

Original Research Article

Construction of a leisure satisfaction model and measurement of influencing factors for urban residents in Zhejiang Province

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Abstract: Leisure activities have become an integral part of people's quality of life in the modern era. Their quality and level determine the standard of living and happiness of urban residents. What are the primary factors influencing residents' leisure satisfaction? How should they be prioritized? These questions all worth studying. Taking Zhejiang Province as a case study, this paper constructs a structural equation model to examine leisure satisfaction among its urban residents. Findings reveal: First, Zhejiang urban residents report highest relaxation satisfaction, followed by aesthetic and educational satisfaction, moderate physical satisfaction and social satisfaction, and lowest psychological satisfaction. Second, relaxation, aesthetic, educational, and physical satisfaction significantly influence overall leisure satisfaction, while social and psychological satisfaction do not significantly impact it. Third, leisure satisfaction among urban residents in Zhejiang is influenced by four factors: leisure resource endowment, urban leisure traditions, residents' perceptions of leisure, and urban leisure development. These findings contribute to the theoretical framework of urban leisure studies, enrich case research on urban residents' leisure satisfaction, and provide insights for enhancing leisure satisfaction in Zhejiang's cities.

Keywords: leisure satisfaction; urban residents; structural equation modeling; Zhejiang Province

1. Introduction

Western leisure philosophy originated in ancient Greece, where Aristotle, the "father of leisure," posited that leisure is the center around which all things revolve^[1]. In industrial and post-industrial societies, as leisure time and material wealth increased, people increasingly sought spiritual fulfillment, prompting scholars in the United States and other developed nations to focus on leisure studies^[2]. During the 1980s and 1990s, Chinese scholars began advocating for leisure studies, affirming its value and significance. Subsequently, research approaches across disciplines such as philosophy, economics, sociology, and psychology progressively enriched and deepened the field^[3-4]. Leisure profoundly impacts individual happiness, well-being, and life satisfaction^[5]. It is intrinsically linked to quality of life and existential fulfillment, directly influencing the construction of a harmonious society and a better life. In July 2022, the State Council issued the National Tourism and Leisure Development Outline (2022-2030), aiming to accelerate high-quality development in national tourism and leisure to better meet the people's aspirations for a better life. Leisure satisfaction, as a crucial concept in leisure studies, holds significant importance for enhancing people's quality of life. It serves as a key indicator for directly measuring the quality of individual leisure activities and leisure experiences, and has become a core area of leisure research both domestically and internationally^[6]. Currently, China is undergoing a period of large-scale rapid urbanization, with the urbanization rate of the permanent resident population reaching 67% by the end of 2024. As leisure permeates various aspects of urban residents' lives, leisure satisfaction has become a vital indicator of their quality of life.

2. Literature review

2.1. Measurement of leisure satisfaction

Research on leisure satisfaction measurement primarily adopts three perspectives: motivational, differential, and hedonic. Academics predominantly assess satisfaction based on whether needs are fulfilled through leisure activities, with the Leisure Satisfaction Scale (LSS) developed by Beard and Raghd being the most representative measurement tool^[7]. Pinquart M et al. (2009) analyzed patterns of leisure satisfaction change among German retirees during the retirement transition^[8]; Zabriskie et al. (2018) examined the relationship between family leisure participation, family functioning, and leisure satisfaction in Turkish households^[9]. To further explore specific indicators of leisure satisfaction, Song(2014) theoretically validated the feasibility of integrating activity participation theory with need motivation theory to explain the relationship between leisure and life satisfaction through structural equation modeling^[10]. Concurrently, leisure scholars explored alternative measurement approaches. Lee et al. (2005) investigated how emotions may interact during individual leisure experiences, employing cumulative specific-episode assessments to determine overall satisfaction among leisure participants^[11]. Burns (2003) et al. analyzed water recreation participants' leisure satisfaction by evaluating four key domains—Facilities, services, information, and recreational experiences—Related to outdoor recreation satisfaction. Results indicated these domains better predict individual leisure behaviors^[12]. Zhou et al. employed factor analysis and regression analysis to examine the relationship between restorative perceptions and leisure satisfaction among forest park visitors, revealing a positive influence mechanism between the two^[13].

