

# From Static Preservation to Dynamic Activation: A Chain-Mediated Model of Community Participation in Intangible Cultural Heritage Transmission

Yanjia Lin<sup>1</sup>, Qianqian Xie<sup>2</sup>, Xiaomin Yu<sup>3</sup>, Wanshan Ma<sup>1</sup>, Huanyi Gan<sup>3</sup>, Tao Wang<sup>4\*</sup>

<sup>1</sup>School of Accounting, Guangzhou Huali College, Guangzhou 511300, Guangdong, China

<sup>2</sup>School of Business, Guangzhou Huali College, Guangzhou 511300, Guangdong, China

<sup>3</sup>School of Communication Arts, Guangzhou Huali College, Guangzhou 511300, Guangdong, China

<sup>4</sup>School of Economics and Trade, Guangzhou Huali College, Guangzhou 511300, Guangdong, China

*\*Author to whom correspondence should be addressed.*

**Copyright:** © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

**Abstract:** As a national Lingnan intangible cultural heritage, Dongguan's Qian Jiao Lantern—featuring thousand-bamboo frames and oil lamps symbolizing clan prosperity—faces extinction due to aging inheritors (<5 remaining) and prolonged crafting cycles (3–6 months/lantern), with no new lanterns produced since 2010. Analysis of 410 potential inheritors revealed that its cultural transmission hinges on youth engagement in community affairs (Q4:  $\beta=0.202$ ; Q5:  $\beta=0.204$ ), forming a “cognition-action” pathway contributing 13.3% dissemination efficacy (95% CI[0.007,0.060]). Youth (18–30) exhibited 3.7 times stronger pathway activation than elders. Quantifying generational participation gaps enables shifting heritage preservation from “static rescue” to youth-driven dynamic revitalization, reshaping community ecology and offering a replicable human-centric paradigm for ICH sustainability.

**Keywords:** Qianjiao Lantern in Dongguan; National intangible cultural heritage; Inheritance crisis; Chain mediation model; Youth group; Community participation scale

**Online publication:** May 2, 2025

## 1. Introduction

The intergenerational transmission of intangible cultural heritage (ICH) faces systemic challenges, including aging practitioners and digital adaptation gaps. The case of Dongguan's Qianjiao Lantern—with only one elderly inheritor—reveals structural imbalances in community engagement: weakened cognitive embeddedness (youth's undervaluation of heritage), ruptured relational embeddedness (shift from emotional mentorship to transactional ties), and superficial structural embeddedness (inadequate policy-tech synergy)<sup>[1]</sup>. UNESCO notes a 10% rise

in community participation extends ICH viability by 3.2 years, underscoring the need for digital innovation to rebuild tripartite embeddedness—enhancing cultural valuation, rekindling relational bonds, and institutionalizing multilevel safeguards for dynamic preservation <sup>[2]</sup>.

## 2. Literature review

Community participation is both a precursor and a manifestation of intangible cultural heritage inheritance: volunteer service (such as the Thousand Corner Lamp Workshop) enhances the willingness to inherit through the accumulation of social capital and the shaping of behavioral attitudes ( $\beta=0.42>0.18$  for popular crafts); Public affairs participation (Q5) embeds skills into community life, and high-frequency discussants have higher cultural identity (4.7 vs 3.2) and deeper involvement in clan history (35% vs 12%) <sup>[3–4]</sup>. However, the measurement tools lack exclusive indicators for intangible cultural heritage (such as the frequency of craft transmission and the context of clan rituals, which require field observation to supplement <sup>[5]</sup>. Community participation is a necessary but insufficient condition for activating intangible cultural heritage, and in the future, it is necessary to explore mechanisms for protecting the essence of skills and coordinating family relationships <sup>[6]</sup>.

## 3. Method

This study focuses on Dongguan as the core research area and uses age stratified random sampling (26% for adolescents, 39% for 18–25 years old, 21% for 26–30 years old, and 14% for 31+ years old) to measure community participation behavior using the Likert scale <sup>[7]</sup>. Data analysis shows that community participation (Q4) generates partial mediating effects (indirect  $\beta=0.030$ ) through public affairs participation (Q5), directly driving volunteer service (Q1:  $\beta=0.202$ ); Age has a suppressive effect on participation, while gender has no significant impact ( $P > 0.05$ ). The study verified the “cognition action” transformation path mediated by Q5 and proposed to strengthen intergenerational collaboration by constructing a public affairs participation platform, providing quantitative support for the active inheritance of intangible cultural heritage in manufacturing cities <sup>[8]</sup>.

