

THE CURRENT STATUS AND CONSUMER INFLUENCING FACTORS IN JINAN'S TRADITIONAL CLOTHING MARKET

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Abstract: This study investigates the market status and consumption factors of traditional clothing among residents of Jinan City through a multi-faceted survey and analysis. First, it examines residents' perceptions of traditional clothing and analyzes their purchasing intentions. Second, it profiles consumers to explore satisfaction levels with traditional clothing and uncover the needs of potential consumers. Third, it analyzes residents' purchasing behavior to investigate factors influencing their purchasing intentions and the reasons for these differences. This investigation provides insights into the market status and consumption factors of traditional clothing in Jinan, offering a reference for its development and promotion. The study employed a combination of multistage sampling, PPS sampling, and stratified sampling to obtain the sample. Data underwent reliability, validity, and multiple-choice independence tests, confirming high data quality and overall questionnaire reliability. The collected data underwent multi-dimensional and multi-level analysis. Python web scraping was employed to collect user reviews on traditional apparel from platforms like Taobao and JD.com, revealing public concerns regarding traditional clothing purchases. Cross-analysis examined cognitive and consumption differences among distinct demographic groups. Cluster analysis and grey relational analysis yielded profiles of four distinct consumer segments. Finally, structural equation modeling was applied to investigate factors influencing residents' consumption of traditional apparel.

Keywords: Traditional clothing; Multistage sampling; Cluster analysis; Grey correlation analysis; Structural equation modeling

1 INTRODUCTION

Traditional attire represents distinctive clothing styles formed and passed down through the long history of ethnic groups or regions, serving as vital material carriers of cultural heritage. With the advancement of online information, Chinese traditional clothing has sparked a global craze, fueling rapid growth in related industries while also exposing numerous issues. Current scholarly research on Chinese traditional attire both domestically and internationally primarily focuses on design innovation, cultural preservation and philosophy, as well as commercial development.

Bao Shuyi and Guo Tianjiao engaged in design deliberations on the structural restoration, improvement proposals, and innovative perspectives of the horse-face skirt [1]. Li Fumei explored the innovative application of button elements in contemporary apparel design [2]. Ding Weihang constructed a stylistic migration model for Tang Dynasty costume floral patterns, pioneering a novel digital pathway for the innovative application of traditional costume motifs [3]. Wang Jinghan proposed relevant countermeasures and solutions addressing the severe challenges facing today's apparel market [4]. Sun Yaqin and Zhou Zhipeng argued that the inheritance of traditional clothing should be innovation grounded in preserving authenticity, emphasizing that such innovation must be considered within contemporary contexts [5]. Sun Jian employed Baudrillard's practice theory and semiotic analysis to highlight the critical role of cultural context in defining and utilizing traditional garments [6]. Yang Guang delves into optimization strategies to effectively enhance the competitiveness of traditional Chinese apparel on cross-border e-commerce platforms [7]. Guo Yizhen proposes targeted countermeasures including clarifying rights holders, defining protected subjects, setting reasonable protection periods, and refining infringement determination standards [8]. Shilpa K. and Sucheta K. identify key points for the innovative development of traditional Chinese apparel by examining the application characteristics of its decorative language in foreign contexts [9].

As evidenced by the aforementioned literature, research on the market status and consumption factors of traditional Chinese clothing remains underdeveloped. Therefore, this paper focuses on Jinan City, employing multiple statistical analysis methods to examine the market landscape and consumption-influencing factors of traditional Chinese attire, while exploring development strategies for relevant enterprises.