2.2. Influencing factors of leisure satisfaction

Multiple perspectives exist on the factors influencing leisure satisfaction. Early studies, grounded in satisfaction models, regarded operational factors and expressive factors as determinants of leisure fulfillment. Empirical research on visitor satisfaction indicates that deficiencies in operational factors induce negative feelings of "dissatisfaction," while expressive factors foster positive feelings of «satisfaction» (Czepiel et al., 1974)^[14]. Current leisure scholars predominantly adopt a demographic perspective, noting that factors such as age, gender, ethnicity, occupation, health status, social standing, and life roles influence individual leisure activities and styles. Factors affecting older adults' satisfaction with urban park leisure include plant scenery, water scenery, management services, facilities and equipment, and activity spaces (Zhang Lvshui et al., 2022)^[15]. Raj et al. (2006) assessed mental illness prevalence and leisure satisfaction among voluntary caregivers of individuals with spinal cord injuries, revealing that many caregivers experienced mental health issues alongside low leisure satisfaction scores^[16]. Women face greater constraints in leisure activities due to limited free time, caregiving responsibilities, and role burdens, leading to poorer outcomes (Person et al., 2014)^[17]. However, these findings are inconsistent. Hodge et al. (2016) found a positive correlation between household income and leisure satisfaction levels, with higher income associated with greater satisfaction^[18]. Bonke et al. (2004) demonstrated a negative correlation between household income and leisure satisfaction when participants derived most of their income from work^[19].

2.3. Correlational effects of leisure satisfaction

Studies on the associative effects of leisure satisfaction can be categorized into two types: The first type examines the relationship between leisure satisfaction and quality of life (Ngai, 2005)^[20]. Leisure satisfaction positively influences all dimensions of quality of life, enhancing individuals' quality of life in three aspects: physical, psychological, and life satisfaction (Broughton et al., 2007)^[21]. For instance, accessible recreational

spaces provide venues and avenues for improving residents' physical health, increasing exercise opportunities, and fostering positive social interactions (Lloyd et al., 2002)^[22]. Affected by the global COVID-19 pandemic, outdoor recreational activities for children with physical disabilities in Virginia's coastal regions faced greater restrictions, prompting municipal authorities to provide more inclusive outdoor recreational experiences (Annika et al., 2022)^[23]. Overall leisure satisfaction among Ningbo urban residents is significantly influenced by aesthetic, physical, and psychological satisfaction, while relaxation, social, and educational satisfaction show no significant impact (Zhou et al., 2020)^[6]. The second category involves studies examining the impact of leisure satisfaction on quality of life (Lloyd et al., 2002)^[24]. Walker et al. (2011) found in a study of Chinese Canadians that leisure satisfaction can alleviate stress related to homesickness and nostalgia, while lower levels of leisure satisfaction may have negative effects (Iwasaki, 2007; Chun et al., 2012)^[25-26]. Family leisure participation is often regarded as a positive factor influencing harmonious family relationships (Hodge et al., 2015)^[27]. Positive leisure experiences can stimulate values individuals recognize—Such as learning, socializing, and physical exercise—And contribute to physical and mental well-being (He et al., 2019)^[28].

Existing literature on leisure satisfaction indicates a robust international research foundation that continually expands in scope and perspective. Current studies integrate sociology, anthropology, economics, psychology, and medicine, advancing toward multidisciplinary and multi-angle research. Both theoretical and empirical research place significant emphasis on individuals' psychosocial and humanistic dimensions. While maintaining focus on traditional sociological and psychological dimensions such as gender, age, and occupation, studies also address emerging topics like COVID-19, sports participation, and well-being, highlighting the positive impacts of leisure satisfaction on both individuals and society. Domestic scholars should broaden their research scope by incorporating perspectives from management, sports science, and medicine into their research perspectives. They should deepen research content by focusing more on different groups (women, youth, persons with disabilities, migrant workers, etc.) and diverse contexts (sports activities, forest wellness, camping grounds, rural leisure, etc.). Research methods should be diversified, combining quantitative approaches (meta-analysis, experimental methods, structural equation modeling, etc.) with qualitative methods (interviews, grounded theory, participant observation, etc.) to achieve a mixed-methods research approach for leisure satisfaction.

3. Case sites, data, and methods

3.1. Overview of case study locations

Zhejiang, an economically powerful and culturally rich province along China's eastern coast, boasts both breathtaking natural landscapes where mountains meet the sea and a profound cultural heritage. The province encompasses three national scenic areas, three national nature reserves, twenty national forest parks, four national tourist resorts, and multiple national wetlands—including the West Lake Wetland in Hangzhou—Forming a comprehensive ecological leisure resource system that integrates mountains, waters, forests, farmlands, lakes, and seas. As the core birthplace of Wu-Yue culture, Zhejiang preserves numerous World Heritage sites and national cultural heritage sites, including the Liangzhu Ancient City Ruins, the West Lake Cultural Landscape, and Yandang Mountain. This allows for a deep integration of natural recreation and cultural experiences. Simultaneously, Zhejiang serves as a pioneer and model region for China's leisure industry development, establishing a comprehensive, multi-tiered leisure development system. It has earned accolades such as "China's Most Dynamic Province in Leisure Economy" and "National Model Province for All-for-One Tourism," becoming a significant reference model for global leisure industry growth. The province consistently advances its

brand ethos of "Poetic and Picturesque Jiangnan, Vibrant Zhejiang," continuously enhancing leisure atmospheres and upgrading public leisure spaces. Distinctive leisure districts, pocket parks, and cultural-creative zones are scattered throughout its cities. Zhejiang actively promotes the modern concept of "healthy leisure, quality living," driving the transformation of leisure from single-purpose sightseeing to immersive experiences. With its comprehensive leisure infrastructure, abundant leisure offerings, and rich leisure culture, Zhejiang has become a model for all-for-one leisure in China, leading the high-quality development of the national leisure industry.