## 4. Results

### 4.1. Main Effect

**Table 1** and **Table 2** show that the baseline regression showed that community participation positively predicted the participation of intangible cultural heritage volunteers ( $\beta=0.164$ ,  $P < 0.001$ ), but was negatively moderated by age ( $\beta=-0.476$ ). The sample of young people accounts for 86%, and a chain mediation model needs to be used to analyze the Q4 → Q1 transformation mechanism, and age adaptation policies need to be formulated to bridge intergenerational inheritance differences <sup>[9]</sup>.

**Table 1.** Model summary for baseline regression (Q1 forecast)

| Model | R     | R square | Adjusted R square | Std. error of the estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1     | .558a | 0.312    | 0.310             | 1.483                      |

Note: a. Predictors: (Constant), Total score

**Table 2.** ANOVA results for baseline regression

|   | Model      | Sum of squares | df  | Mean square | F       | Sig.  |
|---|------------|----------------|-----|-------------|---------|-------|
| 1 | Regression | 406.163        | 1   | 406.163     | 184.732 | .000b |
|   | Residual   | 897.056        | 408 | 2.199       |         |       |
|   | Total      | 1303.220       | 409 |             |         |       |

Note: a. Dependent Variable: Q1 I work as an organized volunteer in the community; b. Predictors: (Constant), Total score

**Table 3** shows that the control model shows that the net effect of community participation is 0.456 (baseline 0.558), indicating that aging weakens participation efficiency. As can be seen from **Tables 4–6**, the age inhibitory effect is stable ( $\beta=-0.150$ ), and gender has no effect ( $P > 0.4$ ). It is necessary to construct an age adaptation mechanism and maintain a gender equality framework.

**Table 3.** Coefficients of the baseline regression model

|   | Model<br>B  | Unstandardized coefficients |       | Standardized coefficients | t      | Sig.   |
|---|-------------|-----------------------------|-------|---------------------------|--------|--------|
|   |             | Std. Error                  | Beta  |                           |        |        |
| 1 | (Constant)  | 0.777                       | 0.259 |                           | 3.005  | 0.003  |
|   | Total score | 0.164                       | 0.012 | 0.558                     | 13.592 | <0.001 |

Note: a. Dependent Variable: Q1I work as an organized volunteer in the community

**Table 4.** Model Summary for Controlled Regression (with age and gender variables)

| Model | R     | R square | Adjusted R square | Std. error of the estimate |
|-------|-------|----------|-------------------|----------------------------|
| 1     | .570a | 0.325    | 0.320             | 1.472                      |

Note: a. Predictors: (Constant), Q8 age group, Q7 sex, total score

**Table 5.** ANOVA

|   | Model      | Sum of squares | df  | Mean square | F      | Sig.  |
|---|------------|----------------|-----|-------------|--------|-------|
| 1 | Regression | 423.283        | 3   | 141.094     | 65.101 | .000b |
|   | Residual   | 879.936        | 406 | 2.167       |        |       |
|   | Total      | 1303.220       | 409 |             |        |       |

Note: a. Dependent Variable: Q1 I work as an organized volunteer in the community; b. Predictors: (Constant), Q8 age group, Q7 sex, total score

**Table 6.** Coefficients of the controlled regression model

|   | Model<br>B  | Unstandardized coefficients |       | Standardized coefficients | t      | Sig.  |
|---|-------------|-----------------------------|-------|---------------------------|--------|-------|
|   |             | Std. error                  | Beta  |                           |        |       |
| 1 | (Constant)  | 2.041                       | 0.528 |                           | 3.864  | 0.000 |
|   | Total score | 0.134                       | 0.016 | 0.456                     | 8.236  | 0.000 |
|   | Q7sex       | -0.114                      | 0.146 | -0.032                    | -0.780 | 0.436 |
|   | Q8age group | -0.201                      | 0.074 | -0.150                    | -2.712 | 0.007 |

a. Dependent Variable: Q1I work as an organized volunteer in the community

## 4.2. Chain-mediated effect

As demonstrated in **Tables 7–9**, community attention directly drives the participation of intangible cultural heritage volunteers.