2 AN EXPLORATION OF THE CURRENT STATUS OF TRADITIONAL CLOTHING UNDERSTANDING BASED ON CROSS-ANALYSIS

To analyze the varying levels of understanding of traditional clothing culture among different age groups, this study conducted a cross-analysis of age and the degree of understanding of traditional clothing culture. Using SPSS software, the following chart was generated:

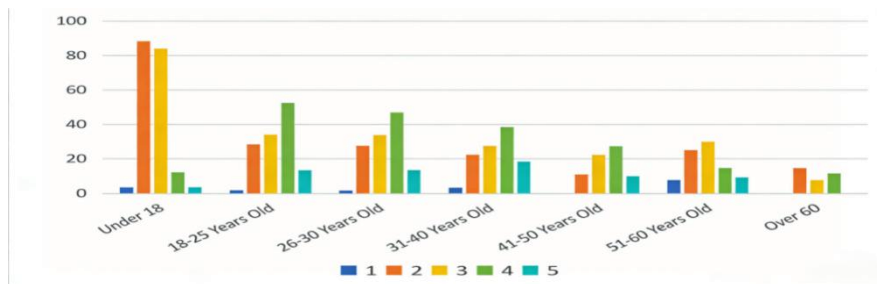


Figure 1 Age Distribution Profile

As shown in Figure 1, the cross-analysis results reveal the relationship between age and the level of understanding of the cultural significance of traditional clothing. A chi-square test was conducted on the obtained results, with the test results presented in Table 1:

Table 1 Chi-Square Test for Age and Cultural Understanding

	Value	Degree of freedom	Progressive significance (two-tailed)
Pearson chi-square	154.932a	24	<0.001
Likelihood Ratio	169.816	24	<0.001
Linear correlation	41.704	1	.000
Number of active cases	643		

a. The expected count for 10 cells (33.3%) is less than 5. The minimum expected count is .70.

The chi-square value is 154.932a, with an incremental significance of 0.001. Therefore, it is statistically significant at the 0.005 confidence level, and the test is passed.

The cross-analysis reveals that individuals aged 26–30 and 31–40 possess the deepest understanding of traditional clothing culture, followed by those aged 41–50. Those under 18 and over 60 demonstrate the least familiarity. This indicates that age influences people's comprehension of traditional clothing culture, potentially linked to factors such as life experiences, cultural environments, personal interests, and exposure to traditional culture across different age groups.

3 THE CONSUMPTION CHARACTERISTICS OF DIFFERENT CONSUMER GROUPS BASED ON CLUSTER ANALYSIS AND GREY RELATIONAL ANALYSIS

To segment different traditional clothing consumer groups in Jinan City, this study employs cluster analysis to categorize residents based on their consumption characteristics and derive consumer profiles. Subsequently, grey relational analysis is applied to conduct a differentiated analysis of the factors that concern consumers across different categories.

3.1 Determining the Number of Clusters

To determine the number of clusters, a two-stage clustering method was employed. This process comprises two phases: constructing a cluster feature tree and combining leaf nodes using a merging clustering algorithm. Drawing on prior literature, seven variables were selected to analyze respondents' cognitive characteristics. The scoring and questionnaire items associated with these variables are presented in Table 2:

Table 2 Relevant Variable Scores and Explanation of Issues

Variable	Scoring Phase	Issues involved
Level of understanding	5, 4, 3, 2, 1	6.Your level of understanding of the cultural heritage of traditional attire
Attraction	5, 4, 3, 2, 1	21.Do you find the brand image of traditional clothing appealing?
Purchase Intent	5, 4, 3, 2, 1	28.Your willingness to purchase more traditional clothing in the coming year
Purchasing Behavior	5, 1	10.Have you ever purchased traditional clothing?
Purchase frequency	5, 4, 3, 2, 1	11.How often have you purchased traditional clothing in the past year?
Information Acquisition	5, 4, 3, 2, 1	23.Do you research traditional clothing before purchasing it?
Recommendation Intent	5, 4, 3, 2, 1	26.If you purchase traditional clothing that you're satisfied with, would you recommend it to others?