3.2. Questionnaire design

The survey questionnaire used in this study consists of two parts: Part one comprises the Zhejiang Urban Residents' Leisure Satisfaction Items. Based on existing theoretical foundations and scholarly research, it draws upon the established leisure satisfaction measurement framework developed by Beard et al. It includes 25 items across six dimensions—Educational, aesthetic, physical, relaxation, psychological, and social satisfaction—Along with an overall leisure satisfaction measure. Each item employs a 5-point Likert scale (1=Very Dissatisfied, 2=Dissatisfied, 3=Neutral, 4=Satisfied, 5=Very Satisfied). Higher scores on this scale indicate greater satisfaction within the respective dimension. Part two comprises demographic variables and leisure behavior information for urban residents in Zhejiang Province, primarily including permanent residence address, gender, age, leisure

Table 1. Demographic characteristics of respondents.

Item	Item Content	Sample Size	Proportion	Item	Project Details	Number of Samples	Percentage
Gender	Male	336	54.6	Marital Status	Married	294	47.8
	Female	277	45.0		Divorced or separated	19	3.1
Age	Under 18	49	8		Other (e.g., spouse deceased)	2	0.3
	19-25 years old	219	35.6	Number of Children	0	20	3.3
	26-35 years old	197	32.0		1	301	48.9
	36-45 years old	85	13.8		2	157	25.5
	46-55 years old	44	7.2		3 or more	136	22.1
	56-65 years old	19	3.1	Occupation	Civil Servant	14	2.3
	66 years old and above	2	0.3		State-owned enterprises	38	6.2
Leisure Companion	Self	92	15		Private Enterprise	104	16.9
	Family	222	36.1		Public institutions	108	17.6
	Friends	180	29.3		Student	148	24.1
	Classmate	68	11.1		Freelancer	147	23.9
	Colleague	38	6.2		Retired	19	3.1
Education Level	Junior High School or Below	52	8.5	Monthly Personal Income	Other	36	5.9
	High School/ Vocational School/ Technical High School	141	22.9		Below 3,500 yuan	156	25.4
	College degree	226	36.7		3,500-5,000 yuan	183	29.8
	Bachelor's Degree	169	27.5		5,000-10,000 yuan	175	28.5
	Graduate	26	4.2		10,000-15,000 yuan	65	10.6
Marital Status	Unmarried	299	48.6		Over 15,000 yuan	33	5.4

companions, educational attainment, marital status, number of children, occupation, and monthly personal income.

3.3. Data collection and analysis

This study targeted urban residents residing within the main urban areas of Zhejiang Province. Research locations were concentrated leisure activity sites in 11 prefecture-level cities, such as major parks and squares including West Lake, Gongchen Bridge, and Tianyi Square. The primary survey period was June 13–24, 2024. During questionnaire distribution, both encounter sampling and random distribution methods were employed to ensure representation across diverse demographic characteristics such as age and occupation, thereby enhancing data quality and avoiding bias. A total of 650 questionnaires were distributed, with 615 valid responses collected, yielding a valid response rate of 94.6%. Descriptive statistics and correlation analysis were performed on all data using SPSS 27.0 software (see **Table 1.** for specific sample information). Confirmatory factor analysis, model construction, and operations were conducted using AMOS 26.0 software and structural equation modeling.

4. Results and analysis

4.1. Reliability and validity testing

Prior to model testing, reliability and validity checks were conducted on 574 valid survey responses. Calculations using SPSS software yielded a Cronbach's alpha reliability coefficient of 0.939 for the urban residents' overall satisfaction scale, indicating high reliability and good internal consistency. Validity analysis using KMO and Bartlett's sphericity test revealed a KMO statistic of 0.947, suggesting strong inter-variable correlations. Bartlett's sphericity test yielded a value of 7026.675, reaching statistical significance at the 0.000 level with 300 degrees of freedom. This indicates significant differences among the correlation coefficient matrices of the 25 items in the leisure satisfaction scale, making it suitable for factor analysis.

