

Fostering Multicultural Integration in Transforming Context: Community Participatory Museum as a Bridge

YAN Xinhang ; HUANG Yi

Tongji University

Email:2330328@tongji.edu.cn, huangyi@tongji.edu.cn

Abstract

To explore how the physical environment, community programs, and Individual Characteristics influence cultural adaptation among Korean immigrants in a transforming district of Qingdao, China. Using a mixed-methods approach combining PLS-SEM modeling and interviews, the research identifies intercultural interaction as a key mediating factor linking space and adaptation. While environmental and programmatic improvements enhance place-based belonging, meaningful integration relies on active engagement across cultural boundaries. To support this, the study proposes the Community Participatory Museum (CPM)—an embedded, co-created public space where residents collaboratively share stories and express cultural identities. This research contributes to urban planning and migration studies by revealing how spatial-social mechanisms can foster intercultural understanding and adaptive inclusion in multicultural communities.

Keywords: Cultural Adaptation; Cross-cultural Communication; Community Participatory Museum; Public Space Design; Community Participation

Introduction

In the context of globalization, the issue of community integration among cross-cultural immigrant groups has attracted growing scholarly and policy attention. An increasing number of foreigners are living, studying, and working in Chinese cities, and their levels of adaptation in language, culture, and social life directly influence the harmonious development of multicultural communities (Li, 2022) (Lo et al., 2005). Qingdao, a coastal city with frequent China-South Korea exchanges, provides a compelling case. Since the establishment of diplomatic relations between China and South Korea in 1992, a substantial influx of South Korean individuals and enterprises has formed distinctive economic and community networks characterized by Korean cultural features (Zhou & Tang, 2023).

For a long time, Korean enclaves in Qingdao have largely exhibited a pattern of “parallel adaptation,” in which immigrant communities are physically embedded in the urban fabric but remain socially and culturally isolated from local society. Daily life among Korean residents is often centered around ethnically bounded commercial systems and language environments, resulting in limited contact with local Chinese residents and restricted cultural identification and emotional attachment (Zhou & Tang, 2023). While this model initially facilitated cultural continuity and living convenience, it also hindered intercultural contact, contributing to misunderstandings and latent tensions.

The 2008 global financial crisis marked a turning point. With the withdrawal of some Korean enterprises and the restructuring of local labor markets, many Chinese residents experienced economic disconnection from the Korean community, which intensified social discontent and ethnic divisions (Fan, 2009). As labor and land costs in Qingdao continued to rise, further business relocations led to a gradual contraction of the Korean population. These changes imposed mounting transformation pressures on the community’s function, population composition, and spatial structure (Sun, 2009).

Under these circumstances, the parallel adaptation model has become increasingly untenable, prompting some Korean residents to undergo “passive integration” and even take the initiative to learn Chinese and participate in local affairs (Jang, 2012). At the same time, the spatial characteristics of Korean enclaves have evolved into a “hybrid of ethnic commerce, aging residential buildings, and weakly connected neighborhoods.” Public activity spaces in these communities are typically confined to narrow sidewalks, scattered stone tables and benches, or small open areas in front of shops—spaces that lack greenery and fail to support the everyday, spontaneous interactions needed for intercultural engagement. Consequently, they fall short of realizing the community

cohesion and cultural integration potential embedded in public space(Chen and Fang, 2024) .

Amid ongoing urban renewal and growing calls for multicultural inclusion, it remains an open question whether spatial interventions can serve as effective bridges for cultural adaptation.

This study aims to address the following key questions:

To what extent do the physical environment and activity arrangements of community public spaces influence South Korean residents' cultural adaptation to local society?

Does intercultural interaction mediate the relationship between spatial conditions and cultural adaptation?

How can spatial design and planning strategies be leveraged to improve community interaction structures and foster deeper cultural integration between ethnic groups?

1. Literature Review

1.1 Internationalised Communities

Internationalised communities refer to neighbourhoods formed by people from various countries and regions, characterised by multicultural backgrounds and a relative degree of autonomy. They represent micro-units of urban internationalisation and serve as indicators of a city's globalisation level(Völker et al., 2007). With the deepening of China's reform and opening-up and the continuous advancement of urban internationalisation, an increasing number of foreigners have relocated to Chinese cities in recent years, forming distinctive internationalised communities (Lv and Guo, 2019).

However, internationalised communities in China are currently confronted with a range of governance challenges. As Zhao and Qi (n.d.) observe, the degree of participation by foreign residents in local governance remains limited. Moreover, Wang (2011) points out that the shortage of community staff with cross-cultural communication skills, alongside the scarcity of multicultural integration programmes, further exacerbates difficulties in fostering inclusive community environments.

A defining feature of internationalised communities is the achievement of harmony between local and foreign cultures, rather than merely focusing on the number of foreign residents(Chua, 2013) It is essential to respect community differences and foster competitiveness and cohesion by revitalising existing resources and enhancing new elements (Wang and Yang, n.d.).

