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**Research Article** 

# A Three-Level Analysis of Emotional Design in Jinnan folk Cloth Art: A Study Based on Youth Groups

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# **ABSTRACT**

This research applies the Three-Level Theory of Emotional Design to investigate Jinnan folk cloth art (JFCA). Through in-depth interviews with youth groups, artisans, and emotional design experts, the study explores youth's emotional experiences and cultural identity mechanisms toward traditional cloth art. Findings reveal: At the visceral level, visual impact and novel shapes strongly trigger initial emotional responses among youth, yet deep interpretation of cultural symbols remains weak. At the behavioral level, youth prefer products like tiger-head shoes and scented sachets for personal accessories or gifts, demonstrating a fusion preference for "traditional elements + modern aesthetics." At the reflective level, youth's understanding of cultural symbolism and emotional connotations in cloth art relies heavily on authoritative interpretations by artisans and experts, revealing a notable "cultural cognitive gap." Based on these insights, the study proposes a dual-track strategy integrating product design and digital narrative-driven cultural communication to enhance youth's cultural identity and emotional engagement with (JFCA). This research provides a theoretical framework and practical pathways for the modern transformation of traditional intangible cultural heritage products and the cultivation of cultural identity among youth.

**Keywords:** Jinnan Folk Cloth Art; Emotional Design; Three-Level Theory; Youth Groups; Cultural Identity

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#### 1 INTRODUCTION

Jinnan, located in southern Shanxi, has nurtured unique ethnic and folk cultures due to its distinct geographical and historical environment, often referred to as the "Yellow River Culture" or "Loess Culture" (Zhang, 2016). As one of the cradles of ancient Chinese civilization, the Jinnan region also boasts a long-standing sericulture and silk-weaving tradition. Since the Shang Dynasty, it has developed a thriving silk industry and stable agricultural economy, providing substantial material and cultural foundations for the emergence and prosperity of traditional cloth art (Zhang, 1985).



Figure 1 Jinnan Folk Cloth Art

Jinnan Folk Cloth Art (JFCA) primarily utilizes fabrics such as cloth, satin, silk, and gauze as raw materials (see Figure 1). Centered on themes reflecting local people's aspirations for a better life, it employs diverse handmade techniques like embroidery, sewing, and weaving (Zhang, 2016). These cloth artworks encompass a wide range of daily and festive items, including tiger-head shoes, tiger-head hats, scented sachets, and pendants, each carrying distinct regional themes and symbolic meanings. For instance, wearing Five-Poison scented sachets during the Dragon Boat Festival symbolizes warding off evil spirits (Zhang & Jiang, 2024). JFCA embodies rich regional characteristics and cultural depth, exemplified by the Lihou Tiger—a national-level intangible cultural heritage item (Bai, 2022)—which reflects local customs, beliefs, and profound historical heritage.

In recent years, with the growing youth-oriented cultural consumption market, attracting young generations to traditional cloth art and enhancing their cultural identity through emotional design has become a critical issue for JFCA's preservation and development. Emotional design theory emphasizes the emotional interaction between products and users. Notably, Norman (2015) Three-Level of Emotional Design (visceral, behavioral, and reflective level) provides a theoretical foundation for exploring youth perceptions and cultural identity toward JFCA.

This study applies emotional design theory, focusing on youth groups as the research subjects. Through interviews with youth, artisans, and emotional design experts, it analyzes the characteristics of JFCA in emotional design and investigates the interactive mechanisms between youth's emotional experiences and cultural identity. The research aims to expand the application scope of emotional design theory while offering concrete theoretical guidance and practical strategies for the modern innovation and cultural transmission of JFCA.

#### 2 LITERATURE REVIEW

# 2.1 Research Progress in Emotional Design Theory

Emotional Design Theory, proposed by Norman (2004), emphasizes that product design should trigger users' emotional responses through sensory experiences, thereby enhancing emotional connections between users and products. The theory divides emotional design into three levels: visceral, behavioral, and reflective.

The visceral level focuses on a product's sensory appeal, such as shape, color, and texture. Studies indicate that visually impactful designs significantly enhance users' emotional experiences (Desmet & Hekkert, 2007). The behavioral level emphasizes functionality and usability. Users form emotional bonds through interactions with products, such as wearing or decorating. The reflective level involves users' deep cognitive understanding of a product's cultural connotations and emotional resonance. Interpreting cultural symbols and evoking emotional memories are central to this level (Norman, 2015).

In recent years, emotional design theory has been widely applied in the field of intangible cultural heritage (ICH) cultural and creative products. For example, Zhao et al. (2024) proposed strategies such as "ICH brandification" and "cultural integration in industrial manufacturing" for ICH cultural product design based on the three-level theory. Similarly, Shi (2023) developed a visual design strategy for traditional craftsmanship ICH using the same framework. However, existing studies predominantly focus on exploring the interconnected mechanisms of the three levels but fail to clarify dynamic interaction pathways through user interview data. Additionally, there is insufficient discussion on the relationship between cultural cognitive gaps and emotional design strategies. These limitations hinder the ability of current research on interconnected mechanisms to effectively guide targeted innovation in ICH cultural and creative products.

# 2.2 Application of Cultural Identity Theory in Jinnan Folk Cloth Art

Cultural Identity Theory posits that cultural products help individuals and groups confirm their identity and sense of belonging through symbols, customs, and other media (Kreuzbauer & Keller, 2017). In traditional craftsmanship studies, cultural identity is regarded as a bridge connecting tradition and modernity (Bujimo et al., 2023).

