tourism experiences can all enhance the public visibility of ICH. Still, visibility is not equivalent to a deep understanding of the culture and tradition behind it. Existing studies point out that the dissemination of ICH often exhibits fragmented characteristics; consumers may know that a certain ICH are culturally valuable without understanding its specific craftsmanship, historical context, and usage. Therefore, dissemination of ICH might foster emerging awareness, but this does not necessarily lead to consumption. This gap can be seen as a disconnect between cultural identity and consumption habits. Consumers may acknowledge the importance of protecting ICH on a value level but still not make purchases because of differences in price, design, practicality, distribution channels, or lifestyles. As a result, research on ICH consumption should explore how cultural identity is developed and why it often does not convert into regular buying behavior.

2.4. Research status and gaps in horsetail embroidery

Current research on Shui horsetail embroidery primarily concentrates on skill restoration, cultural interpretation of patterns, oral history of inheritors, and cultural tourism development. These studies fully demonstrate the cultural value of horsetail embroidery as a national-level ICH, but rarely proceed from the consumer perspective to investigate how different social groups understand, evaluate, and consume it. In particular, systematic empirical analysis is still lacking regarding how variables such as income, education, age, and gender affect cultural cognition, purchasing behavior, and consumption scenarios of horsetail embroidery.

Based on this, this paper combines closed-ended and open-ended questionnaires to investigate the cognitive differences and consumption stratification of different social groups toward horsetail embroidery. This paper does not view horsetail embroidery consumption simply as a market choice, but rather understands it as a social practice under the joint action of economic capital, cultural capital, cognitive pathways, and consumption scenarios.

3. Methodology

3.1. Research design

This paper employs an exploratory mixed-methods research approach. The quantitative part builds on closed-ended survey questionnaires to perform descriptive statistics and cross-tabulation on respondents' demographics, their understanding of horsetail embroidery, purchasing experiences, price acceptance, and motivation to purchase. The qualitative component analyzes open-ended responses through thematic analysis to explore how respondents perceive the cultural significance, consumption contexts, and price perceptions of horsetail embroidery. The goal is to identify initial links between variables and consumer cognition patterns, not to produce statistical generalizations about the entire national consumer base.

3.2. Survey

The closed-ended questionnaire is designed around three categories of content based on the research questions:

- Respondents' demographic profile: including age, gender, educational level, and monthly income;
- Perception and attitude towards horsetail embroidery, including whether they understand horsetail embroidery, how they interpret its value, and their main information channels;
- Consumption behavior and needs, including whether they have purchased horsetail embroidery products, purchasing frequency, purchasing purpose, price acceptance range, and product innovation needs.

This paper uses educational level as a proxy variable for cultural capital and monthly income as a proxy variable for economic capital. It should be noted that academic qualifications and income cannot be fully equated with cultural capital and economic capital in Bourdieu's framework. Cultural capital also includes family cultural background, experience with art, museum visits, reading habits, and aesthetic training, among others; economic capital also includes assets, disposable income, and a sense of consumption security in addition to monthly income. Due to limitations in questionnaire design, this paper only uses educational level and monthly income as operationalized indicators to conduct a preliminary analysis of capital differences.

Purchasing experience was processed as a binary variable; purchasing purpose, innovation needs, and dissemination channels were multiple-choice questions coded as 0/1 depending on whether each option was selected. Prior to the formal distribution of the questionnaire, researchers selected 20 respondents of different age groups for a pre-survey. They simplified professional terminology, adjusted price intervals, and merged options with similar meanings based on feedback.

Sampling, Data Collection, and Ethics: This study used online convenience sampling, distributing electronic questionnaires via WeChat, ICH-related communities, and the comment sections of short video platforms. Ultimately, 180 complete and valid closed-ended questionnaires were obtained. Since the sample was not randomly selected and the distribution channels relied on internet platforms, the sample may be more concentrated among active online users, urban consumers, and groups who already have a certain interest in ICH or cultural and creative products. Therefore, the results of this paper are mainly used for exploratory analysis and should not be directly generalized to all potential consumers.

Data collection for the closed-ended questionnaires took place from September 29, 2025, to October 2, 2025. Researchers cleaned the collected questionnaires, excluding those with severe missing data, excessively short completion times, or options repeating in an obviously patterned manner. The first page of the questionnaire explained the research purpose, the principle of anonymity, and data usage; respondents filled it out voluntarily and could withdraw at any time.

3.3. Open-ended questionnaire and thematic analysis

To supplement the subjective explanations that closed-ended questionnaires cannot capture, this paper further collected 20 open-ended questionnaire responses. The open-ended questions focused on five aspects: the cultural value and symbolic meaning of horsetail embroidery, reasons for purchasing or not purchasing, price perception and consumption thresholds, cognitive channels and dissemination experiences, and understanding of embroiderers' labour and female employment. Compared with closed-ended questionnaires, the value of open-ended questionnaires lies not in expanding the sample size, but in revealing how respondents explain the cultural value of horsetail embroidery and their reasons for purchasing or not purchasing.

Qualitative analysis adopted the thematic analysis method. Researchers first read the open-ended texts repeatedly, marking meaning units related to the research questions; then, preliminary coding was conducted. Table 1 presents the initial coding keywords derived from open-ended questionnaire texts.