1.2 Cultural Adaptation

The concept of cultural adaptation, as originally proposed by Robert Redfield and colleagues in 1936, refers to the process through which individuals or groups from different cultural backgrounds undergo changes in their cultural patterns due to sustained and direct intercultural contact and interaction, with reciprocal influence on both sides involved(Redfield et al., 1936). While numerous migration theories—such as the neoclassical theory, the new economics of labour migration, and the world systems theory—have focused on the economic determinants of migration, they often neglect political, cultural, and social dimensions. However, the cultural adaptation trajectories of migrant groups vary significantly due to differences in national cultures, ethnic characteristics, and levels of socio-economic development.

Among the theoretical frameworks that have profoundly influenced the study of immigrant integration, three stand out: assimilation theory, multiculturalism, and the segmented assimilation model. Assimilation theory, argues that immigrants are expected to relinquish their original cultural identities and merge—either actively or passively—into mainstream society(Rudmin, 2003). In contrast, multiculturalism promotes cultural diversity and suggests that immigrants can retain their native cultural traits while simultaneously adapting to the host culture, highlighting the importance of social inclusiveness(Zhou and Li, n.d.) .The segmented assimilation model,

on the other hand, suggests that integration outcomes are shaped by a combination of socio-economic factors, human capital, policy frameworks, and cultural dynamics, resulting in varied modes such as active integration, passive integration, and selective integration (Junger-Tas, 2001).

Further, the bicultural identity integration theory regards cultural adaptation as a dual-dimensional interactive process involving the maintenance of one's heritage culture and the adoption of the host culture. It also emphasises that the host society's receptiveness plays a decisive role in shaping immigrants' adaptive outcomes.

Recent studies on the cultural strategies of transnational migrants have further categorized international communities into typologies such as "self-segregation," "parallel adaptation," and "active integration" (Li, 2022). Notably, "active integration" and "parallel adaptation" are not mutually exclusive; rather, they represent hybrid approaches where certain cultural boundaries are retained while integration is gradually pursued. Robust social interactions have been identified as important catalysts for cultural adaptation (Zhou and Li, n.d.).

Zhou and Tang (2023) indicate that the level of overall integration among South Koreans in China remains limited. Similarly, Sun (2009) examined the cultural adaptation processes among Koreans in Qingdao, identifying their transitional and "floating" adaptation characteristics. However, most existing studies have primarily focused on psychological and sociological mechanisms—such as language proficiency, social support networks, and identity negotiation—while paying relatively little attention to the spatial dimension of adaptation processes (Li, 2003).

Emerging research has started to incorporate public space into the analytical framework of cultural integration. Scholars argue that at the community level, spatial environments and cultural events serve not only as settings for daily life but also as platforms for social interaction, cultural expression, and consensus-building. Particularly in ethnic enclaves, the structure and attributes of community space may constitute critical triggers for fostering intercultural encounters and facilitating psychological adaptation (Binyi and Mwanza, 2014).

1.3 Community Space and Social Interaction

Community space refers to the facilities and spatial configurations designed to facilitate convenience, interaction, and shared use among residents. It embodies both materiality and a complex network of functions and organisational relations, conveying communal values through its spatial characteristics. The configuration and accessibility of such spaces are shaped by natural conditions, social needs, and levels of economic development. Simultaneously, community space is also a socially constructed entity, continually shaped by prevailing beliefs, interests, and aspirations (Theodori, 2005). In essence, community space serves as a locus where the identity of the community is spatially manifested, incorporating both physical and social dimensions.

Previous studies have demonstrated that community public spaces characterised by multifunctionality, inclusiveness, and social accessibility can effectively reduce psychological boundaries between different social groups, enhance the frequency of interpersonal encounters, and promote mutual understanding. For immigrant populations in particular, such spaces represent not only sites of everyday activity but also arenas for emotional attachment and a key pathway for cultural adaptation.

Social interaction comprises both physical and non-physical exchanges between two or more individuals (Hillery Jr., 1955). Empirical evidence indicates that the physical environment and activity programming within community spaces exert a positive influence on patterns of social interaction. By optimising spatial arrangements and offering attractive, participatory programmes, it is possible to foster more frequent and meaningful exchanges among community members (Qi et al., 2024). For instance, (Sirgy et al., 2008) observed that improved community services contribute to higher resident satisfaction.

Despite these insights, several notable gaps remain in current research. First, spatial structure and behavioural interaction are often analysed in isolation, lacking integrative cross-level theoretical frameworks. Second, community-based cultural programmes are frequently treated as informal or supplementary variables, with

limited empirical validation or quantitative modelling. Third, the mechanisms through which place-based interventions—such as participatory cultural initiatives or small-scale community installations—facilitate intercultural integration have yet to be systematically theorised.

Addressing these gaps requires a more holistic and interdisciplinary approach that links spatial design with social practice, and that treats community space not merely as a backdrop, but as an active medium through which inclusion, identity, and integration are co-produced.