Traditional patterns, colors, and forms in Jinnan cloth art carry rich cultural symbolism (Chen, 2007; Zhang, 2016). For example, cloth tigers symbolize warding off evil and ensuring safety (Liu & Hu, 2010).

Jinnan cloth art enhances cultural identity by triggering users' emotional memories, such as childhood recollections or familial bonds (Yage et al., 2024). Research indicates that youth groups' emotional experiences with intangible cultural heritage (ICH) crafts are closely tied to their depth of cultural cognition (Ariffin et al., 2023; Lee & DeLong, 2016).

However, existing studies predominantly focus on static interpretations of cultural symbols, lacking dynamic analysis of youth groups' emotional experiences. The interaction mechanisms between the three levels of emotional design and cultural identity remain underexplored.

# 2.3 Research Status of Jinnan Folk Cloth Art

As a representative of traditional Chinese craftsmanship, JFCA has attracted widespread attention for its unique patterns, colors, and cultural symbolism. Existing research primarily unfolds along two dimensions: one focuses on cultural connotations and stylistic features (Liu & Hu, 2010; Lü, 2016; Wang, 2018; Wu, 2024; Zhang, 2016). Products such as "cloth tigers" and "scented sachets" carry rich cultural meanings, including warding off evil, praying for blessings, and symbolizing peace and auspiciousness (Zhang & Jiang, 2024). Scholars note that these cultural symbols serve as vital carriers of folk culture in the Jinnan region (Liu, 2014). Some studies explore modern design approaches for JFCA (Li, 2020; Liu et al., 2022; Xie, 2025; Zhao, 2023), such as enhancing market appeal through the integration of modern aesthetic elements (Xie, 2025). However, current research predominantly concentrates on design practices and lacks systematic analysis of emotional experiences among youth groups.

# 2.4 Emotional Connection Between Youth Groups and JFCA

Youth groups are a vital force in the inheritance and innovation of ICH crafts. Studies indicate that young people's emotional experiences with ICH crafts exhibit the following characteristics: Sensory-driven engagement: Youth's initial impressions of products primarily rely on sensory experiences, particularly visual impact. Visual presentation serves as a core mechanism for young consumers to connect with cultural products. The aesthetics of these products, especially in marketing contexts, play a pivotal role in shaping consumer experiences and preferences. A study by Mehta et al. (2024) highlights that packaging significantly influences consumer experiences and purchasing decisions through its visual elements, underscoring the importance of sensory appeal in attracting young consumers. Practical orientation: Youth prefer products that integrate practicality with cultural significance, such as daily decorations and cultural creative accessories (Gao, 2024). Cultural cognitive gap: Despite showing strong interest in JFCA (Yage et al., 2024), youth's cultural understanding remains superficial, lacking depth in interpreting cultural symbolism (Liang, 2024). Existing studies predominantly analyze the relationship between youth and ICH crafts from singular perspectives, failing to systematically explore the interaction mechanisms between the three levels of emotional design and cultural identity.

In summary, current research has the following gaps: (1) a lack of systematic analysis of the three levels of emotional design (visceral, behavioral, reflective) in ICH crafts; (2) insufficient exploration of the relationship between youth's cultural cognitive gaps and their emotional experiences.

The contributions of this paper lie in: (1) systematically analyzing the emotional expression mechanisms of Jinnan cloth art among youth through the Three-Level Theory of Emotional Design; (2) proposing emotional design strategies to address youth's cultural cognitive gaps by integrating Cultural Identity Theory; (3) introducing a dual-track strategy (design innovation and cultural communication) to provide theoretical and practical pathways for the modern transformation of JFCA.

# 3 RESEARCH METHODOLOGY

This study employs a qualitative research approach, using Norman's three-level theory of emotional design as the analytical framework, combined with thematic analysis, to deeply explore youth's emotional experiences and cultural identification mechanisms toward JFCA.

# 3.1 Research Subjects

This study focuses on the emotional design and cultural identity of JFCA, selecting three types of research subjects:

Youth groups: Including students and working individuals aged 18–25, primarily from the Jinnan region of Shanxi Province, to ensure their cultural awareness and emotional engagement with JFCA.

Artisans: Three JFCA artisans with over 10 years of experience were selected, all proficient in traditional techniques and innovative in modern design practices.

Emotional design experts: Three scholars with rich research experience in emotional design were chosen to theoretically interpret the emotional expression mechanisms of JFCA.

### 3.2 Data Sources

Data were collected through In-depth interviews. Semi-structured interviews were conducted with 32 youth, 3 artisans, and 3 emotional design experts in Jinnan aera. The interview guidelines centered on the Three-Level Theory of Emotional Design and cultural identity, covering themes such as youth's sensory experiences and emotional responses to JFCA, artisans' interpretations of cultural symbolism and design practices, and experts' theoretical analyses of emotional triggering mechanisms in cloth art.

# 3.3 Data Collection Process

In terms of interview preparation, an interview outline was developed to ensure coverage of core dimensions related to the three levels of emotional design and cultural identity. Pre-interviews were conducted to adjust question phrasing for clarity.

Regarding interview execution, a hybrid approach combining face-to-face and online interviews ensured flexibility. Each interview lasted 15–60 minutes to allow sufficient expression of views. Audio recordings and notes capturing non-verbal cues were used.

For data processing, audio recordings were transcribed into text, forming complete interview transcripts. Initial data cleaning removed irrelevant content. Observation notes were categorized to supplement interview data.