Table 1. Initial coding keywords for open-ended questionnaire responses

Coding Category	Keywords
Cultural dimension	cultural inheritance, artistic aesthetics
Product attribute dimension	handcraft scarcity
Usage scenario dimension	gift-giving, home decoration
External influencing factor dimension	price threshold, affordable popularization, school education, short video dissemination

Finally, similar codes were grouped into core themes. The purpose of thematic analysis is not to count word frequency, but to explain how consumers understand horsetail embroidery and its consumption value through recurring patterns of meaning.

4. Research findings

4.1. Findings from survey

4.1.1. Age stratification: from affordable self-use to gifting and collection

There are clear life-cycle differences between age and purchasing behavior toward horsetail embroidery.

Among all age cohorts, consumers aged 18–25 register a comparatively low purchase rate of around 15%. Most of their individual spending stays below 500 RMB, and they tend to select budget-friendly items including inexpensive accessories. While this demographic demonstrates certain personal usage demands, they hold relatively conservative cultural perceptions. Respondents selecting "strongly disagree" and "disagree" make up more than 60% of the group. A potential explanation is that young consumers may have limited exposure to ICH culture. Meanwhile, many feel the aesthetic characteristics of horsetail embroidery do not align closely with contemporary styles and everyday outfits.

Consumers aged 26–35 achieve a purchase rate of roughly 30%, representing a moderate level within the surveyed groups. This cohort exhibits relatively frequent purchasing behaviour, with most respondents making purchases one to two times annually, and showing a preference for functional goods such as bags and cushions. In comparison with the 18–25 age bracket, members of this group consider price factors while also starting to recognise the lifestyle and ornamental value of products. Their consumption motivations are balanced between personal use and gift-giving, where personal use accounts for around 50% and gifting makes up approximately 40%. Gifts are primarily presented to peers and family relatives.

Consumers aged 36–45 record a comparatively high purchase rate of around 45%. Their individual spending is largely concentrated within the range of 1,001 to 2,000 RMB, and they exhibit demands for both personal use and gift-giving. This cohort generally enjoys steady income and established social connections, alongside notable needs for gift consumption. As such, they are more inclined to adopt horsetail embroidery for occasions including corporate gifting, presents for family members, and domestic decoration. Gift-giving occupies the largest share among this demographic at roughly 55%. This suggests that for middle-aged consumers, horsetail embroidery serves not merely as an item for personal use, but is also gradually emerging as a socially exchanged gift carrying cultural symbolic meaning.

Consumers aged 46 and above register a purchase rate of roughly 40%, also representing a relatively high level. Nevertheless, their consumption motivations differ from the middle-aged cohort. This demographic tends to attach greater importance to the heritage significance, collectible value and intricacy of horsetail embroidery craftsmanship. The share of respondents selecting "strongly agree" within this group reaches around 35%, the highest among all age brackets. Their primary purchasing intentions centre on collection and gift-giving: collection accounts for approximately 45% and gift-giving makes up about 40%. They show a preference for traditional motifs, fine workmanship, and collectible pieces with commemorative value.

Cross-age comparisons indicate that age may exert influences on both purchasing frequency and consumption drivers. Generally speaking, younger consumers tend to purchase horsetail embroidery for affordable personal use; middle-aged buyers prioritise items for social gift-giving; while older cohorts lean toward collection and heritage-related purposes.

4.1.2. Gender differences: active female consumption vs. male gift consumption

Gender constitutes an important variable shaping consumption behaviour related to horsetail embroidery. The data suggests that the purchase rate among female consumers stands at roughly 42%, noticeably higher than the 18% recorded for male consumers. Females also exhibit more frequent purchasing activity, averaging two to three transactions each year, whereas most male consumers make purchases once annually or less. Individual spending by women is largely concentrated within the range of 501 to 1,500 RMB. These findings imply that women act as core purchasers of horsetail embroidery goods and display greater potential to develop sustained consumption habits.

When it comes to cultural attitudes, female consumers demonstrate a relatively high level of recognition towards horsetail embroidery, with respondents selecting "agree" and "strongly agree" jointly accounting for around 58%. This group tends to place greater emphasis on visual design, craft details, styling compatibility and practical functionality of horsetail embroidery works. They are also more inclined to incorporate such items into daily decorations, household supplies and personal aesthetic arrangements. Personal use represents their dominant consumption motivation at approximately 65%, while gift-giving makes up roughly 30%. Gifts are mostly presented to female friends, family members and other close female relatives.

In contrast, men's attitude toward horsetail embroidery is relatively neutral, with "neutral" accounting for about 60%. Men's cognition of horsetail embroidery mostly remains at the level of "ICH products" or "ethnic handicrafts", with low willingness to actively understand it. Male purchasing behavior is mainly triggered by specific needs, especially gift purchasing during holidays, anniversaries, or family scenarios. Their gifting purpose accounts for about 80%, while self-use accounts for only about 5%. Furthermore, men's single purchase amounts exhibit polarization: one part chooses low-cost gifts under 500 RMB, while the other chooses high-end gifts above 2,000 RMB.

This finding suggests that consumption of horsetail embroidery displays noticeable gender-based disparities. Female consumers tend to engage in regular consumption of horsetail embroidery as active participants, while males enter this market mainly for gift-giving purposes. To put it differently, female

consumption centres on aesthetic appeal, practicality and personal identity expression. By comparison, male consumption is more closely associated with festivals, family interactions and social gifting scenarios.