4.2. Confirmatory factor analysis

Using AMOS 26.0 software and maximum likelihood estimation, confirmatory factor analysis was conducted to examine factor loadings and convergent validity for the overall scale and each subscale. Convergent validity was assessed using average variance extracted (AVE) and composite reliability (CR) (see Table 2). Absolute fit indices, incremental fit indices, and parsimonious fit indices were selected to evaluate model fit (see Table 3). The initial model yielded an absolute fit index (χ^2/df) of 2.164, falling within the 1–3 range. with GFI and AGFI values exceeding 0.9. RMSEA and RMR were 0.044 and 0.025 respectively, indicating ideal values. The value-added fit indices NFI, NNFI, CFI, IFI, and RFI all exceeded 0.9, meeting ideal standards. The parsimony fit indices PNFI and PGFI were both above 0.7, satisfying the ideal threshold of greater than 0.5.

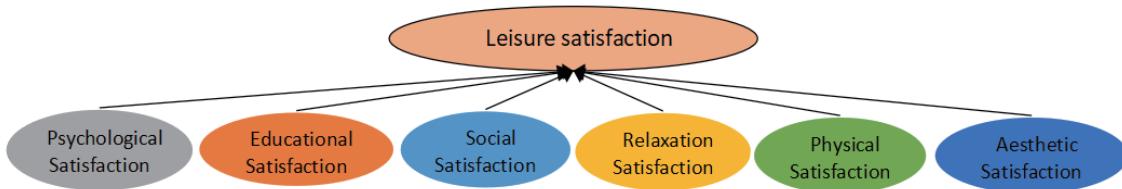
Table 2. indicates: Standardized coefficients for each measurement item ranged from 0.632 to 0.777. The average variance extracted (AVE) values for the six latent variables of overall leisure satisfaction ranged from 0.490 to 0.546. While educational, physical, and aesthetic satisfaction did not quite reach the 0.5 benchmark, they remained within an acceptable range. The square root of AVE exceeds the correlation coefficients between dimensions, indicating good discriminant validity. Composite reliability (CR) values range from 0.794 to 0.827.

Table 3-1. Results of confirmatory factor analysis.

Latent Variable (Mean)	Item	Mean	Unstandardized Coefficient	Standardized Coefficient	p	CR	AVE
Psychological Satisfaction (3.275)	Very interested in leisure activities	3.280	1	0.751		0.827	0.546
	Leisure activities boost your confidence	3.300	1.024	0.777	***		
	Leisure Activities Bring You a Sense of Accomplishment	3.280	1.037	0.757	***		
	In engaging in leisure activities, you utilize a variety of skills	3.240	0.928	0.666	***		
Educational Satisfaction (3.420)	Leisure Activities Increase Your Awareness of Surroundings	3.440	1	0.702		0.794	0.490
	Leisure activities provide you with opportunities to learn new things	3.400	1.014	0.717	***		
	Leisure activities help you understand yourself better	3.400	1.011	0.728	***		
	Leisure activities help you understand and become familiar with others	3.440	0.919	0.652	***		
Social Satisfaction (3.303)	Leisure activities allow you to interact socially with others	3.310	1	0.67		0.803	0.505
	Leisure activities help you find kindred spirits	3.320	1.115	0.716	***		
	The people you meet through leisure activities are very friendly	3.290	1.143	0.738	***		
	You befriend people who enjoy engaging in leisure activities	3.290	1.115	0.717	***		
Relaxation Satisfaction (3.520)	Leisure activities help you relax	3.530	1	0.735		0.821	0.535
	Leisure activities help you relieve stress	3.540	1.056	0.765	***		
	Leisure activities lift your spirits	3.540	0.967	0.722	***		
	Because of your interests and hobbies, you engage in leisure activities.	3.470	0.985	0.701	***		
Body satisfaction (3.395)	Leisure activities are physically demanding	3.310	0.914	0.632	***	0.796	0.494
	Leisure activities can enhance physical fitness	3.390	1.03	0.719	***		
	Leisure activities help you recover your energy	3.450	1.015	0.727	***		
	Leisure activities help you stay healthy	3.430	1	0.729			
Aesthetic satisfaction (3.460)	The venue for leisure activities is fresh and clean.	3.450	1	0.666		0.798	0.498
	Leisure activity venues are interesting	3.490	1.162	0.751	***		
	The venue for leisure activities is beautiful	3.460	1.116	0.748	***		
	Recreational venues are well-planned and designed	3.440	1.004	0.653	***		

4.3. Model construction

Based on a review of domestic and international literature and the results of confirmatory factor analysis, this paper constructs a theoretical model of the structural relationship between overall leisure satisfaction and six influencing factors (as shown in **Figure 1**). The endogenous structural variable in this model is overall leisure satisfaction, while the exogenous structural variables are six latent variables: psychological satisfaction, educational satisfaction, social satisfaction, relaxation satisfaction, physical satisfaction, and aesthetic satisfaction. Drawing upon existing research conclusions that the six dimensions of leisure activities significantly influence overall satisfaction[30], this study proposes research hypotheses H1-H6: each of the six dimensions—Social satisfaction, psychological satisfaction, relaxation satisfaction, physical satisfaction, aesthetic satisfaction, and educational satisfaction—Significantly impacts overall leisure satisfaction.