# 3.4 Data Quality Control

To ensure reliability and validity, the following measures were adopted. Firstly, triangulation was employed to verify the reliability of the findings through comparative analysis of multi-perspective data collected from young participants, artisans, and emotional design experts. Secondly, data saturation was tested. After collecting 27 youth interviews, five additional interviews were conducted to confirm thematic saturation. Lastly, preliminary findings were shared with selected participants to verify accurate interpretation of their views.

# 3.5 Data Collection Results

The collected data consisted of two main parts: first, interview transcripts, including interviews with 32 young people, 3 artisans, and 3 emotional design experts, totaling approximately 90,000 words; second, supplementary materials, such as images of JFCA and artisans' design sketches.

This systematic data collection and organization established a robust empirical foundation for subsequent three-level emotional design analysis.

#### 4 DATA ANALYSIS

# 4.1 Data Coding and Categorization

#### 4.1.1 Initial Data Familiarization

The initial data familiarization stage involved data organization, reading and understanding, preliminary marking, theme identification, contextual consideration, recording initial impressions, and preparation for coding. Firstly, interview records (audio and textual recordings) were formatted for ease of analysis, ensuring data completeness by checking for omissions or errors. The interview transcripts were then read repeatedly to grasp respondents' views and emotions. Keywords, phrases, and recurring themes were highlighted, with different colors or symbols used to distinguish various themes or emotional orientations. Subsequently, preliminary themes and patterns from the interviews were identified. These themes were either explicit (clearly mentioned) or implicit (requiring deeper exploration) and were categorized into an initial thematic framework. Lastly, a coding manual or framework was prepared to ensure consistency during subsequent coding.

# 4.1.2 Generating Initial Codes

In the initial coding phase, the text was analyzed paragraph-by-paragraph and sentence-by-sentence, marking each meaningful segment to capture the core meanings. During this reading and marking process, repetitive or similar interview sentences were marked, resulting in 738 reference points. Due to high similarity and redundancy among these reference points (similar interview sentences), they were consolidated into initial categories, resulting in 122 initial categories. For details, see Table 1.

**Table 1 Open Coding** 

No	. Initial Category	Interview Excerpt	Source	
-	Dooggumonooo	It feels reassuring because it symbolizes warding off evil and bringing	IV-10	
1.	Reassurance 3	peace, and its scent is also pleasant.	IY18	
2.	Liking 10	I would buy it myself and feel happy wearing it.	IY18	
3.	Grandeur 2	The peony feels more majestic and solemn.	IY29	
_	Disharas o	It feels rich, with a variety of materials, patterns, and designs. There are	IVoc	
4.	Richness 2	also bells, Chinese knots, and color combinations.	IYo3	
5.	Auspiciousness 1	I think it's great, especially the red color, which feels very auspicious.	IYo5	
6.	Exquisiteness 7	It also conveys a sense of cuteness and refinement to others.	IY07	

No.	<b>Initial Category</b>	Interview Excerpt	Source
7.	Cuteness 9	Sometimes it feels quite cute.	IY24
8.	Happiness 1	For example, this zodiac rabbit can convey a sense of joy.	IY27
9.	Aesthetic Enjoyment 1	It feels like an aesthetic enjoyment.	IY29
10.	Familiarity 4	Because I've been exposed to these since childhood, gifted by elders, it feels familiar.	IY26
11.	Lack of Innovation 1	I think they are still quite traditional and lack innovation.	IY04
12.	Passion 1	Red is a passionate color, representing intense emotions. Many newlyweds use red in their weddings.	IY29
13.	Recognition 10	Since it has been passed down, it must have gained everyone's recognition. It's quite affirmative.	IY01
14.	Era Progress 1	I feel there has been significant progress. As times advance, the design of cloth art products is gradually aligning more with the preferences of young people like us.	IY18
15.	Fashion 1	Nowadays, the national trend style is quite fashionable and trendy.	IYo7
16.	Soothing Thoughts 1	Sometimes these items hold sentimental value for me, and looking at them daily helps soothe my inner thoughts.	IY25
17.	Familiarity 1	The most obvious aspects are the shapes and materials. There are the Five Poisons, shoe types, small animals, and sachets. These animals are quite familiar to us.	IY01
18.	Nostalgia 2	Seeing these evokes a sense of nostalgia, reminding me of my grandmothers, who used to make these.	IY07
19.	Distinctiveness 7	The patterns are very attractive, with a variety of designs that are quite distinctive.	IY14
20.	Aptness 3	It feels very apt, making me want to get closer to it unconsciously.	IY25
21.	Quite Good 2	I think it's quite good. The craftsmanship is excellent.	IY21
22.	Warmth 1	It feels quite warm.	IY24
23.	Gracefulness 2	Looking at the lotus on this, it has a graceful temperament.	IY29
24.	Steadiness 1	Other elements, like these pendants, give a sense of steadiness.	IY17
25.	Childhood Memories 1	Although I haven't used it, it reminds me of my childhood.	IYo9
26.	Joyful Mood 4	It makes me feel happier.	IY23
27.	Joy 2	This can also convey a healthy and uplifting joy.	IY27
28.	Novelty 6	The first time I saw it, I found it really novel.	IY29
29.	Innovativeness 1	It gives a refreshing and innovative impression.	IY17
30.	Interesting 2	I think it's quite interesting.	IYo9