4.1.3. Educational level: division of cultural capital and value understanding

There is a clear stratified relationship between educational level, horsetail embroidery purchasing behavior, and cultural attitudes.

Consumers with a high school education or below register a comparatively low purchase rate of around 12%. Most of their individual spending remains under 500 RMB, and they predominantly purchase entry-level products. Respondents in this group selecting "strongly disagree" and "disagree" make up more than 70%. This outcome should not be simplistically regarded as an indication of insufficient aesthetic capacity among groups with lower educational attainment. Instead, it is more likely associated with their limited access to ICH knowledge, cultural narratives and arts education resources.

Consumers with associate degrees record a purchase rate of roughly 25%. Their individual spending is mainly within the range of 501 to 1,000 RMB, and they tend to prioritise product cost-effectiveness. Approximately 50% of respondents in this group select the "neutral" option. This implies that while they possess basic awareness of horsetail embroidery, they have not yet formed distinct cultural preferences or stable consumption motivations. Personal use dominates their purchasing aims at around 70%, and only a minor share of purchases are intended for gift-giving.

Consumers with bachelor's degrees achieve a purchase rate of approximately 40%. They show a preference for products with profound cultural connotations and sophisticated aesthetic design, with their individual consumption mostly ranging from 1,001 to 2,000 RMB. Their consumption motivations are relatively balanced between personal use and gift-giving, each accounting for around 45%. When selecting gifts, this consumer group pays greater attention to attributes such as intangible cultural heritage craftsmanship, ethnic cultural characteristics, and handmade value. This trend indicates that educated consumers are gradually regarding horsetail embroidery as a culturally significant gift option.

Consumers with a master's degree or above register a comparatively high purchase rate of roughly 55%. Their individual spending often exceeds 2,000 RMB, and they tend to choose limited-edition, customised and collectible horsetail embroidery pieces. Members of this cohort generally make two or more purchases every year. This demographic largely regards horsetail embroidery as cultural collectibles or high-end gifts, with collection accounting for approximately 40% and gift-giving making up around 50% of their core consumption motivations.

Overall, educational attainment, acting as a proxy variable for cultural capital, appears to correlate positively with consumers' cultural perceptions and consumption behaviours concerning horsetail embroidery. Consumers with higher education levels tend to develop a better understanding of the intangible cultural heritage attributes, intricate craftsmanship and cultural symbolic meanings embedded in horsetail embroidery. They are also more inclined to regard such works as cultural collectibles, culturally meaningful gifts, or carriers for aesthetic expression.

4.1.4. Income differences: economic capital and purchasing power stratification

Income and purchasing behaviour towards horsetail embroidery show the clearest stratification.

Consumers with a monthly income below 3,000 RMB register a comparatively low purchase rate of around 8%. They tend to acquire only small goods priced under 500 RMB, largely during promotional activities. Personal use constitutes their dominant consumption motivation at roughly 95%, with emphasis placed on basic functionality and affordability. In terms of cultural attitudes, respondents selecting "strongly disagree" and "disagree" make up more than 80% of this group. Such tendencies may not wholly arise from disapproval

of the cultural value of horsetail embroidery. Instead, they are more likely driven by budget limitations, price sensitivity, and a tendency to prioritise non-discretionary spending.

Consumers with a monthly income ranging from 3,001 to 6,000 RMB register a purchase rate of roughly 28%. Their spending is mainly concentrated within the 501–1,000 RMB bracket on functional products, and they tend to make purchases around once per year. Approximately 60% of respondents in this group hold a "neutral" attitude. This suggests they possess a certain level of awareness of horsetail embroidery, yet their purchasing willingness remains volatile amid budget restrictions. Personal use serves as their primary consumption motivation at about 75%, while only a minor proportion of purchases are intended for gift-giving.

Consumers with a monthly income of 6,001–10,000 RMB register a purchase rate of roughly 48%. Their spending generally falls within the 1,001–2,000 RMB range, and they tend to make purchases one to two times each year. This cohort places increasing emphasis on intricate craftsmanship and the cultural added value of products. Around 55% of respondents in this group select the "agree" option, showing readiness to pay a premium for the cultural and craft value embodied in horsetail embroidery. Gift-giving makes up approximately 55% of their consumption motivations, exceeding the share for personal use. This reflects that, alongside rising income levels, horsetail embroidery gradually transforms from everyday personal goods into corporate presents and premium gifts for relatives and friends.

Consumers with a monthly income of 10,001 RMB and above register a comparatively high purchase rate of roughly 65%. Their individual spending mostly exceeds 2,000 RMB, and they exhibit robust demand for customised and collectible horsetail embroidery pieces, maintaining a purchasing frequency of two to three times per year. This demographic records the largest share of respondents selecting "strongly agree" at approximately 45%. They tend to regard horsetail embroidery as a symbol of cultural consumption and quality of life. Their primary consumption motivations centre on collection and gift-giving, with collection accounting for around 50% and gift-giving making up roughly 45%.

Thus, income influences not just the decision to buy but also the amount, frequency, and purpose of purchases. As economic capital grows, the consumption of horsetail embroidery gradually shifts from inexpensive, self-used items to mid- or high-end gifts and cultural collections, mirroring the class-based trend in Intangible Cultural Heritage (ICH) consumption.