The results of the second-order clustering are shown in Table 3:

Table 3 Overview of the Second-Order Clustering Model

Algorithm	Two steps
Input	7
Clustering	4

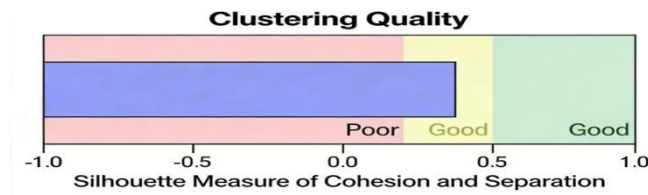


Figure 2 Cluster Quality Map

As shown in Figure 2, clustering into four categories yields favorable results.

3.2 Cluster Analysis

Based on the number of clusters determined by the above second-order clustering, K-means clustering can be used to uncover residents' cognitive characteristics and derive consumer profiles based on these features. The validation results for the obtained cluster centers are shown in Table 4:

Table 4 Clustering Test Results

Clustering	Clustering		Error		F	Significance
	Mean Square	Degree of freedom	Mean Square	Degree of freedom		
Level of understanding	82.227	3	.606	634	135.734	.000
Attraction	29.140	3	.526	634	55.378	.000
Purchase Intent	66.109	3	.566	634	116.879	.000
Purchasing Behavior	825.379	3	.000	634	103.833	.000
Purchase frequency	94.049	3	.821	634	114.604	.000
Information Acquisition	93.663	3	.625	634	149.759	.000
Recommendation Intent	92.433	3	.616	634	150.057	.000

The F-value represents the ratio of between-cluster variance to within-cluster variance. All variables reached significance at the <math><0.01</math> level, indicating substantial differences between clusters. Therefore, the overall clustering performance is satisfactory.

3.3 Results Analysis

Based on the clustering results from the final cluster center table, respondents can be categorized into the following four groups:

3.3.1 Primary consumers



Figure 3 Primary Consumers

As shown in Figure 3, this demographic exhibits a high level of familiarity with traditional attire, strong access to relevant information, and frequent purchasing habits, coupled with a strong willingness to buy. Consequently, they represent the primary consumer base for traditional clothing.

This study reveals that the primary consumer base consists of women aged 26-30 and 31-40, holding college diplomas

or bachelor's degrees. Their occupations include public institution employees, civil servants, government workers, and self-employed individuals, with average monthly incomes ranging from ¥5,001 to ¥8,000. This demographic demonstrates relatively high familiarity with traditional attire, strong information-seeking behavior, frequent purchasing habits, and robust purchasing intent. Consequently, they represent the core consumer group for traditional clothing. After obtaining the basic profiles of the aforementioned groups, this paper employs grey relational analysis to investigate the degree of importance existing consumers place on various factors when purchasing traditional clothing. This generates a ranking chart of influencing factors, illustrating the relative importance of each factor in traditional clothing purchases among current consumers. A higher weight indicates greater significance for that factor.

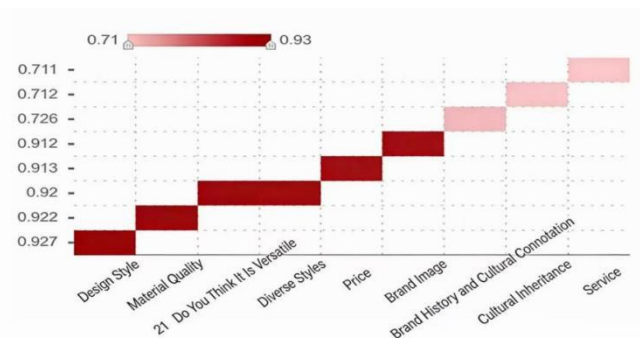


Figure 4 Key Consumer Purchase Factors Heatmap

As shown in Figure 4, for mainstream consumers, design style is the most important factor. The uniqueness of the design style may directly determine whether they purchase a particular traditional garment. Additionally, they also pay close attention to factors such as material quality, practicality, and variety of styles. Brand history and cultural connotations, cultural heritage, and service are not highly valued by this group of consumers.

