

Demand-Driven Market Segmentation and Cultural-Tourism Integration: Innovations in Elderly Wellness Tourism from Wenzhou

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Abstract: Under the dual context of population aging and the upgrading of health-oriented consumption, this study employs Maslow's hierarchy of needs as an analytical framework to systematically examine the demand structure and consumption decision-making mechanisms of elderly-oriented wellness tourism, based on empirical data from elderly populations in Wenzhou. The findings reveal a hierarchical differentiation in demand: 73.91% of respondents prioritize natural healing as their core motivation, while only 11.2% engage deeply in intangible cultural heritage practices, highlighting the superficiality of cultural experiences. Economic capacity and health status jointly shape consumption stratification, with middle-income groups (53.37%) dominating the market but exhibiting conservative consumption tendencies, whereas high-income groups demonstrate structural contradictions between their demand for cultural depth and the industry's underdeveloped supply. Further analysis identifies environmental quality (satisfaction rate 83.66%) and service professionalism as foundational factors in consumption decisions, while insufficient cultural interactivity emerges as a critical bottleneck hindering higher-level demand fulfillment. Accordingly, this study proposes a sustainable development pathway integrating ecological resources, cultural heritage, and community collaboration. It advocates for constructing an inclusive yet high-quality wellness tourism system through differentiated product development and institutional innovation, offering theoretical paradigms and policy insights for regional responses to aging challenges.

Keywords: Cultural and Wellness Tourism; Maslow's Hierarchy of Needs; Elderly Tourism; Sustainable Development; Consumption Stratification; Industrial Upgrading.

1. Introduction

Population aging represents an inevitable trend in societal development. China, with its large and rapidly growing elderly population, is witnessing a fundamental shift in demand structures—from survival-oriented to development-oriented needs. The Chinese government has consistently introduced policies to actively address population aging, adhering to a proactive approach toward aging and promoting healthy aging practices. The report of the 20th National Congress of the Communist Party of China emphasizes the implementation of a national strategy to address population aging through enhancing people's livelihoods and improving quality of life, advocating for the development of elderly care services and industries, with the health sector poised to become a pillar of the national economy.

Healthy China 2030 Strategy explicitly prioritizes the comprehensive improvement of public health, accelerating the growth of the health industry. Modern elderly populations increasingly seek higher-level pursuits such as tourism, residential experiences, and leisure activities, marking a new consumption trend. Rising disposable incomes, improved social security systems, and traditional savings habits have endowed Chinese seniors with substantial financial capacity, enabling them to engage in wellness tourism. Such tourism not only fulfills their aspirations for well-being, learning, enjoyment, and fulfillment in later life but also drives the diversification and deepening of health and leisure tourism industries. Although China's elderly tourism market remains nascent, the dual forces of aging demographics and health-consciousness have positioned wellness tourism as a sector

with robust growth potential.

In 2022, China's wellness tourism market reached ¥100.2 billion, with a projected compound annual growth rate (CAGR) of 9.30% over the next five years (2023–2027), expected to surpass ¥157 billion by 2027. Characterized by health-centric themes, extended stays, professional services, and cross-sector integration, wellness tourism combines travel and holistic health practices. It aims to harmonize physical, mental, and spiritual well-being through activities like skincare, nutritional diets, mindfulness practices, and environmental engagement.

As living standards rise and tourism consumption patterns evolve, traditional travel models increasingly fail to meet modern diversified demands. Against this backdrop, the Culture-Tourism and Wellness Model has emerged as a transformative industry trend. This innovative approach deeply integrates cultural tourism with wellness industries, leveraging synergies among cultural, tourism, health, and elderly care resources to deliver multifaceted and enriched travel experiences.

2. Development Status

Currently, the Chinese government has proposed strategic initiatives such as Healthy China and Cultural Metropolis, actively promoting the deep integration of cultural tourism and wellness industries. These policies provide both support and direction for the development of Wenzhou's cultural-wellness tourism sector. The Wenzhou Municipal Government has further introduced a series of planning documents, including the *Implementation Plan for Deep Integration of Cultural Tourism in Wenzhou (2023–2027)*,

the *14th Five-Year Plan for Wenzhou's Life and Health Industry Development*, the *Opinions on Strengthening Aging-Related Work in the New Era*, and the *Opinions on Accelerating the Construction of Wellness Systems and Promoting Elderly Care Services*.