**Figure 3-1.** Theoretical model of urban residents' leisure satisfaction.

4.4. Model results and analysis

The theoretical model was validated using AMOS 26.0 software. After adjustments, all fit indices that initially fell short of ideal values in the original model reached or approached ideal values, meeting standard criteria. AMOS 26.0 output revealed: standardized estimates for each observed variable ranged from 0.627 to 0.775, while individual observed variable reliability (SMC) values fell between 0.393 and 0.601. Observed variable reliability for each latent variable exhibited uniform distribution, indicating a relatively ideal overall measurement model. The composite reliability (CR) of each latent variable ranged from 0.794 to 0.827, while the average variance extracted (AVE) ranged from 0.491 to 0.545. Both metrics fell within the ideal range, indicating that the observed variables in the model effectively explain their corresponding latent variables. As shown in Figure 2 and Table 3: In the model of factors influencing urban residents' leisure satisfaction, the standardized path coefficients between the six exogenous structural variables—Social satisfaction, psychological satisfaction, relaxation satisfaction, physical satisfaction, aesthetic satisfaction, and educational satisfaction—and the endogenous structural variables are -0.111, -0.165, 0.239, 0.231, 0.233, and 0.291, respectively. The negative standardized path coefficients for social satisfaction and psychological satisfaction indicate that the original hypotheses for these variables are not supported. Meanwhile, the p-values for relaxation satisfaction, physical satisfaction, aesthetic satisfaction, and educational satisfaction are all less than 0.005, indicating significant levels. The p-value for social satisfaction is 0.123, which is not significant. Based on the standardized path coefficients and significance levels, research hypotheses H3, H4, H5, and H6 are supported, while hypotheses H1 and H2 are not supported.

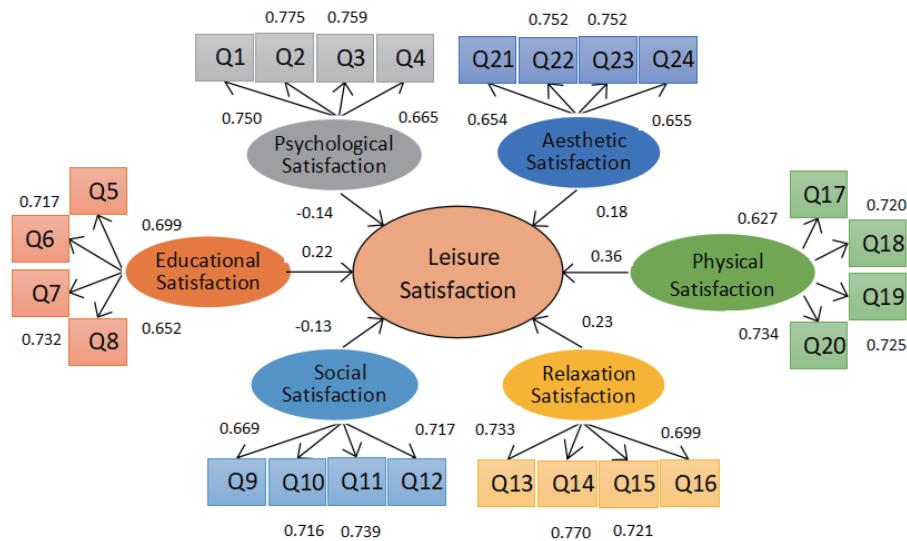


Figure 2. Model results for urban residents' leisure satisfaction.

Table 3. Model fit indices for urban residents' leisure satisfaction.

Fit Index	Absolute Fit Index					Relative Fit Index					Simplicity Fit Index	
	χ^2/df	GFI	AGFI	RMSEA	RMR	NFI	NNFI	CFI	IFI	RFI	PNFI	PGFI
Ideal Value	(1-3)	>0.90	>0.90	<0.06	<0.05	>0.90	>0.90	>0.90	>0.90	>0.90	>0.50	>0.50
Original Model	2.09	0.935	0.918	0.042	0.024	0.925	0.952	0.959	0.96	0.912	0.786	0.734

The average relaxation satisfaction among urban residents in Zhejiang Province is the highest, indicating that urban residents can release stress and relax their minds and bodies through daily leisure activities. By pursuing their personal interests and hobbies, they gain pleasurable experiences, thereby achieving happiness and

fulfillment. Relaxation satisfaction significantly impacts overall leisure satisfaction. This stems from Zhejiang Province's consistent commitment to building an "internationally significant tourism and leisure hub," upholding its overarching positioning as the "Eastern Leisure Capital and City of Quality Living." The province integrates citywide leisure resources, provides ample leisure spaces, supporting facilities, and comprehensive industry development, enriching its all-encompassing leisure product system to meet urban residents' demands for ecological, cultural, sports, wellness, and business leisure.