3.3.2 Lose customers

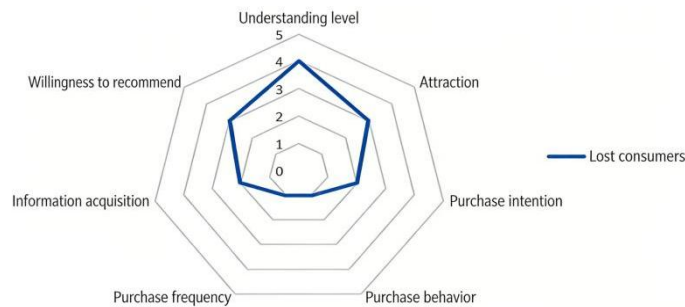


Figure 5 Lose Customers

As shown in Figure 5, this demographic exhibits lower levels of information acquisition, purchase frequency, and purchasing intent regarding traditional attire, with moderate levels of attraction and recommendation willingness, yet a relatively high level of familiarity. Consequently, this group represents lost consumers for traditional clothing. This study reveals that lost consumers are males aged 18-25 with educational backgrounds of high school/vocational school, junior high school, or below. Their occupations include students and retirees, with average monthly incomes ranging from 3,001 to 5,000 yuan. They exhibit low levels of information acquisition, purchase frequency, and purchasing intent regarding traditional apparel, coupled with moderate levels of appeal and recommendation willingness.

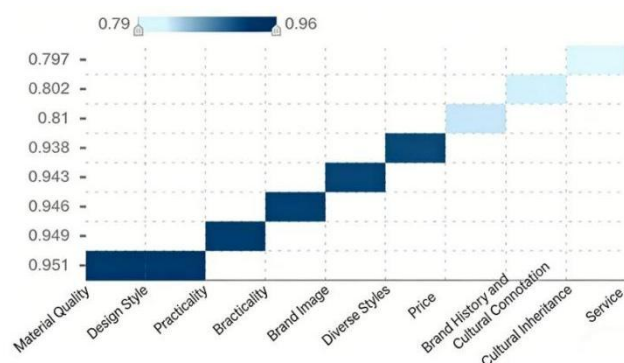


Figure 6 Heatmap of Consumer Purchase Factors Leading to Churn

As shown in Figure 6, material quality is the most important factor for lost customers, with subpar material quality potentially leading to their unwillingness to repurchase. Other factors include design style, practicality, and brand image. Brand history and cultural connotations, cultural heritage, and service are not highly valued by this group of consumers.

3.3.3 Potential consumers



Figure 7 Potential Consumers

As shown in Figure 7, this demographic exhibits low levels of familiarity with traditional attire, purchase frequency, and information access. Their purchasing intent, appeal, and willingness to recommend are generally moderate. The potential consumer diagram indicates that this group has purchased traditional clothing and maintains moderate purchasing intent, thereby qualifying them as potential consumers of traditional attire. This study reveals that potential consumers are women aged 18-25 and 26-30, holding bachelor's or master's degrees and above, primarily students with an average monthly income below 3,000 yuan. They demonstrate high familiarity with traditional attire, strong information access, and favorable purchasing intent, though their buying frequency remains relatively low. Consequently, they represent the core consumer base for traditional clothing.

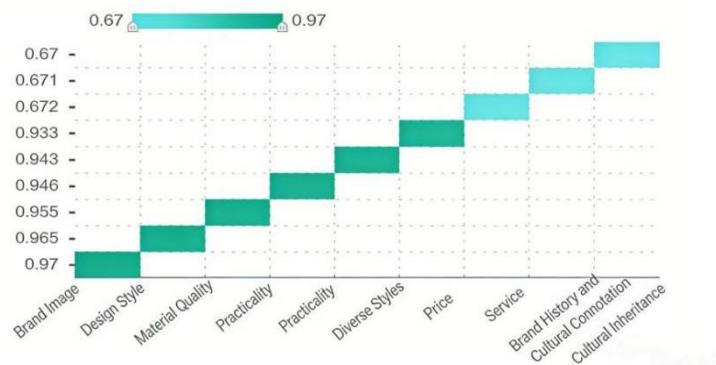


Figure 8 Heatmap of Potential Consumer Purchase Factors

As shown in Figure 8, brand image is the most important factor for potential consumers, with a professional and reliable brand image likely to encourage purchases among this group. Design style, material quality, and practicality follow as secondary considerations. Conversely, service, brand history and cultural connotations, and cultural heritage are not highly valued by this consumer segment.