2 Research Framework

2.1 Research Background and Case Selection

In response to the increasing need to understand the spatial foundations of intercultural adaptation, this study investigates the relationship between community space and cultural adaptation by focusing on a representative Korean enclave in Qingdao. Employing Partial Least Squares Structural Equation Modelling (PLS-SEM) (Fornell and Bookstein, 1982), the study systematically tests the pathways through which physical environment, community activities, and user characteristics influence intercultural interaction and patterns of cultural adaptation. A spatial integration strategy is proposed, centred on the concept of a “Community Participatory Museum” (CPM). The research aspires to extend existing theoretical models of urban cultural adaptation from a predominantly psychological perspective to a spatial one, while also offering practical guidance for cross-cultural urban governance through spatially grounded interventions.

This study selects the Xianggang Road Community in Qingdao's Shinan District as its empirical case. Administered by the Xianggang Zhonglu Subdistrict Office, the community is located in the core area of Fushan Bay and is designated in the 14th Five-Year Plan and Vision for 2035 of Shinan District as a priority zone for the development of “international-style neighbourhoods.” Strategically situated, the community borders the coastline to the east, connects with Qingdao's major commercial centre to the south, and adjoins key administrative zones to the north. Notably, in 2004 the community established China's first Foreign-related Civil Mediation Committee, demonstrating its pioneering role in internationalised community governance.

The Xianggang Road Community covers an area of approximately 1.28 square kilometres, with a population of 12,570 across 4,898 households, of whom 6,500 are registered residents. The community comprises 18 residential compounds, including Panhaimingren Plaza, Luxin Changle Garden, Kaijin Garden, Minjiang Garden, and Yuanyang Garden—all of which reflect a high standard of residential development. Since the early 1990s, Qingdao has maintained robust economic and cultural exchanges with South Korea. The Xianggang Road area has gradually attracted Korean immigrants and enterprises, forming an ethnic landscape centred on Korean schools, churches, restaurants, and beauty salons. Korean residents are predominantly concentrated in the northern residential blocks, where ethnic commercial elements such as Korean restaurants, convenience stores, and salons are prominent. In contrast, the central and southern areas are characterised by a more mixed-use commercial layout with weaker ethnic features, reflecting a spatial gradient in both function and identity.

Comparative analysis of Point of Interest (POI) data from 2012 and 2023, together with field observations, reveals a clear transformation in the spatial structure of commercial areas within the community. The Korean commercial cluster, once concentrated in the northern residential zone, has been gradually displaced by large-scale mixed-use complexes such as AEON Mall and Hisense Plaza. This shift illustrates both diversification in commercial composition and a contraction of ethnic Korean economic influence. The spatial restructuring has important implications for the cultural adaptation of Korean residents: it has reduced dependency on ethnic-specific commercial infrastructures, while simultaneously increasing spatial encounters and opportunities for interaction with local Chinese residents. These evolving spatial conditions provide an empirical basis for shifts in cultural identity formation and behavioural integration.