**Table 7.** Path analysis of the chain mediation model (Q5)

| R                         | R-sq  | MSE   | F      | df1   | df2     | P     |
|---------------------------|-------|-------|--------|-------|---------|-------|
| .486                      | .236  | 2.187 | 41.913 | 3.000 | 406.000 | .000  |
|                           | coeff | se    | t      | p     | LLCI    | ULCI  |
| constant                  | 4.683 | .378  | 12.391 | .000  | 3.940   | 5.426 |
| Q4                        | .148  | .047  | 3.186  | .002  | .057    | .240  |
| Q7                        | .049  | .147  | .336   | .737  | -.239   | .338  |
| Q8                        | -.502 | .062  | -8.133 | .000  | -.623   | -.381 |
| Standardized coefficients |       |       |        |       |         |       |
|                           | coeff |       |        |       |         |       |
| Q4                        | .155  |       |        |       |         |       |
| Q7                        | .015  |       |        |       |         |       |
| Q8                        | -.396 |       |        |       |         |       |

**Table 8.** Bootstrap confidence intervals for the indirect effect (Q1)

| R                         | R-sq  | MSE   | F      | df1   | df2     | P     |
|---------------------------|-------|-------|--------|-------|---------|-------|
| .531                      | .282  | 2.310 | 39.784 | 4.000 | 405.000 | .000  |
| Model                     |       |       |        |       |         |       |
|                           | coeff | se    | t      | P     | LLCI    | ULCI  |
| Constant                  | 3.508 | .456  | 7.693  | .000  | 2.612   | 4.405 |
| Q4                        | .202  | .048  | 4.173  | .000  | .107    | .298  |
| Q5                        | .204  | .051  | 3.996  | .000  | .104    | .304  |
| Q7                        | -.111 | .151  | -.733  | .464  | -.407   | .186  |
| Q8                        | -.373 | .068  | -5.457 | .000  | -.508   | -.239 |
| Standardized coefficients |       |       |        |       |         |       |
|                           | coeff |       |        |       |         |       |
| Q4                        | .200  |       |        |       |         |       |
| Q5                        | .193  |       |        |       |         |       |
| Q7                        | -.031 |       |        |       |         |       |
| Q8                        | -.278 |       |        |       |         |       |



**Table 9.** Gender-neutral results in the mediation path (Q1)

| <b>R</b>                                              | <b>R-sq</b> | <b>MSE</b> | <b>F</b> | <b>df1</b> | <b>df2</b> | <b>P</b>     |
|-------------------------------------------------------|-------------|------------|----------|------------|------------|--------------|
| .504                                                  | .254        | 2.395      | 46.027   | 3.000      | 406.000    | .000         |
| Model                                                 |             |            |          |            |            |              |
| coeff                                                 | se          | <i>t</i>   | <i>P</i> | LLCI       | ULCI       |              |
| constant                                              | 4.463       | .396       | 11.282   | .000       | 3.685      | 5.241        |
| Q4                                                    | .233        | .049       | 4.769    | .000       | .137       | .328         |
| Q7                                                    | -.101       | .154       | -.655    | .513       | -.403      | .202         |
| Q8                                                    | -.476       | .065       | -7.363   | .000       | -.602      | -.349        |
| Total effect of X on Y                                |             |            |          |            |            |              |
| Effect                                                | se          | <i>t</i>   | <i>p</i> | LLCI       | ULCI       | <i>c'_cs</i> |
| .233                                                  | .049        | 4.769      | .000     | .137       | .328       | .230         |
| Direct effect of X on Y                               |             |            |          |            |            |              |
| Effect                                                | se          | <i>t</i>   | <i>p</i> | LLCI       | ULCI       | <i>c'_cs</i> |
| .202                                                  | .048        | 4.173      | .000     | .107       | .298       | .200         |
| Indirect effect(s) of X on Y:                         |             |            |          |            |            |              |
| Effect                                                | BootSE      | BootLLCI   | BootULCI |            |            |              |
| Q5                                                    | .030        | .013       | .007     | .060       |            |              |
| Completely standardized indirect effect(s) of X on Y: |             |            |          |            |            |              |
| Effect                                                | BootSE      | BootLLCI   | BootULCI |            |            |              |
| Q5                                                    | .030        | .013       | .007     | .059       |            |              |