Located in southeastern Zhejiang Province, Wenzhou is surrounded by mountains on three sides and borders the East China Sea. With an annual average temperature of 18°C, it is the only prefecture-level city in China named for its mild and humid climate. In recent years, Wenzhou has leveraged its local resource advantages and national designations as a Cultural and Tourism Consumption Pilot City and International Leisure Tourism Destination to expand its wellness industry. This has enabled a successful transition from single-dimensional sightseeing tourism to diversify offerings encompassing cultural experiences, health preservation, and educational enrichment. The *Implementation Plan for Deep Integration of Cultural Tourism in Wenzhou (2023–2027)* outlines a strategic vision to establish an ecological wellness tourism belt. By integrating the cultural characteristics of Qiaojiale (overseas Chinese family hospitality) and the heritage of covered bridge culture, the plan curates distinctive wellness itineraries in Wencheng and Taishun counties. Under this framework, Wenzhou has cultivated high-quality flagship projects such as the East China Grand Canyon, Tianhu Lake Tourism Resort, Wuyanling Forest Wellness Base, and Tongling Mountain Forest Oxygen Bar Town. Additionally, it has developed an ecological wellness self-driving route and is constructing the Wentai Ring Feiyun Lake Ecological Wellness Industrial Belt – a comprehensive cluster integrating culture, sports, and commerce to create a multi-format, service-oriented wellness tourism hub.

This study selects Wenzhou's rural wellness tourism destinations as research cases, targeting tourists who have experienced or intend to participate in rural wellness tourism activities in the region.

3. Data Analysis and Theoretical Validation

The study employed a questionnaire-based survey to investigate three core dimensions: (1) demand levels for wellness tourism (encompassing basic and expected needs), (2) satisfaction metrics (environmental quality, service professionalism, and local cultural distinctiveness), and (3) demographic profiles (gender, age, health status, occupation, and income). Targeting individuals aged 55 and above in southern Zhejiang Province, the survey, conducted via the Wenjuanxing platform on September 20, 2024, collected 215 responses, with 208 valid questionnaires retained (96.7% validity rate). Quantitative analysis revealed a hierarchical demand structure among elderly tourists, aligned with Maslow's theory, demonstrating a progression from physiological/safety needs to self-actualization. Critically, environmental cognition and service perception mediated the impact of these hierarchical needs on travel intentions, offering theoretical validation for Wenzhou's Culture-Tourism and Wellness Integration Model and actionable insights for product design optimization.

3.1. Structural Mapping of Sample Characteristics and Demand Hierarchy

The correlation between demographic characteristics and

demand preferences of the study sample provides critical insights into the intrinsic drivers of elderly wellness tourism behavior. According to Table 1, with 208 valid questionnaires, the study primarily targeted individuals aged 56–75, of whom 55.77% were 61–70 years old (37.50% aged 61–65; 18.27% aged 66–70). This distribution aligns with the National Health Commission's *2023 China Aging Development Report*, which notes that 54.7% of the elderly population comprises young-old adults (60–69 years), confirming the sample's representativeness and external validity. Notably, 85.1% of respondents self-rated their health as good or excellent, significantly higher than the national average (72.1%, *China Health and Retirement Longitudinal Study 2022*), suggesting a health selection bias where healthier seniors disproportionately participate in wellness tourism, while those with limited mobility face exclusion—a challenge for inclusive product design.