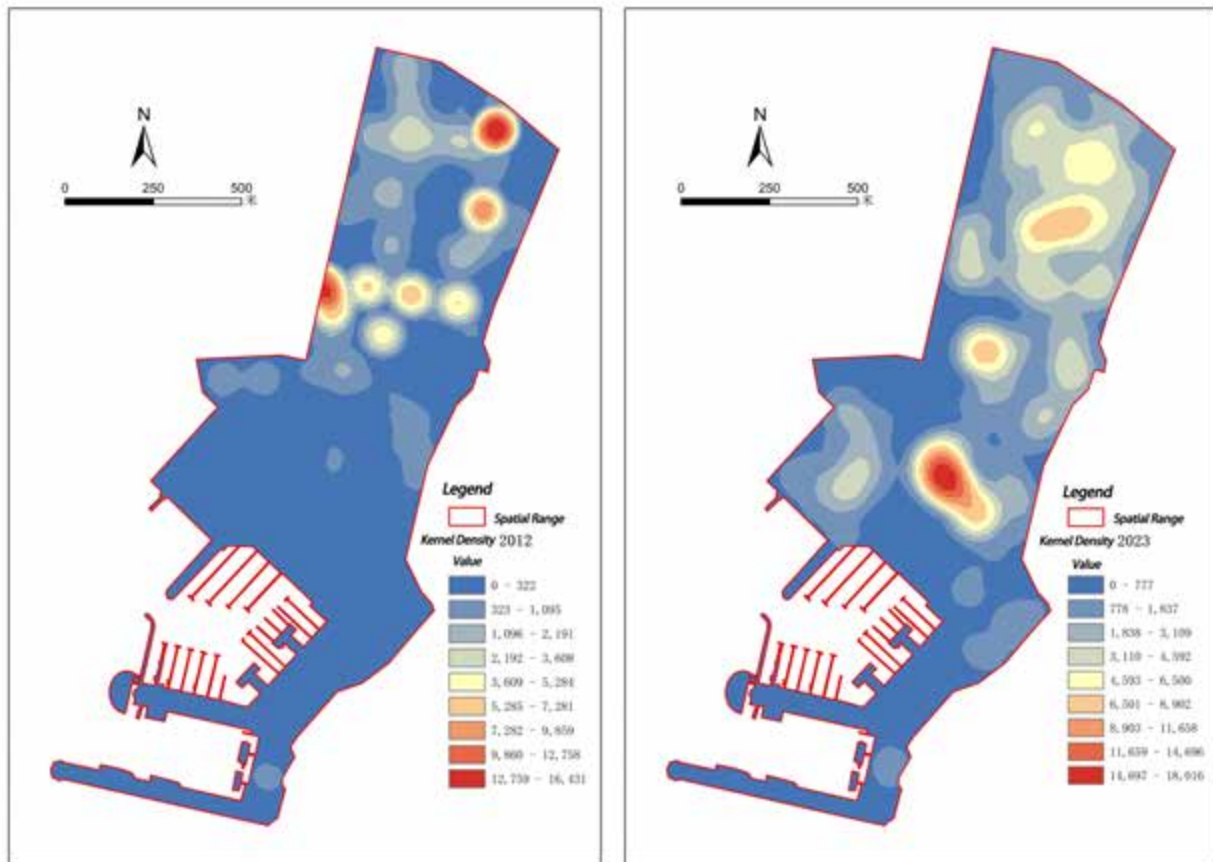


Figure 1. Comparative Kernel Density Maps of POIs in 2012 and 2023 (From Gaode Map)

Given these characteristics, the community—currently undergoing dual processes of social and spatial transformation—constitutes an ideal empirical setting for examining the dynamic interrelations between space, interaction, and adaptation. Its fragmented public space structure, multifunctional and mixed-use commercial corridors, and multiple low-threshold community nodes conducive to everyday encounters collectively render it a naturally occurring laboratory. These spatial features afford unique analytical value for investigating how multicultural integration mechanisms are shaped and negotiated in urban contexts.

2.2 Research Design and Data Collection

This study adopts a mixed-methods approach, integrating GIS spatial analysis, on-site observation, structured interviews, and questionnaire surveys to collect 55 valid samples covering South Korean, Korean-Chinese, Japanese, and Chinese residents. Drawing on existing research variables, the study employs the PLS-SEM method to statistically test the model hypotheses. Data collection was conducted from March to May 2024 and included the following three main components:

Spatial Mapping: GIS tools were used to annotate the distribution of commercial and open spaces and evaluate the accessibility and visibility of community interaction nodes.

Field Observation: Behavioral patterns and social usage in public spaces were recorded across different time periods and user groups.

Structured Questionnaire Survey: To avoid data bias, this study administered questionnaire surveys to community residents over a 12-day period from March 19 to March 30, 2024. The survey employed simple random sampling

and was conducted through both face-to-face and online methods. A five-point Likert scale (1 = strongly disagree, 5 = strongly agree) was used. A total of 55 valid questionnaires were collected, including 33 Chinese residents, 18 South Korean residents, and 2 each from North Korean and Japanese residents. The sample covered youth (18–35 years old, 34.5% of the sample), middle-aged (36–59 years old, 34.5%), and elderly groups (60 years and above, 30.9%). Additionally, statistics showed that over 40% of respondents had lived in the community for more than three years.

Hypotheses and Variables: This study examined multiple independent variables, including the physical environment, community activities, and user characteristics, with the dependent variables being cultural adaptation and cross-cultural social interaction. The selection of dependent variables was based on existing research findings. The independent variables, such as the physical environment, activity programs, and individual characteristics, were derived from relevant literature, field investigations, and interviews with space managers. The dependent variables related to cross-cultural social interaction included “frequency of cross-cultural interaction,” “sense of companionship,” and “degree of social relationships.” Cultural adaptation factors included “cultural assimilation,” “cultural integration,” and “active participation.” These variables were identified through an analysis of previous studies.

Table 1. Latent Constructs and Their Observed Indicators

Latent Variable	Rigorous Definition	Observed Variables (Indicators)
Physical Environment	The physical characteristics and design quality of public spaces in residential communities, including their support for social interaction, multifunctional use, and cultural inclusivity.	INT: Spatial interactivity (whether the space facilitates spontaneous interactions among residents) MULTI: Spatial multifunctionality (whether the space supports leisure, socializing, entertainment, and other functions)
Community Activities	Various public cultural and social activities organized for residents, including local festivals and cross-cultural exchange events, with a focus on frequency and interactivity.	FREQ1: Frequency of traditional festival activities (e.g., Spring Festival, Mid-Autumn Festival) FREQ2: Frequency of cross-cultural exchange activities (e.g., Sino-Korean Cultural Festival)
Individual Characteristics	Residents' participation in community spaces and activities, measured by frequency and duration, reflecting active use and engagement.	UTM: Weekly participation frequency (number of engagements per week) TRM: Duration per visit (time spent in public spaces or activities per session)
Intercultural Social Interaction	The quality of social interactions between Korean and local residents in a cross-cultural community setting, including breadth of social relationships, sense of companionship, and active engagement.	REL: Degree of social relationships (extent of connections with residents from different cultures) CMP: Sense of companionship (belonging and identification within the community) ENG: Frequency of intercultural interaction (willingness and behavior in actively engaging in exchange activities)