Zhejiang ranks second in average aesthetic satisfaction among urban residents' leisure experiences, indicating that residents recognize leisure venues as clean and attractive spaces that enhance the enjoyment of their activities. Building on this foundation, the province is progressively enriching the design aesthetics of these venues. Moreover, aesthetic satisfaction not only significantly influences overall leisure satisfaction but also exhibits a standardized path coefficient of 0.326—Second only to educational satisfaction. This stems from Zhejiang's unique natural leisure resources and rich cultural heritage, coupled with a strong emphasis on highlighting aesthetic elements in developing existing leisure assets. The province prioritizes protecting ecological leisure resources, advancing urban beautification and greening initiatives to create landscapes of clear waters and lush mountains, strengthening preservation of historical sites and architecture, elevating the quality of leisure cultural projects, and blending ancient and modern urban charm.

Zhejiang ranks third in the average educational satisfaction of urban residents' leisure activities, indicating that residents discover novel experiences, deepen their understanding of the surrounding environment, and gain greater self-awareness and familiarity with others through leisure pursuits. Concurrently, educational satisfaction significantly influences overall leisure satisfaction, exhibiting the highest standardized path coefficient at 0.291. Zhejiang Province has long prioritized the educational function of leisure activities. By unlocking the environmental value of public leisure spaces, leveraging existing recreational facilities as mediators, enriching residents' leisure education programs, and actively promoting healthy and civilized leisure practices, the province has enhanced residents' knowledge, skills, ethics, and emotional intelligence.

Urban residents in Zhejiang Province ranked fourth in average physical satisfaction with leisure activities, indicating they perceive leisure as aiding health maintenance and physical recovery. However, there is room for improvement in enhancing physical fitness and challenging physical capabilities. This aligns with the prevalence of static and low-intensity daily leisure activities among urban residents in the province. Physical satisfaction significantly influences overall leisure satisfaction. According to demand compensation theory, modern lifestyle shifts and increased work pressures have negatively impacted physical and mental health. Appropriate leisure participation creates more opportunities for residents to experience psychological pleasure and physical recovery.

The mean social satisfaction score for leisure activities among urban residents in Zhejiang Province ranks fifth, indicating limited opportunities to meet and connect with others through leisure pursuits. Demographic statistics from this survey reveal that 36.1% and 29.3% of respondents engage in leisure activities primarily with family and friends, respectively, accounting for the majority of social interactions. Social satisfaction did not significantly influence overall leisure satisfaction. This stems from urban residents' limited social awareness during leisure activities, as they perceive interactions with familiar groups like family and friends as more relaxed and enjoyable. This reflects strong family values and attachment to kinship. Zhejiang's complex demographic structure, particularly the high proportion of non-local residents in cities like Hangzhou and Ningbo, creates language and lifestyle barriers that hinder normal social interactions.

The mean psychological satisfaction with leisure among urban residents in Zhejiang ranked last, indicating

that daily leisure activities fail to stimulate their interest or enhance their skills, resulting in insufficient intrinsic achievement and self-confidence. Furthermore, the hypothesis that psychological satisfaction significantly influences overall leisure satisfaction was not supported. This primarily relates to the leisure activities of urban residents, which mainly consist of cultural entertainment, casual strolls and conversations, general fitness, suburban sightseeing, and visits to attractions. While these activities satisfy inner pleasure, they fail to meet the need for personal development. As urban residents gradually shift their focus from entertainment functions to development functions, future efforts should strengthen training in leisure skills and provide more opportunities for residents to enhance their personal development capabilities.

Table 4. Results of the structural model confirmatory analysis.