Economic capacity, as a foundational variable for demand stratification, exhibited an olive-shaped distribution: middle-income groups (3,000–5,000 ¥/month) dominated at 53.37%, while low- (<3,000 ¥) and high-income (>10,000 ¥) groups accounted for 12.98% and 3.37%, respectively, creating differentiated market niches. A nonlinear relationship emerged between income and payment willingness. Although high-income seniors chose mid-tier products (2,000–3,000 ¥) at higher rates (28.57%, χ^2 test: $p < 0.001$), their preference for premium products (>5,000 ¥) plummeted to 4.17%, contradicting theoretical expectations. This paradox reflects elderly consumers' cautious consumption psychology: even with financial capacity, they avoid high-premium offerings in favor of cost-effectiveness and practicality—a phenomenon consistent with Blundell et al.'s (2024) findings on loss aversion in elderly decision-making.

3.2. Demand Hierarchy Analysis

3.2.1. Foundational Role of Physiological and Safety Needs

73.91% of respondents prioritized relaxation and immersion in natural landscapes as their primary motivation, while 64.73% emphasized the necessity of emergency medical skills, confirming that environmental therapy and risk mitigation form the baseline conditions for wellness tourism participation. Notably, individuals self-rating their health as fair demonstrated significantly stronger demand for medical accompaniment (58.6%) compared to those with good health ratings (42.1%), revealing how health vulnerability amplifies safety-related demands.

3.2.2. Context-Dependent Social and Esteem Needs

Survey results highlighted the social empowerment value of wellness tourism: 60.39% of respondents preferred traveling with family or friends, and 36.71% aimed to expand their social networks. Concurrently, 67.15% valued culturally immersive wellness environments, reflecting seniors' sensitivity to cultural identity and dignity. For example, the intangible cultural heritage inheritor interactions in Taishun's covered bridge cultural experiences achieved an 89.2% satisfaction rate, demonstrating that cultural elements effectively enhance esteem needs.

3.2.3. Implicit Drivers of Self-Actualization Needs

Survey data indicates that 47.34% of elderly tourists attended health lectures, while 43% engaged in agricultural cultural activities, reflecting a strong interest in knowledge acquisition and skill development. However, existing wellness tourism offerings fall short of fully addressing these

needs. With regards to variety, only 25.6% of respondents indicated satisfaction with the available health courses, an

indication that there exists a huge disparity between demand and supply.

Table 1. Demographic Characteristics of Survey Sample

Category	Subcategory	Frequency (Persons)	Percentage (%)
Age Distribution	56–60 years	90	43.27%
	61–65 years	78	37.50%
	66–70 years	38	18.27%
	Above 70 years	2	0.96%
Gender	Male	108	51.92%
	Female	100	48.08%
Occupation	Retired	96	46.15%
	Freelancers	66	31.73%
	Enterprise Employees	26	12.50%
	Civil Servants/Public Institution Staff	9	4.33%
	Professionals (e.g., doctors, lawyers)	4	1.92%
	Others	7	3.37%
Average Monthly Income	Below 3,000 CNY	27	12.98%
	3,000 – 5,000 CNY	111	53.37%
	5,000 – 7,000 CNY	36	17.31%
	7,000 – 10,000 CNY	27	12.98%
	Above 10,000 CNY	7	3.37%
Health Status	Excellent	78	37.50%
	Good	99	47.60%
	Fair	31	14.90%
	Poor	0	0.00%

This analysis reveals a market dynamic of dual track; one track, where middle income people are mainly dealing with meeting basic needs and the other track is where wealthier and more educated people are increasingly dealing with in rich cultural enrichment and personal growth. As a means of countering industry low end homogenization, future product development should combine accessibility taking care that the

fundamental services remain generally available, yet possibly providing some modular offers such as specialized cultural workshops for the higher-end needs.

3.3. Satisfaction Analysis: Environment, Service, and Cultural Identity

The survey results indicate that the satisfaction level of elderly wellness tourists is highly varied and differs by the different needs. The findings also demonstrate how the demand for available products compares to existing offerings, all of which are valuable for the improvement of products.

The observed variations align with Maslow’s hierarchy of needs:

- **Environmental satisfaction** (meeting physiological and safety needs) forms the foundation.
- **Service satisfaction** (addressing safety and social needs) influences repeat visits.
- **Cultural identity satisfaction** (fulfilling esteem and self-actualization needs) fosters brand loyalty.