3.3.4 Non-target audience



Figure 9 Non-target Audience

As shown in Figure 9, this demographic exhibits low familiarity with traditional attire, weak purchasing intent, infrequent purchases, and poor access to relevant information. Consequently, they constitute a non-target group. For this demographic, we will not consider them and will not conduct feature mining on this segment.

4 AN INVESTIGATION INTO THE INFLUENCING FACTORS OF TRADITIONAL CLOTHING CONSUMPTION BASED ON STRUCTURAL EQUATION MODELING

To investigate the factors influencing residents' consumption of traditional clothing, this section establishes a measurement system comprising two influencing factors—cultural cognition and social influence—along with one mediating variable, consumption attitude. Structural equation modeling is employed to explore the latent causal relationships between these independent variables and residents' consumption behavior.

4.1 Model Establishment

Structural equation models comprise measurement models and structural models. The measurement model is a structural equation used to express the relationship between observed variables and latent variables, with the equation being:

$$x = \Lambda_x \xi + \delta \quad (1)$$

$$y = \Lambda_y \eta + \varepsilon \quad (2)$$

Here, x denotes the exogenous observed variable, ξ represents the exogenous latent variable, Λ_x is the factor loading matrix of the exogenous observed variable on the exogenous latent variable, δ is the error term of the exogenous observed variable, y signifies the endogenous observed variable, η denotes the endogenous latent variable, Λ_y denotes the factor loading matrix of endogenous observed variables on endogenous latent variables, and ε represents the error term of endogenous observed variables.

Structural models are structural equations used to express the relationships between exogenous latent variables and endogenous latent variables, with the equation being:

$$\eta = \beta \eta + \Gamma \xi + \zeta \quad (3)$$

Among these, β represents the relationship between endogenous latent variables, Γ denotes the influence of exogenous latent variables on endogenous latent variables, and ζ is the residual of the structural equation, reflecting the unexplained portion of the endogenous latent variables within the equation.

With cultural cognition and social influence as independent variables and consumption attitudes as the mediating moderator, both exert effects on consumption behavior. The variables employed in the structural equation model are shown in Table 5:

Table 5 Theoretical Model Framework

Primary indicator	Secondary Indicators	Measurable indicators	Measurable Indicator Content
Perceived Value	Cultural Awareness	A1	Q6. Level of understanding of the cultural heritage of traditional attire
		A2	Q7. Characteristics of Traditional Attire Across Different Regions
		A3	Q8. Traditional Attire Styling Techniques
		A4	Q9. Frequency of relevant information retrieval
	Social Impact	B1	Q22. Brand Official Website
		B2	Q22. E-commerce platform
		B3	Q22. Brick-and-mortar store
		B4	Q22. Social media
		B5	Q22. A friend recommended
Consumer Attitudes	Product Reviews	B6	Q22. Handmade customization (such as having a tailor make it to order)
		B7	Q22. Traditional markets (such as temple fairs, bazaars, etc.)
		B8	Q25. Have you shared it on social media?
		B9	Q26. Would you recommend it to others?
		C1	Q14. Is there a wide variety of styles?
		C2	Q15. Does the design style match?
		C3	Q16. What is your assessment of the price?
		C4	Q17. What is the assessment of material quality?
		C5	Q19. Is the service satisfactory?
Consumer behavior	Consumption patterns	C6	Q20. Is it practical?
		C7	Q21. Is it appealing to you?
		D1	Q10. Have you ever purchased traditional clothing?
		D2	Q11. Purchase frequency over the past year
		D3	Q27. Tend to choose traditional attire as gifts
		D4	Q28. Purchase Intentions for the Coming Year
		D5	Q29. Willingness to try new styles or designs