No.	<b>Initial Category</b>	Interview Excerpt	Source
31.	Design Sense 3	It's great. It has a strong sense of design.	IY17
32.	Cherish 1	Because these things were quite common in my childhood, but now they've become intangible cultural heritage. Over time, I've come to cherish them more.	IY13
33.	Amazement 8	Today was the first time I saw so many varieties, and honestly, I was amazed.	IY29
34.	Positive Energy 1	I think the tiger conveys a positive emotional energy.	IY29
35.	Neutral 1	I hold a neutral attitude toward these cloth art products.	IY12
36.	Chinese Horror 1	But it feels like it has a touch of Chinese horror due to its connection with modern elements.	IY24
37.	Tactile Experience 3	It feels skillfully made, and wearing it should be comfortable.	IYo6
38.	Auditory Experience 1	The bells, the sounds that children find appealing, evoke a sense of childhood.	IY20
39.	Visual Experience 50	For example, this tiger-head shoe, including the tiger's eyes and the "king" character on its forehead, along with the embroidery, is vividly presented.	IY27
40.	Olfactory Experience 11	It also has the scent of spices.	IY24
41.	Cloth Clothing 1	Cloth clothing, like a cool summer vest.	IY17
42.	Pendants 10	There are also pendants like these.	IY31
43.	Sachets 1	Small sachets were made.	IY31
44.	Tiger-Head Hats 3	I've worn tiger-head hats.	IY16
45.	Tiger-Head Shoes 12	Those tiger-head shoes.	IY27
46.	Tiger-Head Pillows 6	I used tiger-head pillows as a child.	IY11
47.	Flower Buns 10	My grandmother used to make flower buns.	IY16
48.	Paper-Cutting 6	My grandmother used to make paper-cuttings at home.	IY16
49.	Decorative Items 1	I've also seen decorative items like this cloth tiger.	IY18
50.	Cloth Toys 8	There are also cloth toys.	IY02
51.	Bracelets 5	I've worn bracelets like this on my wrist.	IY18
52.	Five-Colored Threads 2	During the Dragon Boat Festival, I've used five-colored threads.	IY25
53.	Sachets 8	I've seen sachets like these, filled with cinnabar to ward off evil.	IY28
54.	Pendants 3	I remember in high school, I loved wearing small pendants like this.	IY18
55.	Small Hearts 1	I've used small heart-shaped items before.	IY04
56.	Pig-Head Shoes 2	I've worn pig-head shoes.	IY32
57.	Car Decorations 12	For example, this sachet can be hung in the car.	IY27
58.	Children's Toys 5	There are also dolls that children can play with.	IY27

No.	<b>Initial Category</b>	Interview Excerpt	Source
59.	Gifts for Relatives and Friends 15	I buy things to give to my mom, relatives, or friends.	IY18
60.	Home Decorations 22	At home, they might be used as decorations, like hanging items during the Spring Festival.	IY22
61.	Household Items 5	They can be used for cloth pillows, which I really like. If developed further, they could be used for cushions, blankets, sofa covers, and stool pads—daily necessities.	IY29
62.	Jewelry 7	Like bracelets worn on the wrist.	IY30
63.	Personal Accessories 19	Or smaller items that can be hung on keys, bags, or phones.	IY26
64.	Clothing 14	I really like tiger-head shoes. If I have children in the future, they can wear these shoes.	IY27
65.	Collection and Reference	One is for collection, and the other is to include in my design library for future reference.	IY13
66.	Product Promotion Links to Emotions 1	On the other hand, their promotion is quite effective. In recent years, the promotion of these items has been quite good.	IY25
67.	Product Elements Link to Emotions 64	The craftsmanship and color combinations convey a sense of rural nostalgia, like the stitching of the eyes and the red-and-green color scheme.	IY07
68.	Personal Experiences Link to Product Emotions	Because I played with them as a child, and my grandparents were often busy, so I played alone or with my brother. Seeing these handicrafts now feels very familiar.	IY30
69.	Artisan Spirit Links to Product Emotions 2	The artisans who make these have been doing it for a long time and are quite old. They've been dedicated to this craft, and the production process is filled with their expectations, attention, and careful thought.	IY29
70.	Cultural Symbolism Links to Product Emotions 12	I buy products with cultural meanings and blessings, hoping for the best for my children.	IY21
71.	National Confidence 1	I think it's part of Chinese cultural tradition, and it's great that it has continued to this day. In recent years, our country has emphasized national confidence and cultural traditions, which I think is worth noting.	IY19
72.	Cultural Heritage Awareness 5	I hope it can continue and be increasingly applied in daily life.	IY01
73.	Cultural Depth Awareness 8	Traditional items let me see Chinese cultural traditions. They represent handmade items from the past, very beautiful, with sentiment and cultural depth.	IY18
74.	Cultural Confidence Awareness 4	I think this is part of intangible cultural heritage, representing Chinese traditional culture. It gives me a sense of cultural confidence.	IY29