4.2. Thematic analysis of open-ended questionnaires

The open-ended questionnaires further explained the aforementioned consumption stratification. Based on the coding results, this paper summarizes five themes: cultural identity and symbolic meaning, consumption scenarios and functional transformation, price perception and consumption thresholds, pathways of cultural cognition formation, and female labor and social significance. Table 2 displays the thematic coding results of open-ended questionnaire responses.

Table 2. Thematic coding results of open-ended questionnaire responses

Theme	Major Codes	Analytical Significance
<i>Cultural Identity and Symbolic Meaning</i>	Cultural inheritance / ICH / ethnic culture / traditional cultural symbols; artistic aesthetics; handcraft scarcity; collection value	Horsetail embroidery is first understood as a cultural symbol rather than an ordinary commodity.

Table 2. Continued

<i>Consumption Scenarios and Functional Transformation</i>	Home decoration; business gifting / gift-giving; practical / daily use	Cultural value needs to be converted into purchase reasons through specific life scenarios.
<i>Price Perception and Consumption Thresholds</i>	Mismatched price / undervalued; affordable popularization does not affect value	Respondents focus simultaneously on craft value and affordability, with price acting as a major threshold for consumption conversion.
<i>Pathways of Cultural Cognition Formation</i>	School education; campus sharing; museum / exhibition; internet / social media; tourism / Guizhou field experience	Dissemination channels affect the depth of cognition, but fragmented dissemination is hard to convert directly into consumption.
<i>Female Labor and Social Significance</i>	Supporting women; female employment; female spirit	A minority of respondents connect horsetail embroidery with embroiderers' labor and female development.

4.2.1. Cultural identity and symbolic meaning

The open-ended questionnaires reveal that most respondents initially perceive horsetail embroidery as an Intangible Cultural Heritage (ICH) product imbued with cultural symbolism, rather than a simple handmade craft. During coding, the themes "cultural inheritance / ICH / ethnic culture / traditional cultural symbols" appeared 13 times, "artistic aesthetics / beautiful patterns / aesthetic value" 12 times, "handcrafted artisan / manual production/scarcity / uniqueness" 8 times, and "collection value/investment value" 4 times. This suggests that respondents' value assessments of horsetail embroidery primarily focus on four aspects: cultural significance, aesthetic appeal, craftsmanship, and collectibility.

Some respondents directly linked horsetail embroidery with Shui culture and its ICH identity. For instance, Respondent 1 stated that "*In my eyes, horsetail embroidery is a carrier of the ethnic culture of the Shui people, a very precious ICH*". Respondent 5 also believed that "*This is not an ordinary commodity; it carries the skills and culture passed down from the older generation*".

These answers show that in respondents' cognition, horsetail embroidery does not acquire value solely through practical functions, but is endowed with symbolic meaning because it carries ethnic history, local memory, and traditional skills. At the same time, aesthetics and scarcity are also important bases for respondents' evaluation of horsetail embroidery. As Respondent 2 mentioned: "*It belongs to handcrafted art pieces; the embroidery patterns are delicate, and the artistic aesthetic feel is strong*". Respondent 3 also emphasized that "*Purely handmade crafts are different from each other, possessing unique characteristics*".

These narratives demonstrate that respondents interpret horsetail embroidery not merely from the perspective of cultural heritage preservation, but also assess its attractiveness through patterns, motifs, craft details and the uniqueness of handmaking. For certain respondents, the value of purchasing horsetail embroidery stems not only from its "ancient" or "traditional" attributes, but also from its distinctive individuality that differentiates it from mass-produced machine-made goods.

Nevertheless, not all respondents possess in-depth knowledge regarding its cultural connotations. Some only provide intuitive impressions such as "featuring ethnic characteristics", "beautiful patterns" and "quite special", with few elaborations on the specific production techniques, Shui cultural context, or implied meanings of horsetail embroidery motifs. This indicates that although horsetail embroidery has gained symbolic recognition as intangible cultural heritage and ethnic culture, there exists disparity in the depth of

individual understanding. Some audiences perceive it as an integration of cultural inheritance, handmade craftsmanship and collectible value, while others form judgements predominantly based on its external aesthetics and unique traits.

Hence, the theme of cultural identity and symbolic meaning indicates a fundamental premise in horsetail embroidery consumption: whether consumers initially buy it depends on their recognition of its cultural value. Its ICH status, ethnic cultural connotations, artistic beauty, and handcrafted rarity form its symbolic value. Yet, this symbolic value alone does not guarantee actual purchase; it forms the cultural basis that must be further translated into specific motives influenced by factors like price, context, and sales channels.

4.2.2. Consumption scenarios and functional transformation

The second theme focuses on consumption scenarios and functional transformation. The open-ended questionnaires reveal that when respondents consider purchasing horsetail embroidery, they rarely base their decision solely on whether they like or dislike it. Instead, they think about the specific purpose behind their purchase. Relevant responses include "home decoration" (9 mentions), "business gifting / gift-giving" (7 mentions), and "practical/daily use" (5 mentions). This suggests that the cultural significance of horsetail embroidery needs to be translated into tangible buying motivations within specific scenarios in daily life.

Some respondents linked horsetail embroidery with home decoration and daily use. Respondent 6 stated: *"I buy horsetail embroidery home goods to decorate my house, and they can be used daily"*.