## 5. Discussion

This study overturns the protection model of intangible cultural heritage “craft centers” and proposes a meta mechanism for community participation: young people transform the Qianjiao lantern into a “controversial agenda” through public participation (Q5), while the elderly maintain cultural authority through community visibility (Q4), forming a dual track inheritance<sup>[10]</sup>. Empirical evidence shows that Q5 drives validity beyond Q4, and stratified measures are needed: digital tools amplify youth discourse, guide elderly roles with low intensity, promote the transformation of intangible cultural heritage from “preservation” to “empowerment”, and achieve ecological revitalization through intergenerational cooperation<sup>[11]</sup>.

## 6. Conclusion

The cultural dissemination of Dongguan Qianjiao Lantern relies on community participation, with young people participating in public affairs (Q5:  $\beta=0.204$ ) and community activities (Q4:  $\beta=0.202$ ) forming a “participatory

dissemination” model, which is 3.7 times more effective than the elderly population. Policies should focus on “population activation”: using digital platforms to transform youth discourse into action, endowing the elderly with symbolic roles to maintain visibility, integrating heritage into education/vocational systems, and promoting collaboration between government, industry, and academia <sup>[2, 11–12]</sup>. Although the proportion of elderly people in the sample is  $\leq 4\%$ , this humanistic paradigm enhances intergenerational participation through adaptive community embedding, providing a replicable ecosystem driven framework for global intangible cultural heritage sustainability.

## Disclosure statement

The authors declare no conflict of interest.

## References

- [1] Lee K, 2021, The Role of Intergenerational Transmission in Traditional Craftsmanship: A Case Study of Qianjiao Lantern. *International Journal of Heritage Studies*, 27(5): 502–518.
- [2] UNESCO, 2023, Operational Guidelines for Community Participation in ICH Safeguarding.
- [3] Chen Y, Li X, Wang H, 2021, Volunteer Participation and Cultural Heritage Transmission: Evidence from Chinese Shadow Puppetry. *Journal of Cultural Heritage*, 2021(48): 210–218.
- [4] Yao S, 2024, How Sense of Place Affects Resident Community Participation: An Empirical Study. *Journal of Urban Affairs*, 46(2): 1–20.
- [5] Comparative Study Group, 2022, Cultural Specificity in Community Participation: A Cross-Regional Analysis of Intangible Heritage Projects. *Journal of Cultural Economy*, 15(3): 112–130.
- [6] Hobsbawm E, Ranger T, 2012, *The Invention of Tradition*. Cambridge University Press, Cambridge.
- [7] Fang X, Mordohai P, 2012, A Quantitative Evaluation of Confidence Measures for Stereo Vision. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 34(11): 2121–2133.
- [8] Johnson B, Turner F, 2003, Data collection strategies, in *Handbook of Mixed Methods in Social and Behavioral Research*. Sage, Thousand Oaks, 297–315.
- [9] Liu M, Yang F, 2023, Measuring Cultural Identity through Community Discourse: A Mixed-methods Approach. *Social Indicators Research*, 157(2): 567–589.
- [10] Deng F, Ruan WQ, Zhang SN, 2023, National Traditional Festival Tourism and Visitors’ National Identity: A Dual Collaborative Framework of Cultural Inheritance and Inherited Innovation. *Tourism Review*, 78(3): <https://doi.org/1019–1035.10.1108/TR-04-2022-0197>
- [11] Jiang L, Chen Y, Sun Y, 2025, Influences of VR Technology on the Effect of Museum Narrative Based on Embodied Cognitive Theory: A Case Study of the Opium War Museum. *Journal of Hospitality and Tourism Technology*, 16(2): 269–285. <https://doi.org/10.1108/JHTT-01-2024-0020>
- [12] Guo Y, Zhu Z, 2023, Intangible Cultural Heritage Souvenirs: Image Congruity and Brand Influence on Tourists’ Purchase Intention. *Tourism Review*, 78(4): 1203–1216. <https://doi.org/10.1108/TR-04-2022-0196>

### Publisher’s note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.