No.	<b>Initial Category</b>	Interview Excerpt	Source
	Improved Craftsmanship	Traditional styles with modern craftsmanship. The craftsmanship today is	IVoc
75.	14	more refined, with better stitching.	IY20
76.	Optimized Design Concepts 47	It should maintain tradition while integrating contemporary trends.	IY26
		I hope it can go beyond the city and province, reaching the entire country	
77.	Expanded Market Reach 30	so more people can see it.	IY28
78.	Cloth Tigers 1	In my childhood, elders like my grandmother used to make cloth tigers.	IY25
79.	Cloth Art Products 1	These cloth art products.	IY19
80.	Stilt Walking 1	I know about the folk culture of stilt walking in the Jinnan region.	IY28
81.	Fried Tuji 1	A type of food, fried Tuji, which is good for health and nourishes the stomach.	IY22
82.	Chengni Inkstone 2	I know about the folk culture of Chengni inkstones in the Jinnan region.	IY04
83.	Eating Dumplings 1	In my family, dumplings are highly valued. We must eat them during major festivals, birthdays, and other occasions.	IY29
84.	Iron Flower Display 2	Another folk culture is the iron flower display.	IY27
85.	Guandi Temple 1	Architectural sites include the Guandi Temple.	IYo5
86.	Guan Gong Culture 6	Guan Gong. Moreover, Yuncheng is the birthplace of this culture, with a long history.	IY18
87.	Guanque Tower 3	Architectural sites include the Guanque Tower.	IYo5
88.	Flower Quilts 1	Flower quilts are common in Yuncheng.	IY25
89.	Yellow River Beach 1	I know about the Yellow River beach culture in the Jinnan region.	IY02
90.	Jiangzhou Drum Music 3	Folk culture includes Jiangzhou drum music.	IY27
91.	Jin Cake 1	Here, we call it Jin cake, made by the older generation.	IY29
92.	Li Family Courtyard 6	Architectural culture includes old courtyards, like the Li Family Courtyard.	IY02
93.	Woodblock New Year Prints 1	I've heard of some, like the Jiangzhou woodblock New Year prints.	IY13
94.	Pu Opera 3	I know a bit about Pu opera.	IY10
95.	Pujiu Temple 1	Architectural folk culture includes the Pujiu Temple.	IY24
96.	Handmade Embroidery 1	Handmade embroidery.	IY23
97.	Wanrong Jokes 1	I know a bit about Wanrong jokes.	IY10
98.	Wang Family Courtyard 1	The Wang Family Courtyard has been passed down since ancient times.	IY22
99.	Five-Colored Threads 4	During the Dragon Boat Festival, we wear bracelets and five-colored threads to ward off evil.	IY30
100.	Lion Dance 2	I know about lion dances during the New Year.	IY16

No.	<b>Initial Category</b>	Interview Excerpt	Source
101.	The Romance of the Western Chamber 1	The culture of the Jinnan region includes The Romance of the Western Chamber.	IY02
102.	Wedding Quilts 1	Wedding quilts are used during weddings, childbirth, or other festive occasions.	IY25
103.	Sachets 1	My grandmother likes to sew sachets by hand for each of us.	IY29
104.	Salt Culture 3	The culture of the Jinnan region also includes salt culture.	IYo9
105.	Cave Dwellings 2	Houses built as cave dwellings.	IY31
106.	Yongle Palace 3	Architectural sites include the Yongle Palace.	IYo5
107.	Boiled Cakes 2	A type of food, Wenxi's boiled cakes.	IY28
108.	Brick Carvings 1	Brick carvings in the Jinnan region.	IY17
109.	Flower Lanterns 1	Hejin's flower lanterns.	IY13
110.	Cultural Belonging 3	These are our country's own things. Seeing them feels familiar, and I would choose products with cultural backgrounds.	l IY14
111.	Cultural Consumption 18	When buying products, I consider the cultural meanings they carry.	IY18
112.	Cultural Beliefs 1	Some people have beliefs that influence their product preferences.	IY22
113.	Cultural Interest 6	If I knew more about it, I'd feel a desire to learn more. But if I knew nothing, I probably wouldn't be interested.	IYo5
114.	Conveying Care 10	Sachets can be worn or hung at home, conveying the care of elders.	IY16
115.	Conveying Historical Sense 1	The national trend style is quite fashionable and trendy, conveying a sense of history.	IY07
116.	Conveying Blessings 21	It's a form of blessing, like buying shoes. The emotions are embedded, like the care of parents sewing clothes for their children.	IY22
117.	Conveying Childhood Memories 3	Retro-patterned fabrics can convey nostalgia for childhood memories.	IY07
118.	Conveying Aspirations 4	It conveys aspirations for a better life.	IY23
119.	Peace Symbolism 13	The "king" character on the tiger's head symbolizes warding off evil and ensuring peace.	IY14
120.	Warding Off Evil 4	For example, the Five Poisons convey the emotion of warding off evil and protecting children.	IY04
121.	Homesickness 4	For example, if I'm away from home, the cloth tiger makes me feel homesick. It represents a sense of longing.	IY10
122.	Missing Family 1	Because it was gifted by a relative or bought by myself, I cherish it. Seeing i reminds me of the time my mom bought it for me.	t IY30

Note: The numbers following the text represent the reference points for the initial categories.

# 4.1.3 Data Categorization

The stage of forming themes and categories involves classifying the previously generated similar codes into higher-level thematic concepts. These themes can be more abstract, reflecting the participants' general perspectives or core issues. By comparing and organizing the data, researchers establish a higher-level classification structure.

During the data categorization stage, a systematic review of the initial codes is required to identify which initial codes share similarities or associations in content. By comparing and organizing these initial codes, researchers can uncover higher-level thematic concepts. These high-level concepts not only reflect the general views of the participants but also reveal key issues. For example, adjectives such as "sense of security," "grand," "rich," "auspicious," "delicate," and "cute," generated during the open coding stage, can be grouped under the theme of "Initial Impressions." By analogy, the 122 initial categories mentioned above were refined into 10 associated categories: Initial Impressions; Sensory Responses; Product Types; Usage Behaviors; Significance of JFCA; Factors Linking to Emotions; Long-Term Influenced Awareness; Future Expectations; Cultural Perceptions of Jinnan; and Cultural Identity of JFCA. Details are provided in Table 2.