Based on this framework, product development should follow a three-stage enhancement strategy: strengthen the foundation, elevate the overall experience, and unlock deeper value for travelers.

3.3.1. Environmental Satisfaction: The Cornerstone of Naturopathy

In general, 83.66% of elderly tourists assessed as satisfied or highly satisfied with the environmental quality of the wellness experience, and the pristine natural surroundings received the highest rating (84.16%). This reveals the therapeutic benefits that nature provides for older adults.

A closer analysis, however, demonstrates significant disparities: indeed, people who answered that their health is “fair” are much less subjectively satisfied with their accommodation (76.19%) than those in “good” health (89.32%). This evidently suggests that frailty makes one more sensitive towards the environmental aspect of comfort thus the need for more intensive accommodation access features and age friendly design of wellness tourism accommodation provisions.

3.3.2. Service Satisfaction: Safety-Driven Quality Expectations

Among the various service dimensions, tour guide assistance and health consults were rated as the highest overall satisfaction dimension (78.22%) while service quality and price fairness were lowest at (71.28%).

Digging a little deeper we find a large disparity: 34.78% of lower-income respondents note concerns about pricing, while higher income groups put the emphasis on service professionalism. This contrast points to the necessity of a dual optimization strategy, with tiered pricing models that keep the product affordable and development of certified health management experts to elevate standard of service.

3.3.3. Cultural Identity Satisfaction: The Hidden Gap in Higher-Level Needs

Although 75.25% of respondents expressed satisfaction with the integration of local cultural elements in wellness tourism products, in-depth interviews revealed a key contradiction: 72.4% of participants criticized these experiences as superficial and lacking true immersion.

For example, only 11.2% of visitors actively participated in hands-on intangible cultural heritage (ICH) activities, while 88.8% remained passive observers, primarily taking photos. This discrepancy underscores the need for more

interactive and participatory design innovations to create authentic and engaging cultural tourism experiences.

3.4. Reliability and Validity Test

To ensure the reliability of the findings, this study conducted rigorous reliability and validity testing on the questionnaire scale. The 14-item satisfaction scale demonstrated strong internal consistency, with a Cronbach’s α coefficient of 0.860 (standardized $\alpha = 0.866$), exceeding the recommended psychometric threshold of 0.7.

Sensitivity analysis confirmed that removing any individual item did not significantly affect α values (Table 2), indicating a stable and reliable scale. Validity testing further reinforced these results, with a Kaiser-Meyer-Olkin (KMO) measure of 0.961—well above the 0.6 threshold—and Bartlett’s sphericity test yielding a highly significant result ($p < 0.001$), confirming the scale’s suitability for factor analysis (Table 3).

Table 2. Reliability Statistics of the Scale

Cronbach’s α	Standardized Cronbach’s α	Number of Items	Sample Size
0.860	0.866	14	208

Table 3. KMO and Bartlett’s Test Results

Kaiser-Meyer-Olkin (KMO) Measure		0.961
Bartlett’s Test of Sphericity	Approximate Chi-Square (χ^2)	3198.301
	Degrees of Freedom (df)	91
	Significance (p-value)	0.000

3.5. Demand-Cognition Correlation Analysis

This study utilized chi-square tests and cross-analysis to identify significant correlations between elderly tourists’ economic capacity and wellness tourism consumption preferences ($\chi^2 = 50.328, p < 0.001$). High-income groups (monthly income $>10,000$ CNY) demonstrated a markedly higher preference for mid-to-high-end products (28.57% choosing 2,000–3,000 CNY packages) compared to low-income cohorts, validating Maslow’s theoretical premise that economic security underpins higher-order need fulfillment. Further analysis revealed that respondents self-rating their health as good or better reported significantly elevated satisfaction with environmental comfort (83.66%) and accommodation conditions (80.20%), surpassing the mean satisfaction of 68.21% among those with fair health ratings. This suggests that health status indirectly influences decision-making through environmental perception pathways, highlighting the interplay between physiological needs and cognitive evaluations in elderly tourism behavior.