Using AMOS software, a path diagram of the structural equation model was constructed, as shown in Figure 10:

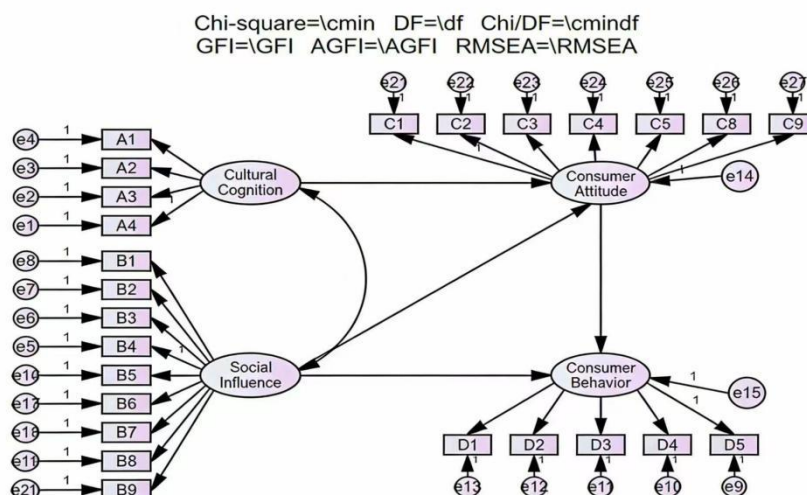


Figure 10 Theoretical Path Diagram of Structural Equation Modeling

When presetting the model, this paper proposes the following assumptions:

- H1 : Cultural cognition exerts a positive influence on consumer attitudes ;
- H2 : Consumer attitudes exert a positive influence on consumer behavior ;
- H3 : Social influence exerts a positive effect on consumer attitudes ;
- H4 : Social

influence exerts a positive effect on consumer behavior

4.2 Model Validation and Fitting

The model reliability test results are as follows:

Table 6 Scale Reliability Testing

Reliability Statistics	
Klonbach Alpha	Number of items
.833	25

As shown in Table 6, the Cronbach's alpha coefficient for the latent variable is 0.833, indicating good reliability. The results of the model validity test are as follows:

Table 7 Scale Validity Testing

KMO and Bartlett's Test		
	KMO Sampling Adequacy Measure	.837
	Approximate chi-square	4244.753
Bartlett's Sphericity Test	degree of freedom	300
	Significance	.000

As shown in Table 7, the KMO value is 0.837, and the p-value from Bartlett's test of sphericity is significantly less than 0.05, indicating that validity has also passed the test. After passing the reliability and validity tests, the data were analyzed using AMOS software, and the model fit was assessed based on CMIN, GFI, AGFI, RMSEA, CFI, and TLI. After verification, certain indicator values were found to deviate from the judgment criteria. Consequently, paths B1, B2, B3, B5, and B7 in the social impact component, along with paths D1 and D2 in the consumption behavior component, were removed. The revised model was then refitted. The verification results for the modified model are as follows:

Table 8 Modify model verification parameters

Indicator Name	Model Metrics	Criteria for Judgment	Conclusion
CMIF(Chi-square value)	416.346	The smaller, the better	
DF(Degree of freedom)	130	The smaller, the better	
CHI/DF	3.203	<3 Excellent; <5 Acceptable	Acceptable
GFI(Goodness-of-Fit Index)	0.926	>0.8 is acceptable; >0.9 indicates a good fit.	Good fit
AGFI(Corrected Goodness-of-Fit Index)	0.902	>0.8 is acceptable; >0.9 indicates a good fit.	Good fit
RMSEA(Root Mean Square Error)	0.059	<0.08 Excellent; <0.1 Acceptable	Excellent

As shown in Table 8, the CHI/DF value is 3.203, meeting the acceptance criterion. The model's GFI is 0.926, which meets the acceptance criterion and exceeds 0.9, indicating excellent model fit. The model's AGFI is 0.902, meeting the acceptance criterion and exceeding 0.9, also demonstrating excellent model fit. Based on these indicators, the model exhibits good fit.