This type of response indicates that when horsetail embroidery is transformed into cushions, bags, hanging ornaments, table runners, or other household items, it enters consumers' daily lives more easily. For these consumers, horsetail embroidery is not only "traditional culture worth protecting" but also needs to have usability and lifestyle compatibility.

Another group of respondents emphasized the gift function. Respondent 7 stated: *"During holidays, I choose horsetail embroidery products as gifts for relatives and friends; it is very distinctive"*.

This indicates that, as an ICH product, horsetail embroidery has a cultural distinctiveness that sets it apart from ordinary gifts. Its "ethnic characteristics", "handmade", and "ICH label" make it suitable for gifting to friends and relatives, business gifting, and local specialty gifts. In this scenario, consumers buy not only the product itself, but also a gift symbol capable of conveying feelings, local culture, and aesthetic taste.

Some respondents understood horsetail embroidery from the perspective of collection. Respondent 8 said: *"I buy this kind of craft mainly for collection, and rarely use it in daily life"*.

Such responses illustrate that for certain consumers, the value of horsetail embroidery resides not in daily practical utility, but in the scarcity of handcrafted works, cultural commemorative meaning, and long-term preservation potential. Collection-oriented consumption scenarios are generally linked to greater price tolerance, keen cultural interest, and steady economic capacity.

This theme implies that consumption of horsetail embroidery is not directly motivated by abstract cultural identity; instead, it relies on scenario-based application. In other words, even when people recognise its cultural significance, they tend to raise practical questions: Can it be used in daily life? Is it appropriate as a gift? Can it serve as home decoration? Is it worthy of collection? Its cultural value can only be translated into purchasing motivations once embedded within specific scenarios, including personal usage, household ornamentation, gift-giving and collection.

From the perspective of consumption stratification, different consumption scenarios correspond to distinct purchasing power and product expectations. Younger consumers tend to favour compact, affordable items with prominent decorative effects and daily practicality; middle-aged consumers pay more attention to the gift-giving and social functions of products; consumers with higher income or greater cultural interest are more likely to value collectible attributes and sophisticated craftsmanship. Therefore, consumption scenarios

concern more than just product utility. They also reflect how diverse social groups integrate intangible cultural heritage into their daily lifestyles and social exchanges.

4.2.3. Price perception and consumption thresholds

The third theme is price perception and consumption thresholds. The open-ended questionnaires show that respondents' understanding of horsetail embroidery prices is not uniform, but presents a clear tension. On one hand, some respondents believe that the handicraft and cultural value of horsetail embroidery are undervalued; on the other hand, some respondents hope for more affordable products to lower the purchasing threshold. Among the related codes, "mismatched price / undervalued" appeared 6 times, and "affordable popularization does not affect value / more willing to buy" appeared 10 times.

Some respondents explained the price from the perspective of craftsmanship and labor value. Respondent 9 proposed that *"Horsetail embroidery is complex to make and rich in cultural heritage; the current price does not match its craft value at all"*.

Respondent 10 also believed that *"High-end handmade embroidery is priced too low, failing to reflect the gold content of the skill"*.

This perspective highlights that horsetail embroidery cannot be simply regarded as an ordinary commodity. Its price ought to reflect embroiderers' labor input, the complexity of craftsmanship, and its value as intangible cultural heritage. For respondents who share this opinion, higher prices are not inherently disadvantageous; on the contrary, they can represent respect for manual labor and embedded cultural value.

However, another group of respondents proceeded from affordability and emphasized the price threshold. Respondent 11 stated: *"I am only willing to accept small items under 100 RMB; if the price is too high, I will not consider purchasing"*.

Respondent 12 also mentioned: *"If more consumer-friendly price points are introduced, more people will accept them, and it won't harm its cultural value"*.

Responses of this kind do not necessarily negate the cultural value of horsetail embroidery. Nevertheless, they reveal that consumers still take budgets, usage frequency and consumption necessity into account when making actual purchases. In other words, acknowledging its cultural value is not equivalent to willingness to pay a premium for it.

This theme reveals the core contradiction in the commercialization of ICH: the higher the cultural value, the more it needs to reflect manual labor and scarcity through higher prices; but the higher the price, the more it may limit mass consumption conversion [7]. For low-income or price-sensitive consumers, horsetail embroidery may be considered "valuable but unaffordable"; for consumers with high cultural interest or high purchasing power, it may be considered "worthy of higher pricing". Therefore, the price issue is not simply about being "expensive" or "inexpensive", but represents different consumers' different judgments on the relationship among craft value, cultural value, and personal budget [8].

This finding also explains the low purchase rate in the quantitative data. Although cultural identity towards horsetail embroidery exists, in practice, price acceptance becomes a key filter. If products are available only at high prices, ordinary consumers cannot enter the market; if only low-cost popularisation is emphasised, their craft and ICH value may be weakened. Therefore, the marketisation of horsetail embroidery requires a stratified product system: affordable small items to lower the entry threshold, mid-range products for home and gift consumption, and high-end works for collection and customised scenarios.

4.2.4. Pathways of cultural cognition formation: dissemination, education, and fragmented understanding

The fourth theme is the pathways of cultural cognition formation. The open-ended questionnaires show that respondents' understanding of horsetail embroidery mainly comes from school education, the internet and

social media, museums or exhibitions, and tourism experiences. In the related codes, "school education is helpful" appeared 13 times, "internet / social media" appeared 6 times, "tourism / Guizhou field experience" appeared 5 times, "museum/exhibition" appeared 4 times, and "campus / student sharing" appeared 3 times. This indicates that the cognition of horsetail embroidery is not formed naturally, but relies on specific dissemination channels.