**Table 2: Axial Coding** 

No	Associated	Initial Category	
	Category	initial category	
		Reassurance 3, Liking 10, Grandeur 2, Richness 2, Auspiciousness 1,	
		Exquisiteness 7, Cuteness 9, Happiness 1, Aesthetic Enjoyment 1,	
		Familiarity 4, Lack of Innovation 1, Passion 1, Recognition 10, Era	
	Progress 1, Fashion 1, Soothing Though	Progress 1, Fashion 1, Soothing Thoughts 1, Familiarity 1, Nostalgia	
1.	Initial	2, Distinctiveness 7, Aptness 3, Quite Good 2, Warmth 1,	
	Impressions 115	Gracefulness 2, Steadiness 1, Liking 10, Childhood Memories 1,	
		Joyful Mood 4, Joy 2, Novelty 6, Innovativeness 1, Interesting 2,	
		Design Sense 3, Cherish 1, Amazement 8, Positive Energy 1, Neutral	
		1, Chinese Horror 1	
0	Sensory	Tactile Experience 3, Auditory Experience 1, Visual Experience 50,	
2.	Responses 65	Olfactory Experience 11	
		Cloth Clothing 1, Pendants 10, Sachets 1, Tiger-Head Hats 3,	
		Tiger-Head Shoes 12, Tiger-Head Pillows 6, Flower Buns 10,	
3.	<b>Product Types 79</b>	Paper-Cutting 6, Decorative Items 1, Cloth Toys 8, Bracelets 5,	
		Five-Colored Threads 2, Sachets 8, Pendants 3, Small Hearts 1,	
		Pig-Head Shoes 2	
		Doll Companionship 6, Car Decorations 12, Children's Toys 5, Gifts	
	<b>Usage Behaviors</b>	for Relatives and Friends 15, Home Decorations 22, Household	
4.	100	Items 5, Jewelry 7, Personal Accessories 19, Clothing 14, Collection	
		and Reference 1	

No.	Associated Category	Initial Category
5. Significance of Blessings 21, Conveying Childhold Aspirations 4, Peace Symbolism Homesickness 4, Missing Famil		Conveying Care 10, Conveying Historical Sense 1, Conveying Blessings 21, Conveying Childhood Memories 3, Conveying Aspirations 4, Peace Symbolism 13, Warding Off Evil 4, Homesickness 4, Missing Family 1  Product Promotion Links to Emotions 1, Product Elements Link to
6.	Factors Linking to Emotions 106	Product Emotions 64, Personal Experiences Link to Product Emotions 27, Artisan Spirit Links to Product Emotions 2, Cultural Symbolism Links to Product Emotions 12
7•	Long-Term Influenced Awareness 18	National Confidence 1, Cultural Heritage Awareness 5, Cultural Depth Awareness 8, Cultural Confidence Awareness 4
8.	Future Expectations 91	Improved Craftsmanship 14, Optimized Design Concepts 47, Expanded Market Reach 30
9.	Cultural Perceptions of Jinnan 75	Cloth Tigers 1, Cloth Art Products 1, Stilt Walking 1, Fried Tuji 1, Chengni Inkstone 2, Eating Dumplings 1, Iron Flower Display 2, Guandi Temple 1, Guan Gong Culture 6, Guanque Tower 3, Flower Quilts 1, Flower Buns 9, Yellow River Beach 1, Paper-Cutting 5, Jiangzhou Drum Music 3, Jin Cake 1, Tiger-Head Shoes 1, Li Family Courtyard 6, Woodblock New Year Prints 1, Pu Opera 3, Pujiu Temple 1, Handmade Embroidery 1, Wanrong Jokes 1, Wang Family Courtyard 1, Five-Colored Threads 4, Lion Dance 2, The Romance of the Western Chamber 1, Wedding Quilts 1, Sachets 1, Salt Culture 3, Cave Dwellings 2, Yongle Palace 3, Boiled Cakes 2, Brick Carvings 1, Flower Lanterns 1
10.	Cultural Identity of JFCA 28	Cultural Belonging 3, Cultural Consumption 18, Cultural Beliefs 1, Cultural Interest 6

Note: The numbers following the text represent the reference points for the initial categories.

# 4.1.4 Theme Refinement

The stage of extracting themes involves merging and summarizing the thematic concepts formed during the previous data classification process based on theoretical perspectives. According to the Three-Level Theory of Emotional Design, the 10 thematic concepts formed in the previous round can be categorized into the visceral level, behavioral level, and reflective level. Specifically, Initial Impressions and Sensory Responses are refined into the visceral level; Product Types and Usage Behaviors are refined into the behavioral level; Significance of JFCA, Factors Linking to Emotional Connections with JFCA, Long-Term Influenced Awareness, Future Expectations for

Cloth Art, Cultural Perceptions of the Jinnan Region, and Cultural Identity of JFCA are refined into the reflective level. Details are provided in Table 3.

**Table 3 Selective Coding** 

<b>Core Category</b>	Associated Category	
Visceral Level	Initial Impressions 115, Sensory Responses 65	
180		
Behavioral	Product Types 79, Usage Behaviors 100	
Level 179		
Reflective	Significance of JFCA 61, Factors Linking to Emotions 106, Long-Term Influenced Awareness 18,	
Level 379	Future Expectations 91, Cultural Perceptions of Jinnan 75, Cultural Identity of JFCA 28	

Note: The numbers following the text represent the reference points for the initial categories.

# 4.2 Repeated Verification and Refinement

After the initial coding was completed, this study periodically reviewed and examined the generated codes and themes to verify whether the refined themes aligned with the actual content in the data. Subsequently, in-depth discussions were conducted with other team members. This feedback mechanism provided different perspectives, helping to identify potential gaps or omissions. Finally, through discussion, a deeper understanding of the themes was achieved, and based on the feedback, the coding framework was adjusted and revised to enhance its accuracy and representativeness.