Latent Variable	Rigorous Definition	Observed Variables (Indicators)
Cultural Adaptation	The degree of cultural integration and sense of belonging among Korean and local residents in the Qingdao community.	CAI: Cultural assimilation (feeling of adapting to local cultural life) CBI: Cultural integration ("I can maintain my own culture while integrating into the local community") AP: Active participation ("I am willing to participate in cultural activities with local residents")

Based on theoretical review and field observations, the following structural hypotheses are proposed:

- H1a: The physical environment has a positive effect on intercultural social interaction.
- H1b: The physical environment has a positive effect on cultural adaptation pattern.
- H2a: Community activities have a positive effect on intercultural social interaction.
- H2b: Community activities have a positive effect on cultural adaptation pattern.
- H3a: Individual characteristics has a positive effect on intercultural social interaction.
- H3b: Individual characteristics has a positive effect on cultural adaptation pattern.
- H4: Intercultural social interaction has a positive effect on cultural adaptation pattern.

Here, intercultural social interaction is set as the key mediating variable, and its mediating pathways between the physical environment, community activities, Individual characteristics, and cultural adaptation are examined.

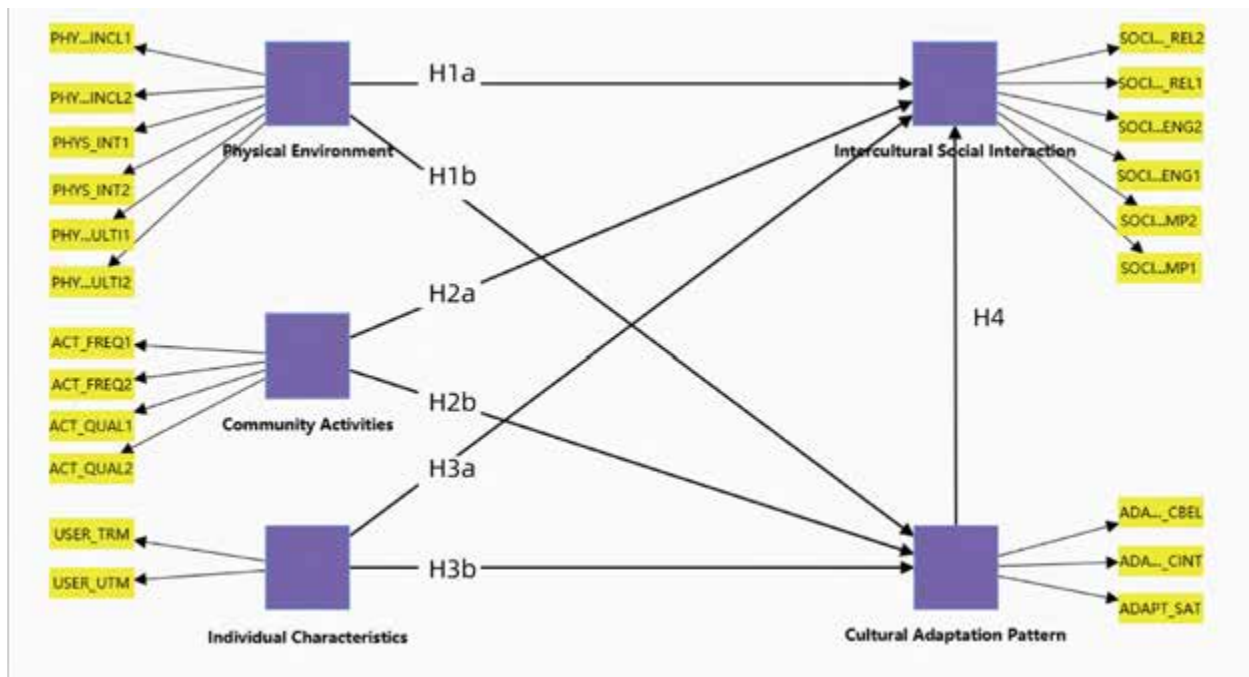


Figure 2. Structural Model of Intercultural Adaptation Pathways

2.3 Analytical Methods and Results

Following the two-step PLS-SEM analytical framework, we sequentially evaluated the measurement model and structural model, with modeling and estimation conducted using SmartPLS 4.09.