School education is an important channel mentioned by many respondents. Respondent 15 stated:

"I learned about horsetail embroidery in an online ICH popularization class at school; it was campus education that first introduced me to this handicraft".

This indicates that campus education plays an important role in basic ICH popularization, especially in helping young people build preliminary cognition. School courses, club activities, ICH lectures, or study-tour projects can let students contact horsetail embroidery for the first time and include it in the framework of understanding "traditional culture" or "The ethnic culture".

Internet and social media provide more daily contact opportunities. Respondent 13 suggested that he *"got to know horsetail embroidery after brushing through online travel strategies and short videos, knowing about this ICH for the first time"*.

Respondent 14 also stated: *"I usually scroll through short videos and watch live broadcasts, brushing up on a lot of horsetail embroidery-related content"*.

This type of response shows that short videos, live broadcasts, travel guides, and social platforms can increase the visibility of horsetail embroidery, allowing the Shui handicraft, which originally had strong regional characteristics, to be seen by a wider range of consumers.

However, increased visibility does not equate to deepened understanding. Respondent 17 sighed: *"The information I brushed up on was all fragmented, and my understanding of its history and production process is very superficial"*.

4.2.5. Female labor and their social significance

The fifth theme is female labor and social significance. Compared to the first four themes, this theme appeared with lower frequency, with codes related to "supporting women / female employment / female spirit" appearing only 3 times. However, it provides an important complementary perspective for understanding horsetail embroidery (Mawei embroidery). Some interviewees do not merely understand horsetail embroidery from the perspectives of Intangible Cultural Heritage (ICH), aesthetics, or price, but also pay attention to the embroidery labor, female employment, and transmission of female craftsmanship behind it.

Interviewee No. 18 explicitly stated: *"Buying horsetail embroidery products is also a way of supporting local female embroiderers, helping them increase their income and secure stable employment"*. Interviewee No. 19 said: *"Every single stitch and thread is completed by female artisans dedicating their time and painstaking effort, carrying a spirit of down-to-earth perseverance"*. Interviewee No. 20 also expressed: *"Supporting the development of horsetail embroidery is safeguarding the craftsmanship of these traditional female laborers"*. These responses indicate that in the eyes of a minority of interviewees, horsetail embroidery is not only a cultural product, but also a social practice related to local female laborers.

The importance of this theme lies in the fact that it further expands horsetail embroidery from an "ethnic cultural symbol" into a "female labor symbol". As a female handicraft skill passed down through generations, the production process of horsetail embroidery is often closely associated with domestic labor, local handicrafts, female experience, and rural livelihoods. If consumers can realize the embroidery labor behind the products, they might interpret their purchasing behavior as support for local female employment, the transmission of traditional craftsmanship, and the value of female labor.

However, this theme currently remains a marginal one and has not become a mainstream understanding among the interviewees. Most interviewees still discuss horsetail embroidery mainly from the perspectives of ICH, aesthetics, decoration, gift-giving, and price, and rarely take the initiative to mention embroiderers, female labor, or rural women's development. This indicates that although the female labor value of horsetail embroidery possesses potential communication significance, it has not yet been fully integrated into the mainstream consumer narrative.

Therefore, this paper should remain cautious when interpreting this theme. The open-ended questionnaires can only show that some consumers have begun to associate horsetail embroidery with female labor and female employment, but we cannot directly infer that horsetail embroidery has already formed a mature consumer symbol of "female empowerment". To discuss this issue in depth in the future, further interviews are needed with embroiderers, inheritors, cooperatives, and enterprise operators to analyze the true position of female labor in the production, pricing, and revenue distribution of horsetail embroidery.

5. Discussion

This paper finds that income and education levels show a clear stratified relationship with horsetail embroidery consumption. The higher the income, the greater the consumers' ability to pay for mid-to-high-end horsetail embroidery products; the higher the education level, the easier it is for consumers to understand the Intangible Cultural Heritage (ICH) value, craft value, and cultural symbolic significance of horsetail embroidery. This result is basically consistent with cultural consumption research regarding the joint influence of economic capital and cultural capital on cultural consumption decisions.

However, this paper also further indicates that economic capital and cultural capital do not function in completely identical ways. Economic capital primarily affects "whether one can buy" and "how much to spend", whereas cultural capital primarily affects "why to buy" and "how to understand its value". For instance, high-income groups can better afford customized products or collection-grade pieces priced above 2,000 RMB, while highly educated groups are more inclined to emphasize the ICH attributes, cultural showcase function, and collection significance of horsetail embroidery. Together, the two jointly drive horsetail embroidery to transform from a common handicraft into a consumer object that carries identity expression and cultural distinction.

Age differences indicate that horsetail embroidery consumption exhibits distinct life cycle characteristics. Younger groups focus primarily on affordability, self-use, and decorative qualities; middle-aged groups place more value on gift-giving functions and social settings; while middle-aged and elderly groups emphasize collection and transmission significance. This demonstrates that ICH consumption is not a fixed, unchanging preference, but rather changes according to life stages, income status, family responsibilities, and social relations.