Path	Unstandardized Coefficient	Standardized Coefficient	Standard Error	Combined Reliability	p	Is it merely the null hypothesis?
H1: Social Satisfaction → Overall Leisure Satisfaction	-0.139	-0.111	0.090	-1.540	0.123	Not supported
H2: Psychological Satisfaction → Overall Leisure Satisfaction	-0.189	-0.165	0.075	-2.531	0.011	Not supported
H3: Relaxation Satisfaction → Overall Leisure Satisfaction	0.298	0.239	0.101	2.946	0.003	Support
H4: Body satisfaction → Overall leisure satisfaction	0.297	0.231	0.106	2.805	0.005	Support
H5: Aesthetic Satisfaction → Overall Leisure Satisfaction	0.326	0.233	0.095	3.430	***	Support
H6: Educational Satisfaction → Overall Leisure Satisfaction	0.366	0.291	0.115	3.198	0.001	Support

5. Analysis of influencing factors

5.1. Leisure resource endowment

Cities serve as vital spaces for residents' leisure activities and key units for the development of the leisure industry. Zhejiang Province possesses abundant leisure resources, encompassing rich natural environments and profound social and cultural assets. These elements collectively form a robust foundation for the leisure activities of both residents and visitors across the province, directly determining the richness and quality of these experiences through dimensions such as ecological foundations, spatial carriers, cultural cores, and experiential settings. Zhejiang Province boasts unparalleled natural ecological advantages. Its unique geographical configuration has fostered diverse natural landscapes, achieving comprehensive coverage of rivers, lakes, seas, streams, mountains, forests, and wetlands. The Qiantang River surges eastward, linking the mountainous landscapes of western Zhejiang with the plains of eastern Zhejiang. The Beijing-Hangzhou Grand Canal runs north to south, nurturing ancient water towns along its route. The Zhoushan Archipelago, Taizhou Bay, and Wenzhou Bay along the East China Sea coastline paint a magnificent coastal panorama. The province's total wetland area reaches 134,000 hectares, with a wetland protection rate of 51.36%. Beyond Hangzhou's Xixi Wetland, it boasts significant ecological leisure spaces such as Shaoxing's Jinghu Wetland and Ningbo's Hangzhou Bay National Wetland Park. With a forest coverage rate of 66.85%, ranking among the highest nationwide, mountainous areas like Tianmu Mountain, Wuyi Mountain (Zhejiang section), and Yandang Mountain have become popular destinations for hiking and forest wellness activities.

Social and cultural resources infuse Zhejiang's leisure activities with profound significance, not only elevating residents' cultural literacy but also serving as a core driver for leisure participation. As one of the cradles of Chinese civilization, Zhejiang embodies diverse cultural traditions including Wu-Yue culture, Liangzhu culture, Song Dynasty refined culture, Yuan Dynasty multi-ethnic fusion culture, and Ming-Qing urban folk culture. It boasts world-class cultural assets such as the Liangzhu Ancient City Site (UNESCO World

Heritage), West Lake Cultural Landscape (UNESCO World Heritage), the Grand Canal (World Cultural Heritage, Zhejiang section), and numerous national cultural heritage sites and historic towns like Tianyi Pavilion, Putuo Mountain, Nanxun Ancient Town, and Wuzhen. From the ancient wisdom of Liangzhu jade artifacts to the literary inscriptions along West Lake; from the millennia-old brewing techniques of Shaoxing rice wine to the artisanal heritage of Longquan celadon; from the spectacular folk phenomenon of the Qiantang River tidal bore to the ethnic traditions of She ethnic villages—These cultural elements integrate into leisure settings, forming distinctive leisure industries such as cultural research tours, intangible cultural heritage experiences, and folk tourism. Through the inheritance and development of history and culture, Zhejiang residents have cultivated an Eastern leisure lifestyle that blends poetic elegance with everyday charm. Whether savoring tea in teahouses, cruising through water towns, strolling through markets, or wandering ancient towns, these activities showcase the province's distinctive leisure culture.

5.2. Urban Leisure Traditions

Leisure serves as the wellspring of a city's vitality, cohesion, and creativity, functioning as a fundamental urban capability. Cities with established leisure traditions tend to achieve more stable development trajectories and social order. Such traditions foster healthy leisure attitudes among residents, guide government leisure policy decisions, and ultimately advance the construction of a harmonious society. As a major leisure province renowned for its natural beauty and cultural charm, Zhejiang's cities—Including Hangzhou, Ningbo, Shaoxing, Jiaxing, and Huzhou—Exude an atmosphere of leisurely living and distinctive recreational styles. The sophistication of leisure facilities and the advancement of leisure concepts undergo continuous iteration and upgrading. This characteristic is deeply integrated into the local customs, folk crafts, traditional skills, festive customs, vernacular architecture, clothing traditions, and culinary heritage, forming a coordinated leisure development pattern across the entire region. Tracing Zhejiang's urban leisure traditions reveals a historical lineage stretching back over a millennium. During the Southern Song Dynasty, centered around the capital Lin'an (present-day Hangzhou), the province's urban leisure culture flourished, becoming a defining feature of local lifestyles and individual character. This tradition persisted unbroken through the Ming and Qing dynasties, evident in the leisurely rhythms of water towns like Wuzhen and Nanxun, enduring through historical transformations.