The revised roadmap is shown in Figure 11:

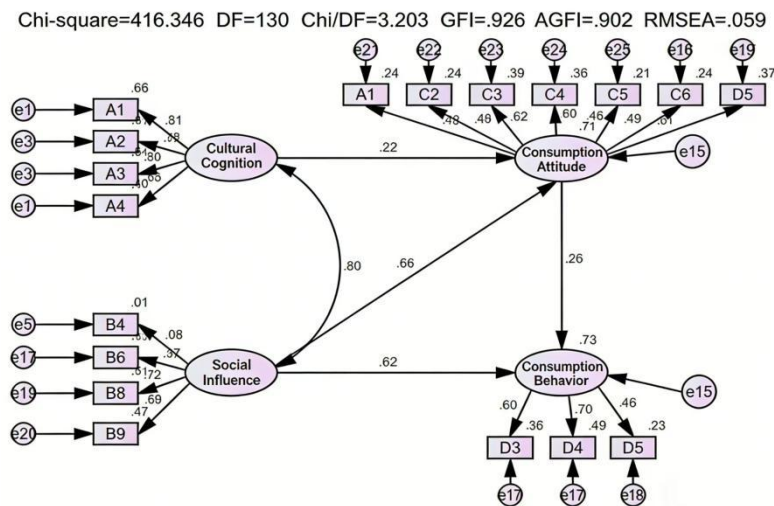


Figure 11 Revised Roadmap

As shown in Figure 11, social influence exerts the strongest impact on residents' consumption behavior, with a path coefficient of 0.662. This is followed by the influence of consumption attitudes on consumption behavior, with a path coefficient of 0.26. The most significant pathway is: Social Influence→Consumption Attitudes→Consumption Behavior, with path coefficients of 0.66 and 0.26 respectively.

4.3 Results Analysis

Although the model fits excellently, this does not imply that all hypothesized paths hold true. It is necessary to conduct maximum likelihood estimation tests on the significance of path coefficients. The adjusted path coefficients of the model are as follows:

Table 9 Path Coefficient Tests for the Modified Model

Path of action	Estimata	S.E.	C.R.	P	Significance
Consumer Attitudes<---Cultural Awareness	0.156	0.071	2.201	0.028	Significant
Consumer Attitudes<---Social Impact	7.207	4.002	1.801	0.072	Significant
Consumer behavior<---Consumer Attitudes	0.230	0.118	1.954	0.051	Significant
Consumer behavior<---Social Impact	5.964	3.404	1.752	0.080	Significant

As shown in Table 9, all paths are statistically significant. Cultural cognition and social influence exert a significant positive effect on consumption attitudes, while social influence and consumption attitudes exert a significant positive effect on consumption behavior.

To analyze the mediating effect, at a 95% confidence level, 2000 Bootstrap samples were drawn to obtain the Lower and Upper confidence intervals for the specific mediating effect. If the Percentile confidence interval does not contain 0, it indicates the presence of a mediating effect. The results are as follows:

Table 10 Mediation Effect Test Table

Path	Estimate	95%Confidence interval		P
		Lower	Upper	
Social Impact-->Consumer behavior	0.657	0.443	0.887	0.001
Social Impact-->Consumer Attitudes-->Consumer behavior	0.458	0.272	0.564	0.001
Cultural Awareness-->Consumer Attitudes-->Consumer behavior	0.145	-0.016	0.421	0.058

As shown in Table 10, social influence and cultural cognition exert a significant direct effect on purchasing behavior. Furthermore, under the mediation of consumer attitude, both factors also significantly influence consumption behavior. Thus, consumer attitude serves as an effective moderator.