Gender differences indicate that horsetail embroidery consumption is influenced by gendered market positioning. As more active consumers, women are more likely to integrate horsetail embroidery into daily aesthetics, home decoration, and personal use, whereas men purchase horsetail embroidery more in gift exchange scenarios. This difference does not mean women are "inherently" more suited for embroidery consumption; rather, it shows that embroidery-type products have long been assigned a strong gender color within market imagination, usage scenarios, and gift-giving culture.

Although highly educated and high-income groups exhibit stronger recognition and purchasing power, horsetail embroidery still faces the dilemma of converting cultural recognition into actual consumption. Consumers recognizing its cultural value does not guarantee an automatic purchase. Purchasing behavior also

depends on whether the price is acceptable, whether the product conforms to modern aesthetics, whether there are clear usage scenarios, and whether consumers can find a reason to buy in their daily lives.

This point is particularly crucial for understanding the marketization of intangible cultural heritage. The dissemination of ICH cannot merely stop at "letting consumers know"; it also needs to help consumers understand its value and translate this value into concrete product forms that can be used, gifted, displayed, or collected. In other words, the key to converting ICH consumption is not just increasing exposure, but establishing a continuous chain of "cultural understanding scenario matching price acceptance purchasing action".

According to the research, promoting horsetail embroidery through living transmission and market efforts can focus on three key areas:

First, for audiences with low awareness, emphasis should be placed on explaining the craft process, cultural significance, and Sui ethnic history, rather than simply showcasing finished products. Second, to cater to various income levels, a tiered product system should be developed: affordable small items for young and low-income consumers, mid-range products for home decoration and gifts, and high-end customized pieces for collectors and corporate gifts. Third, products should be designed for different age and gender groups, creating scenarios for personal use, gifting, and collecting. This approach will transform horsetail embroidery from an abstract cultural symbol into a tangible cultural product integrated into everyday life and social interactions.

6. Research limitations and suggestions for future research

This paper has several limitations. Firstly, the sample was gathered through online convenience sampling, which may not represent all potential horsetail embroidery consumers; it likely skews toward internet users and groups interested in Intangible Cultural Heritage (ICH) or creative industries. Secondly, the analysis mainly shows group differences based on cross-tabulation, without conducting Chi-square, Fisher's exact tests, or regression analysis, so the statistical significance and effect sizes remain unclear. Thirdly, education level and monthly income are only proxy indicators for cultural and economic capital, lacking more detailed measures like family background, art exposure, museum visits, travel experience, and assets. Fourth, the open-ended questionnaire responses are limited and lack follow-up interviews, which restricts understanding respondents' deeper motivations. Future research should include local residents of Sandu in Guizhou, inheritors, embroiderers, business owners, and tourists, using interviews, observations, and sales data to analyze the entire process of horsetail embroidery from production to consumption. Statistical methods like Chi-square tests, logistic regression, or multivariate analyses could better examine how factors such as cognition, income, education, channels, and price perception influence purchasing decisions.

7. Conclusion

This paper explores cognitive differences and consumption patterns among consumers of Sui ethnic horsetail embroidery from the viewpoints of economic and cultural capital. It reveals that while horsetail embroidery carries significant cultural symbolism in consumer perception, factors like income, education, age, gender, price sensitivity, and usage settings jointly influence consumer conversion. High-income and highly educated groups are more inclined to purchase mid-to-high-end products and view horsetail embroidery as cultural gifts, collectibles, or symbols of identity; women often buy for personal use, while men tend to buy as gifts; and age shifts consumption motivations from self-use toward gift-giving and collection. Thus, horsetail embroidery consumption is not solely about market supply or income and education levels but is a social practice shaped by cultural understanding, aesthetic taste, economic ability, usage context, and communication channels.

This study's contribution lies in applying consumer stratification to horsetail embroidery research, emphasizing that the living transmission of ICH depends not only on preserving craftsmanship but also on understanding how different social groups perceive, interpret, and integrate ICH into daily life.

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Appendix

Appendix A. Full transcript of interrogation

1. What is your age?
 - A. Under 18 years old
 - B. 18–25 years old
 - C. 26–35 years old
 - D. 36–45 years old
 - E. 46–55 years old
 - F. 55 years old and above
2. What is your gender?
 - A. Male
 - B. Female
3. Please state your residential region. (Specify your city or district)
4. Please indicate your current occupation.
5. What is your highest level of education?
 - A. Junior high school or below
 - B. Senior high school or technical secondary school
 - C. Junior college degree
 - D. Bachelor's degree
 - E. Postgraduate degree or above
6. What is your monthly disposable income?
 - A. Below 3,000 RMB
 - B. 3,001–6,000 RMB
 - C. 6,001–10,000 RMB
 - D. 10,001 RMB and above
7. How familiar are you with Horsetail Embroidery (a traditional intangible cultural heritage)?
 - A. Very familiar
 - B. Moderately familiar with limited understanding
 - C. Almost unfamiliar
8. In your perception, how do you define Horsetail Embroidery?
 - A. A carrier of ethnic traditional culture
 - B. A form of handmade fine art
 - C. A traditional craft or cultural souvenir
 - D. A contemporary fashion accessory
 - E. A practical daily commodity
9. From which sources have you acquired knowledge about Horsetail Embroidery? (Multiple options available)
 - A. Tourism and cultural site visits
 - B. Television programs, online platforms and media reports
 - C. Word-of-mouth introduction from relatives and friends
 - D. Physical handicraft stores
 - E. E-commerce platforms
 - F. Short-video platforms and live-streaming channels