Table 2. Reliability and Validity Assessment of Latent Constructs

Latent Variable	Cronbach's Alpha	CR (Composite Reliability)	AVE (Average Variance Extracted)	HTMT (Heterotrait-Monotrait Ratio)
Physical Environment	0.829	0.875	0.591	0.682
Community Activities	0.813	0.874	0.635	0.715
Individual Characteristics	0.744	0.831	0.558	0.647
Intercultural Social Interaction	0.861	0.904	0.703	0.732
Cultural Adaptation Pattern	0.832	0.889	0.627	0.698

Prior to examining the structural paths, we first assessed the reliability and validity of the measurement model. As shown in the table, all latent variables demonstrated composite reliability (CR) values exceeding 0.83 and average variance extracted (AVE) values above 0.55, meeting the convergent validity criteria. Although one indicator loading for Individual characteristics was slightly below 0.7, the overall CR and AVE values satisfied the requirements, justifying its theoretical retention. Furthermore, all heterotrait-monotrait (HTMT) ratios were well below the 0.9 threshold, confirming satisfactory discriminant validity among constructs.

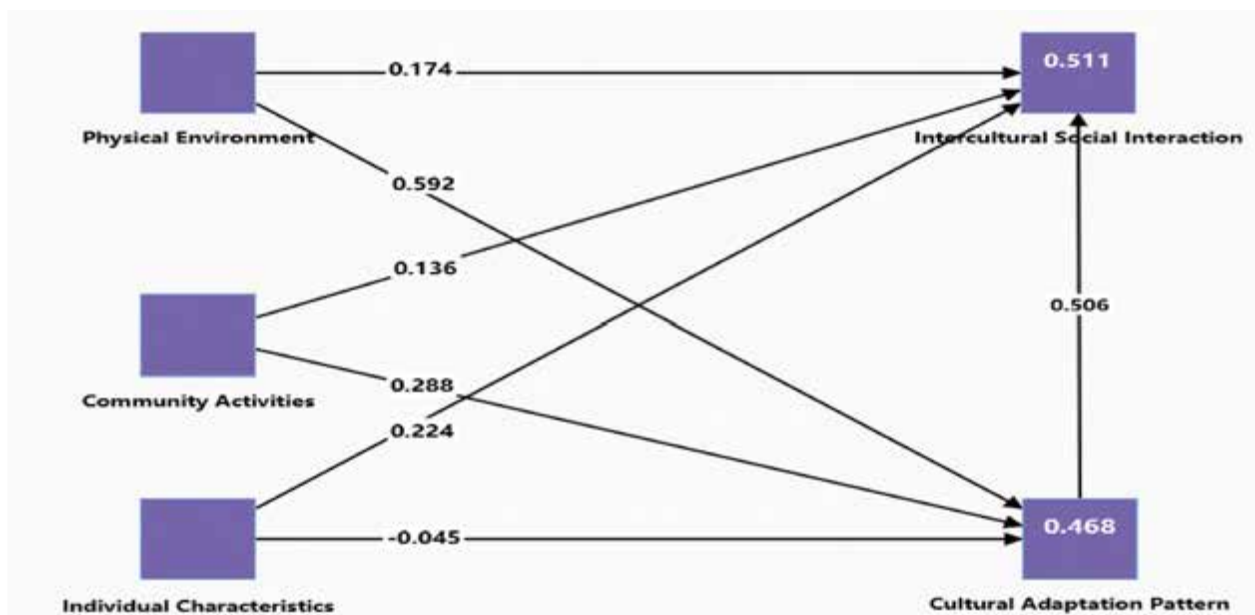


Figure 3. Path coefficient analysis of the model
($p < 0.05$, $t > 1.960$)

Table 3. Path coefficient analysis of the model

Path	Standardized Coefficient (β)	t-value	p-value	Verification
H1a: Physical Environment→ Intercultural Social Interaction	0.174	1.606	0.108	Reject
H1b: Physical Environment→ Cultural Adaptation Pattern	0.592	8.000	<0.001	Accept
H2a: Community Activities→ Intercultural Social Interaction	0.136	1.311	0.190	Reject
H2b: Community Activities→ Cultural Adaptation Pattern	0.288	3.142	0.002	Accept
H3a: Individual Characteristics→ Intercultural Social Interaction	0.224	2.182	0.029	Accept
H3b: Individual Characteristics→ Cultural Adaptation Pattern	-0.045	0.411	0.681	Reject
H4: Intercultural Social Interaction→ Cultural Adaptation Pattern	0.506	4.332	<0.001	Accept

The results indicate that the physical environment has a significant positive effect on cultural adaptation pattern ($\beta = 0.592$, $p < 0.001$) but no significant impact on intercultural social interaction ($\beta = 0.174$, $p = 0.108$). This suggests that high-quality community spatial environments can effectively enhance immigrants' local emotional attachment and life satisfaction, yet they are insufficient on their own to directly catalyze cross-cultural contact behaviors. Particularly under conditions of "parallel adaptation," the physical environment is perceived more as a structural condition ensuring convenience and safety rather than as a social medium fostering interaction.

Similarly, community activities demonstrate a significant positive effect on cultural adaptation pattern ($\beta = 0.288$, $p = 0.002$) but fail to significantly influence intercultural interaction ($\beta = 0.136$, $p = 0.190$). This implies that while activity frequency may be high, deficiencies in cross-cultural orientation, shared participation mechanisms, and language collaboration limit their effectiveness in promoting interaction.