# 4.3 Data Saturation

This study collected a total of 32 interview records from young participants, of which 27 were used as the primary coding dataset, while the remaining 5 interview records were designated for the coding saturation test. The same analytical method was applied using the same three-level coding approach. The results indicated that the newly generated coding concepts were consistent with the previous findings, with no new concepts or categories emerging. Additionally, the ranking of initial coding nodes remained consistent with the original, demonstrating that the data had reached theoretical saturation. Details are provided in Table 4.

The coding node diagram for this qualitative analysis is shown in Figure 2.

**Table 4: Coding Saturation Test** 

Nodes	<b>Coding References</b>
0	0
0	0
0	0
0	0
0	0
	0 0 0

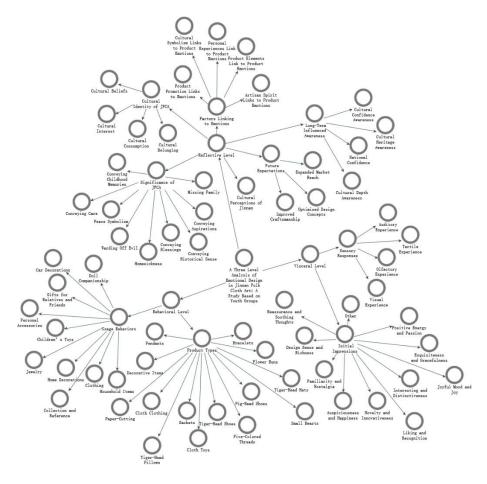


Figure 2 Coding Node Diagram

# 5 DISCUSSION

This study, based on Norman's emotional design theory, explores the emotional experience mechanism of JFCA among youth. Through qualitative interviews and coding analysis, it further verifies the intrinsic linkage between the visceral, behavioral, and reflective levels of emotional design.

### 5.1 Visually Driven Emotional Triggers at the Visceral Level

The study finds that youth's initial emotional responses to JFCA is primarily triggered by visual characteristics, with brightly colored and uniquely shaped cloth art such as tiger-head shoes and tiger-head hats being the most representative. In the interview word frequency analysis, terms such as "novel," "unique," "beautiful," and "shocking" appeared frequently (with "novel" accounting for 4.76%, "unique" 2.38%, and "shocking" 1.59%), indicating that youth's initial affinity for JFCA is highly dependent on visual appeal. This finding aligns closely with Norman (2015) emphasis on sensory-driven characteristics at the visceral level.

However, interviews also revealed that youth's understanding of cultural symbols generally remains at a superficial level, lacking in-depth symbolic interpretation. Most interviewees focused only on broad meanings such as "warding off evil" and "peace," without deeper exploration. This phenomenon of cultural cognition superficiality corresponds with Lotman (2005) concept of "cultural symbol decoding gap," further highlighting modern youth's lack of deep understanding of traditional intangible cultural heritage.

# 5.2 Interactive Experience and Practical Orientation at the Behavioral Level

The behavioral level analysis shows that youth's emotional engagement with JFCA deepens primarily through actual interactions and usage scenarios, such as "personal accessories" (mentioned 19 times) and "gifting to relatives and friends" (mentioned 15 times). These behavioral choices reflect youth's pragmatic tendencies and social interaction needs, aligning with the conclusions of Wang et al. (2025) on contemporary youth consumption behaviors.

From the psychological pricing analysis, approximately 71% of youth are willing to pay within 100 RMB for cloth art products, with over half opting for items priced within 50 RMB (4.64%). This further clarifies that the market positioning of JFCA among youth should focus primarily on small, practical items.

# 5.3 Cultural Identity and Emotional Internalization at the Reflective Level

The reflective level analysis indicates that youth's emotional identification is significantly influenced by both individual experiences and socio-cultural factors. "Personal experience linked to emotion" (27 nodes) and "cultural implication linked to emotion" (12 nodes) were frequently mentioned, highlighting a dual-pathway in the emotional internalization process: the combination of individualized memory (childhood recollections, familial emotions) and collective cultural identity (national pride, cultural depth, and cultural interest).

Notably, interviewees stated: "Cloth art reminds me of the feeling of receiving gifts from my elders during childhood," and "Cloth art carrys expectations and blessings for children's safety and well-being." These statements illustrate a strong resonance between individual memory and collective memory, aligning with Halbwachs (2020) theory of collective memory and Hall (2015) perspective on cultural identity.

# 5.4 Cross-Verification and In-Depth Analysis of the Three Levels of Emotional Design

Through cross-verification of interview content, this study identifies both differences and commonalities in the perceptions of emotional design among three groups: youth, artisans, and emotional design experts.

### 5.4.1 Differences Analysis and Strategy Recommendations

First, there is a significant difference in the "depth of cultural symbol interpretation." Young people tend to interpret the cultural symbols of cloth art in a simplistic manner, mostly focusing on broad meanings, whereas artisans and emotional design experts can deeply analyze pattern details and design intentions. For example, artisan IA2 mentioned: "The eyebrows of the cloth tiger are embroidered with multicolored threads to form auspicious clouds, symbolizing riding the clouds for protection and peace" (Respondent IA2, personal communication, November 26, 2023). This depth gap reflects the current deficiency in cultural education and intangible heritage knowledge dissemination among young people. Future design efforts should enhance the clear communication of cultural symbols and meanings, utilizing digital technologies such as short videos and AR scanning interpretation to improve young people's cultural cognition.