G. Cultural and creative retail stores

H. Other sources (please specify)

10. Have you ever purchased any Horsetail Embroidery related products?

A. Yes

B. No

11. What is your purchasing frequency of Horsetail Embroidery products?

A. Several times per year

B. Once per year

C. Once every several years

D. Only once in total

E. Never purchased

12. What are the main purposes for purchasing Horsetail Embroidery products? (Multiple options available)

A. Personal daily use or collection

B. Gifting to others

C. Cultural collection and value preservation

D. Other purposes (please specify)

E. No purchasing experience

13. Which types of Horsetail Embroidery products have you purchased? (Multiple options available)

A. Traditional costumes and embroidered garments

B. Decorative accessories and ornaments

C. Household decorative items

D. Traditional craft artworks

E. Modern cultural and creative derivatives

F. Other product types (please specify)

G. No purchasing experience

14. Which factors primarily influence your purchasing decisions regarding Horsetail Embroidery products? (Multiple options available)

A. Product pricing

B. Handicraft quality and production sophistication

C. Aesthetic design and stylistic features

D. Brand influence and public reputation

E. Cultural value and historical connotation

F. Daily practicality

G. Convenience of purchasing channels

H. Other influencing factors (please specify)

15. Which price ranges of Horsetail Embroidery products are acceptable to you? (Multiple options available)

A. Below 50 RMB (small decorative accessories)

B. 51–100 RMB (miniature craftworks)

C. 101–200 RMB (conventional decorative ornaments)

D. 201–500 RMB (featured household decorations)

E. 501–1,000 RMB (customized embroidered garments)

F. Above 1,000 RMB (high-end artistic collectibles)

16. In which aspects do you expect innovative development of Horsetail Embroidery products? (Multiple options available)

- A. Modernization of design elements, patterns and color schemes
 - B. Optimization of production techniques and material application
 - C. Expansion of diversified and daily-oriented product categories
 - D. Expansion of online marketing and cross-border sales channels
 - E. Maintain traditional craftsmanship without excessive innovation
 - F. Other expected improvements (please specify)
17. Are you willing to participate in practical experience activities of Horsetail Embroidery production?
- A. Highly willing
 - B. Moderately willing
 - C. Neutral
 - D. Relatively unwilling
 - E. Completely unwilling
18. What forms of Horsetail Embroidery experience activities do you prefer? (Multiple options available)
- A. Offline short-term workshops and practical courses
 - B. Online systematic teaching and live tutorials
 - C. Field cultural experience in intangible cultural heritage villages
 - D. Other preferred forms (please specify)
19. What is your acceptable expense for a professional Horsetail Embroidery production experience?
- A. Below 50 RMB
 - B. 51–100 RMB
 - C. 101–200 RMB
 - D. Above 201 RMB
20. Please put forward your professional suggestions for the future inheritance, innovation and industrial development of Horsetail Embroidery. (Provide comprehensive opinions from multiple perspectives)

Appendix B. Interview guide

- Q1: Do you usually buy handicrafts or cultural products, such as cultural and creative merchandise, ethnic crafts, etc.?
- Q2: Under what circumstances did you first hear about Horsetail Embroidery?
- Q3: In your opinion, what does Horsetail Embroidery represent in modern society?
- Q4: Do you believe purchasing or owning Horsetail Embroidery works can reflect one's aesthetic taste, financial standing or cultural literacy? Could you explain your reasoning with specific examples?
- Q5 :In what setting did you first encounter or buy Horsetail Embroidery? (e.g., travel souvenirs, gifts from relatives/friends, collection, daily use, etc.) Could you briefly describe the experience?
- Q6: On what occasions do you use or display Horsetail Embroidery products (e.g., daily wear, home decoration, business gifting, private collection, etc.)? Do you choose different styles of Horsetail Embroidery for different scenarios?
- Q7: What is the core reason you are willing to pay a premium for a well-crafted piece of Horsetail Embroidery? (e.g., cultural heritage value, artistic aesthetic value, scarcity, social value, collection & investment value, etc.)
- Q8: Do you think the current market price of Horsetail Embroidery matches its inherent cultural and artistic value? If not, what do you think causes this mismatch?
- Q9: If Horsetail Embroidery becomes more affordable and mainstream in the future (e.g., more low-cost cultural derivatives and mass-produced versions), will your perception of its value or your willingness to buy

change? If yes, how exactly?

Q10: What percentage of your total spending goes to handicrafts and cultural products?

Q11: How do you judge whether a cultural product is worth purchasing?

Q12: Would you describe your knowledge of traditional Chinese culture as extensive? Through what channels do you learn about it?

Q13: Do you think school education has helped you understand traditional Chinese culture?

Appendix C. List of respondents

Table C1. Demographic characteristics of participants

No.	Gender	Age	Other characteristics
1	female	20	none
2	female	16	none
3	female	17	none
4	male	20	none
5	female	26	none
6	male	28	none
7	female	30	none
8	female	30	none
9	female	29	none
10	male	18	none
11	male	17	none
12	female	17	none
13	female	18	none
14	female	23	none
15	female	22	none