In contrast, Individual characteristics exhibits a significant path effect on intercultural interaction ($\beta = 0.224$, $p = 0.029$) but no direct significant effect on cultural adaptation pattern ($\beta = -0.045$, $p = 0.681$). This indicates that individuals' open behaviors and spatial usage willingness serve as prerequisites for interaction, while the realization of cultural integration still requires psychological internalization through authentic cross-cultural communication processes.

Most crucially, intercultural social interaction significantly influences cultural adaptation pattern ($\beta = 0.506$, $p < 0.001$). Further mediation analysis confirms that intercultural social interaction fully mediates the individual characteristics → intercultural social interaction → cultural adaptation pattern path ($p = 0.044$). The indirect effects of physical environment and community activities on cultural adaptation pattern through intercultural social interaction are marginally significant ($p = 0.075$; $p = 0.067$), suggesting that these external variables partially influence cultural adaptation by facilitating interaction mechanisms that translate into emotional and cognitive cultural integration.

This study further validates the robustness of these findings through model quality assessment metrics. The R^2 values indicate moderate explanatory power for endogenous variables (intercultural social interaction = 0.511; cultural adaptation pattern = 0.468), while the Q^2 values (intercultural social interaction = 0.312; cultural adaptation pattern = 0.395) are all above zero, demonstrating good predictive relevance. Additionally, f^2 effect size analysis reveals that physical environment has a large effect on cultural adaptation pattern, intercultural social interaction a medium effect, and individual characteristics a small effect on intercultural social interaction, underscoring the central role of physical environment and interaction variables in the model.

Building on the quantitative analysis, this study integrates interview data from representative residents to deepen the understanding of the relationship between spatial perception differentiation and cultural adaptation behaviors. For instance, regarding the question of whether “community commercial facilities reflect ethnic elements,” residents in different areas exhibit distinct perceptions: those near Fanhai Celebrity Plaza and Minjiang Second Road generally report a decline in “Korean-style” facilities, whereas residents around Zhangzhou Second Road and Zhongshang Plaza note an increase in new Korean-themed stores. This indicates that ethnic spatial elements are not uniformly distributed; their accessibility and visibility are influenced by geographic location and commercial resource clustering.

In interviews, Mr. B, who operates a Korean convenience store, mentioned considering introducing Chinese products due to declining customer traffic, reflecting “cross-cultural adaptation” in business strategies. Ms. C pointed out that an increasing number of Korean residents are proactively seeking language learning and daily interaction opportunities, signaling behavioral willingness shifts. Meanwhile, Mr. T, a local resident, expressed dissatisfaction with late-night operations of some Korean restaurants and a tendency to avoid commercial facilities with prominent Korean signage, highlighting mainstream residents’ spatial resistance to overly strong ethnic atmospheres.

Collectively, spatial reconfiguration reflects not merely commercial renewal but a realignment of immigrant cultural strategies, interaction frequency, and psychological belonging. The actual occurrence of intercultural interaction depends not only on space and behavior but also on the interplay of cognition, emotion, and social mechanisms.

In summary, within the Hong Kong Road community, the physical environment and community activities exhibit significant positive effects on cultural adaptation patterns but show no direct influence on intercultural social interaction. This suggests that while spatial and activity-based interventions can foster psychological safety and a sense of belonging, they do not necessarily trigger genuine social engagement.

In contrast, individual characteristics significantly facilitates interaction but lacks a direct path to cultural adaptation, indicating that individual actions are more likely to create contact opportunities, whereas adaptation itself must still be achieved through interaction mechanisms.

Notably, the driving force behind individual characteristics-induced interaction is often not cultural interest or identity-based motivation but rather external factors such as the decline of ethnic commercial facilities and reduced daily convenience. Some Korean residents in the community are compelled to engage with local resource systems to meet daily needs, thereby “passively” opening possibilities for cross-cultural contact. This behavioral restructuring, prompted by structural changes, reveals that the relationship between space, behavior, and identity is not linear but rather marked by friction and transformation.

Therefore, policy and design strategies should not merely focus on “improving spatial quality” or “increasing activity frequency” but must identify genuine behavioral drivers and psychological thresholds. It is recommended to embed low-threshold, co-creative cultural triggers—such as “community participatory museums” or micro-collaborative installations—to reshape interaction pathways among residents. Additionally, language mediation, identity negotiation, and shared narrative platforms should be leveraged to transform “contact” into “meaningful

engagement,” ultimately fostering cultural adaptation and emotional integration within a multicultural community.

3 Design Proposal

Based on the aforementioned findings, this study proposes a site-specific spatial intervention strategy grounded in the concept of a community participatory museum. Unlike traditional top-down curated museums, this approach is embedded in daily community life, aiming to empower residents with the agency to “narrate stories, express identities, and co-curate exhibitions.” It serves as a cultural infrastructure emphasizing co-creation, sharing, and consensus-building.