Second, in terms of "scope of emotional experience," young people and artisans mainly focus on personal emotional experiences (such as nostalgia and reassurance), whereas emotional design experts emphasize collective emotional transmission pathways and socio-cultural value. This suggests that design should expand from micro-level

experiences to macro-level emotional engagement. For instance, beyond traditional symbolic meanings, designers can incorporate contemporary elements such as motivational and positive energy themes to enhance social resonance.

# 5.4.2 Commonalities Analysis and Design Pathways

All interviewee groups strongly endorsed the integration of traditional elements with modern design (with an approval rate of 72%), emphasizing the importance of practicality, aesthetics, and emotional interaction functions. For example, young participants stated, "The combination of traditional styles with modern aesthetics is more popular." Artisans emphasized that "modernizing colors and craftsmanship can attract young people" (Respondent IA3, personal communication, December 31, 2023), while emotional design experts highlighted that the iterative updating of materials and techniques could enable the "revitalization" of cloth art products among young consumers (Respondent IE2, personal communication, December 31, 2023).

Based on these findings, this study further refines the implementation path of the "Dual-Track Strategy" as shown in Figure 3.

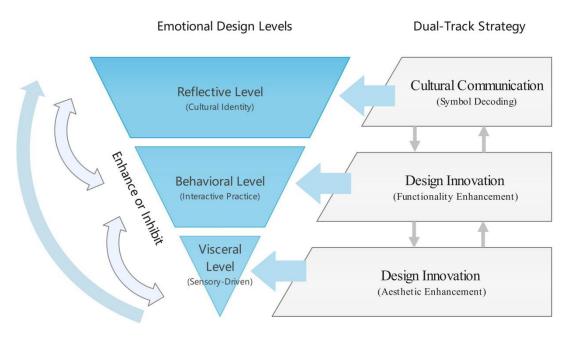


Figure 3 Dual-Track Strategy

In the design innovation pathway, based on preference surveys among young consumers, design innovations should focus on the form, color, and materials of cloth art products. Customization and personalization services should be increased to develop small cultural and creative products with emotional interaction value. Examples include developing bracelets and bag accessories that merge anime elements with traditional cloth art imagery, as well as modernized cloth art products featuring fluorescent colors or minimalist styles.

In the cultural communication pathway, cultural dissemination should be conducted through channels familiar to young people, such as short videos and live-streaming e-commerce. Interactive technologies like AR can be leveraged to narrate the cultural stories behind cloth art products. Additionally, product packaging and online

marketing should explicitly convey the meanings of cultural symbols, enhancing young people's cultural interest and sense of identity.

# 5.4.3 Theoretical and Practical Value Enhancement

The proposed "Three-Level Dual-Track" model clearly reveals the pathways for emotional design recognition and dissemination of intangible cultural heritage among young consumers. The theoretical value of this model lies in offering an innovative perspective that integrates emotional design research with intangible cultural heritage transmission. The practical value is reflected in the provision of concrete, actionable product innovation and cultural dissemination strategies, such as "small cultural and creative products" and "high-end customization," which can be specifically implemented in the wedding, parent-child, and souvenir markets.

#### 6 CONCLUSION

This study, based on the three-level emotional design theory, systematically analyzes youth's emotional experiences and cultural identity mechanisms concerning JFCA. The findings reveal that at the visceral level, visual impact and innovative designs significantly trigger emotional responses; at the behavioral level, interactive practices such as personal adornment and gifting deepen emotional connections; and at the reflective level, personal experiences and cultural identity facilitate the internalization of emotional experiences. However, youth's understanding of the cultural meanings embedded in JFCA remains superficial, exposing a clear "cultural cognition gap."

Based on these findings, this study proposes a "Dual-Track Strategy." In product design, the development of small cultural and creative items and customized products aligns with youth's aesthetic preferences. In cultural dissemination, digital storytelling methods such as short videos and AR interactive technology dynamically convey the essence of intangible cultural heritage, bridging the cultural cognition gap. Future research should expand the regional sample scope and incorporate quantitative methods to enhance the generalizability and scientific rigor of conclusions. Moreover, the innovation and transmission of ICH should not be limited to product design but must also consider broader socio-cultural dissemination mechanisms to promote its long-term transmission and sustainable development among youth.

**Author Contributions:** Fan Yage conceived the original idea, designed the research methodology, collected and analyzed data, and drafted the manuscript. Mohamed Razeef Abdul Razak, as the corresponding author and principal supervisor, provided critical guidance throughout the research process, supervised the theoretical framework, reviewed and revised the manuscript substantially. Natrina Mariane P. Toyong, as the co-supervisor, contributed significantly to the methodological refinement and provided valuable suggestions during manuscript revision. Zhang Jiaxin assisted in data collection and supported the data analysis process. As an interdisciplinary research expert from University Malaya,Mr Edwin Ng Siew Kten(HUANG Shuoteng) provided systematic academic supervision to this study in his capacity as an external consultant. All authors reviewed and approved the final manuscript.

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**Data Availability Statement:** The data presented in this study are not publicly available due to privacy and ethical restrictions requested by interview participants. Interviewees did not consent to public sharing of their data, considering confidentiality and personal privacy concerns.

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#### **Abbreviations**

The following abbreviations are used in this manuscript:

IA

JFCA Jinnan folk cloth art
ICH Intangible cultural heritage
No. Number
IY Interviewee Youth
IE Interviewee Expert

Interviewee Artist

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