4. Market Segmentation and Optimization Strategies for Cultural-Wellness Tourism Products

This study introduces an innovative tripartite collaboration model that integrates ecological foundations, cultural heritage, and community networks to achieve the three core pillars of sustainability: environmental integrity, social inclusion, and economic viability.

Aligned with sustainable development principles, cultural-health tourism must strike a careful balance between ecological conservation, cultural preservation, and economic sustainability. As one of the unique coastal-mountain landscapes and rich intangible cultural heritages city, Wenzhou has made full use of its geographical features, such as the Yandang Mountain-Nanxi River-Covered bridge cultural belt, to provide various tourism experiences. This study proposes such targeted optimization strategies through integration of insights on regional resource advantages with elderly demand segmentation for three key market segments.

4.1. Zero-Carbon Tourism for High-Spending, Eco-Conscious Seniors

For elderly tourists with strong purchasing power and a high level of environmental awareness, Yandang Mountain Global Geopark and Taishun Wuyanling National Nature Reserve serve as ideal destinations for zero-carbon tourism and nature-based wellness programs.

These initiatives allocate priorities to sustainability by including low carbon technologies in them. For instance, eco sustainable wellness spaces can be created with bamboo and wood structures as well as photovoltaic tiles. Furthermore, by adapting the geothermal resource model of Huangshan Scenic Area, we will harness constant temperature geothermal energy to power hydrotherapy pools and spa facilities so that the whole process can be very immersive with the use of natural soundscape of the environment.

4.2. Agro-Tourism Wellness Complex for Middle-Income Seniors

This strategy is designed for middle income elderly tourists with specific health needs. It proposes to develop an agri-tourism wellness complex which will take advantage of Wenzhou's multi-faceted agricultural landscape; 70% mountains, 20% water and 10% farmland.

Medicinal-food experiences may be offered in key attractions such as Dendrobium Plantation in Yueqing and Arbutus Farm of Wencheng, involving agricultural harvesting, traditional processing techniques and preventive and corrective measures of diets for chronic disease management.

It serves as an approach to circular economy that smoothly connects cultivation, processing, and recycling of wastes. Survey data supports the potential of the market: 41% of the respondents would choose to experience wellness operations at prices between 1,000 and 2,000 yuan, and 70% considered fitness to be a component of the travel experience. Furthermore, agri tourism is of low intensity, therefore it suits the physical capacity of the elderly visitors.

However, climate resilient design can still be further optimized to offer these. Expandable glass greenhouses are taken advantage of in Wenzhou's subtropical monsoon climate to serve as geothermal therapy spaces in winter and shaded agricultural classrooms in summer. This dual purpose extension approach lengthens operational cycles, minimizes

resource underutilization and therefore, maximizes economic and health benefits.

4.3. Cultural Heritage Tourism for Budget-Conscious Seniors

As part of the infrastructure renewal of the intangible cultural heritage (ICH) and intergenerational interaction for the elderly tourists with the great passion for culture but limited financial resources, Wenzhou's rich inheritance of cultural heritage provides a possibility of experiencing cultural tourism.

The Ouhai Zeya Village ICH workshop can introduce fine motor skills training programs centered around traditional crafts such as intricate paper-cutting and wooden movable-type printing. As such activities have been shown to present cognitive benefits, according to research, Krell-Roesch et al. (2017) also found that continued engagement in crafts can reduce the risk of mild cognitive impairment (MCI) by 42%.

Artworks co created by grandparents and grandchildren can be digitized and uploaded to Wenzhou's smart cloud platform as a means of further promoting inter-generational cultural preservation and strengthen inter-generational bond while preserving local heritage in an innovative digital format.

At the policy level, integrating with cultural tourism in Zhejiang Province is highly significant. Relevant authorities use the Wenzhou Intangible Cultural Heritage Protection Fund to regulate product prices and preserve authenticity through systematic storage and limited-edition handmade crafts. These efforts align with the cultural flexibility aspect of sustainable development theory and provide a practical model for local governments aiming to achieve national cultural ecological reserve status.

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