3.1 Design Concept

Inspired by the television drama *Reply 1988*, which resonates with both Chinese and Korean residents, and incorporating the local community’s memory resources and practical needs, the design is conceived as a “distributed micro-space system” composed of 12 multifunctional nodes. These nodes are strategically positioned at alleyway corners and between commercial blocks, featuring a semi-permanent structure. They are co-built, co-managed, and co-curated by residents, forming a spatial narrative centered around “shared living memories.”

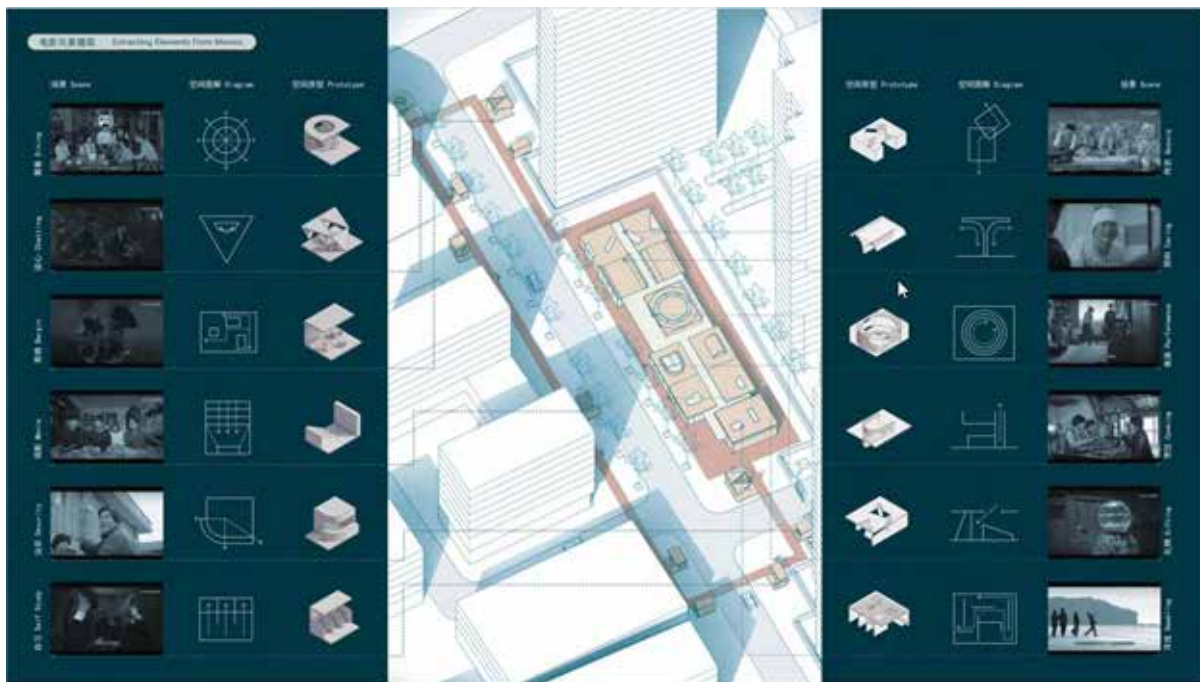


Figure4. Functional Unit Example

3.2 Specific Spatial Combination Logic and Design

The “narrative acupuncture” intervention strategy is adopted to achieve precise activation of community gaps and potential spaces without disrupting the original spatial layout. The design emphasizes mild materials, bilingual signage, human-scale dimensions, and interactive mechanisms.



Figure 5. Interior Module Design



Figure 6. Interior Perspective Views and Spatial Layout



Figure 7. Exterior Module Design

4 Research Significance and Outlook

This study takes a typical Korean immigrant community in Qingdao as a case study, constructing a structural path model that encompasses the physical environment, community activities, user characteristics, cross-cultural interactions, and cultural adaptation patterns. Through PLS-SEM empirical analysis, it reveals how spatial factors influence cultural integration through social interaction mechanisms. Compared to previous adaptation studies that predominantly focused on psychological dimensions, this research integrates spatial design, behavioral participation, and interaction processes into a unified theoretical framework, expanding the boundaries of urban multicultural governance research.

On a practical level, the study finds that cultural adaptation does not stem directly from physical spaces or activity provision but requires genuine and sustained cross-cultural interactions. This conclusion provides insights for community planning and policy-making, emphasizing the importance of balancing “spatial interventions + interaction mechanisms.” The proposed “community participatory museum” strategy further demonstrates how micro-spatial interventions can facilitate identity negotiation and cultural co-creation, offering an actionable design prototype for multi-ethnic cohabitation areas.

Future research could expand in three directions: (1) introducing a temporal dimension to conduct longitudinal tracking analysis of cultural adaptation; (2) comparing mechanism differences across cities and groups to enhance the model’s generalizability and flexibility; and (3) incorporating social media data to explore the impact of “digital-spatial” dual interactions on integration pathways, responding to rapidly evolving urban contexts and technological environments.

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