In summary, cultural cognition exerts a significant positive influence on consumption attitudes, indicating that residents' deeper understanding of the cultural heritage, distinctive features, and styling methods of traditional attire correlates with more positive consumption attitudes. Social influence exerts the strongest direct effect on consumption behavior, with external factors such as social media, peer recommendations, and traditional markets significantly driving purchasing decisions. Consumption attitudes play a significant mediating role between social influence and consumption behavior, suggesting that social influence indirectly promotes purchasing behavior by enhancing

consumption attitudes.

5 CONCLUSION

This study reveals varying levels of awareness across different age groups, with significant differences in future purchase intent among these demographics. Individuals aged 26-30 and 31-40 demonstrate the highest awareness, followed by those aged 41-50. Awareness is lowest among those under 18 and over 60. Individuals who prioritize price and perceive traditional attire as increasingly important in their wardrobes exhibit stronger future purchase intent. Conversely, those with a junior high school education or lower, those who frequently recommend traditional attire, and those with monthly incomes between ¥3,001–5,000 or ¥8,001–12,000 demonstrate weaker future purchase intent.

This article outlines consumer profiles, with core, churn, and potential consumers prioritizing design style, material quality, and brand image respectively. Core consumers are women aged 26-30 and 31-40, holding associate or bachelor's degrees, employed as public institution staff/civil servants/government workers or self-employed individuals, with average monthly incomes between ¥5,001 and ¥8,000. For this group, design style is the most important factor, followed by material quality, practicality, and variety of styles. Churn consumers are males aged 18-25 with high school/vocational school or junior high education and below, employed as students or retirees, with an average monthly income of ¥3,001-5,000. Material quality is their top priority, followed by design style, practicality, and brand image. Potential consumers are women aged 18-25 and 26-30, holding bachelor's or master's degrees and above, primarily students, with an average monthly income below ¥3,000. Their top priority is brand image, followed by design style, material quality, and practicality.

This study examines how social influence and cultural cognition significantly impact the purchase of traditional clothing, mediated by consumer attitudes. Cultural cognition and social influence exert a significant positive effect on consumer attitudes, while social influence and consumer attitudes exert a significant positive effect on consumption behavior. Consumer attitudes play a mediating role in the relationship between social influence and cultural cognition, thereby facilitating purchasing behavior.

COMPETING INTERESTS

The authors have no relevant financial or non-financial interests to disclose.

REFERENCES

- [1] Bao Shuyi, Guo Tianjiao. A Study on the Structure and Design of Traditional Horse-Face Skirts and Reflections on Their Modern Design. *Silk*, 2025, 62(02): 10-20.
- [2] Li Fumei. An Exploration of the Application of Buttonhole Elements in Fashion Design. *Footwear Technology and Design*, 2025, 5(01): 12-14.
- [3] Ding Weihang. Research on Digital Innovation Pathways for Traditional Chinese Clothing Patterns Based on AIGC Technology. *Western Leather*, 2025, 47(01): 49-51.
- [4] Wang Jinghan. Application of Traditional Chinese Costume Elements in Modern Design. *Western Leather*, 2024, 46(01): 6-98.
- [5] Sun Yaqin, Zhou Zhipeng. The Inheritance and Innovation of Traditional Chinese Clothing as Seen Through the Horse-Face Skirt. *Fashion Designer*, 2025(01): 25-30.
- [6] Sun Jian. The Symbolic Significance of Auspicious Cultural Elements in Traditional Chinese Attire: An Analysis from a Youth Perspective. *Western Leather*, 2024, 46(19): 15-17.
- [7] Yang Guang. A Study on Optimization Strategies for Cross-Border E-Commerce Platforms of Traditional Chinese Clothing. *Journal of Shaanxi Youth Vocational College*, 2024(04): 82-85.
- [8] Guo Yizhen. Research on Intellectual Property Protection of Traditional Chinese Clothing from the Perspective of Intangible Cultural Heritage Preservation. *Western Leather*, 2025, 47(01): 127-130.
- [9] Shilpa Khandade, Sucheta Khot. On the Chinese Traditional Clothing Innovation Preliminary Discussion. *Journal of Commerce and Management Thought*, 2006, 1(7).