In the modern era, Zhejiang has further advanced its urban leisure industry through a province-wide perspective, continuously enhancing its leisure capabilities and influence. Since 2006, multiple cities within the province have earned national leisure accolades: Hangzhou has successively been honored as the "Leisure Capital of the East," one of "China's Top Ten Leisure Cities," and the "Nation's Premier Leisure City," establishing itself as a benchmark for leisure cities nationwide. Ningbo, leveraging its coastal leisure and port culture, was selected as one of "China's Ten Most Dynamic Leisure Cities." Shaoxing, centered on its yellow wine culture and water town leisure, was recognized as "China's Outstanding Leisure City"; Jiaxing and Huzhou, leveraging their canal culture and ecological resources, joined the ranks of nationally advanced leisure development cities. Today, Zhejiang Province no longer relies on a single city to lead leisure development. Instead, it has formed a leisure landscape characterized by "distinctive features in each city and coordinated development across the entire region," becoming a premier leisure province in China. Its millennia-old leisure traditions are now flourishing with renewed vitality in the new era.

5.3. Residents' perception of leisure

With technological advancement and social progress, urban residents' income levels have steadily increased, and leisure time has gradually expanded, creating opportunities for leisure development in cities. In 2024,

Zhejiang's GDP surpassed the 9 trillion yuan mark, with both urban and rural residents' incomes ranking among the nation's highest. This robust economic strength provides ample support for residents' leisure consumption. Simultaneously, the fast-paced lifestyle and high-intensity work pressures of modern society have created an urgent need for leisure among residents across the province, both physically and psychologically. The functions of leisure activities—Alleviating stress, regulating emotions, and restoring energy—Make their widespread adoption inevitable. The healthy development of leisure relies on the active participation of residents across the province. Deep engagement in leisure activities and high-quality leisure experiences are core prerequisites for enhancing residents' satisfaction with leisure and driving the upgrading of the leisure industry. Leveraging the province's superior natural ecological endowments, leading economic development, profound historical and cultural heritage, and stable social environment, residents of Zhejiang have, through long-term cultural accumulation, universally developed a lifestyle attitude that cherishes leisure and embraces experiential activities. Leisure culture has permeated every aspect of urban and rural life. In 2024, Zhejiang's tourism and leisure industry generated an added value of 106.8 billion yuan. Urban residents' leisure activities—Such as strolling through parks and exploring commercial districts—Demonstrated robust demand and vitality.

However, overall, Zhejiang residents' understanding of leisure still has room for improvement: On one hand, the social scope of residents' leisure activities is often confined to their circle of friends and family. Limited by insufficient recognition of leisure's social functions, they fail to fully leverage leisure settings to expand social boundaries and promote interaction among diverse groups. On the other hand, current leisure education within the province primarily focuses on disseminating leisure knowledge, providing skill training, and promoting traditional virtues. The content tends to be utilitarian, insufficiently conveying core concepts such as "leisure is an important pathway to enhancing quality of life" and "leisure can promote individual holistic development." This neglects in-depth guidance on residents' understanding of the value and functions of leisure, which to some extent constrains the richness of leisure activities and the depth of leisure experiences.

5.4. Urban leisure development

Urban leisure spaces, facilities, resources, and regional transportation networks collectively form the core elements of Zhejiang Province's comprehensive leisure development. Leisure spaces, as vital components of the urban fabric across the province, occupy a pivotal position in the overall environmental layout of urban and rural areas. Leisure facilities and resources serve as core elements supporting the functionality of leisure spaces and determining residents' leisure patterns. An interconnected transportation system acts as the link connecting diverse leisure spaces, directly ensuring the accessibility and convenience of residents' leisure activities. The synergistic development of these four elements drives the province's leisure development toward comprehensive coverage and high quality.

In terms of leisure space and facility development, Zhejiang Province has continuously increased investment to establish a diversified, complementary leisure supply system covering both urban and rural areas. By 2024, the province boasts over 100 professional performing arts troupes, more than 100 public libraries, and a steadily growing number of cultural leisure venues such as theaters, concert halls, museums, and memorial halls, forming a comprehensive cultural leisure space network. From traditional attractions like West Lake in Hangzhou and Putuoshan in Zhoushan to emerging leisure destinations such as the Mogan Mountain homestay cluster in Huzhou and the Ancient Weir Painting Village in Lishui, the rich array of cultural and recreational spaces and facilities deeply integrates sightseeing, cultural experiences, family activities, wellness retreats, and other leisure pursuits into residents' daily lives. This fully reflects the province's systematic approach to guiding residents'

leisure behaviors. In transportation infrastructure, Zhejiang has built a multi-tiered, high-efficiency leisure travel network with the goal of "seamless connectivity across the entire region." This network enables rapid access to major leisure attractions, commercial districts, and cultural venues within cities, effectively bridging the "last mile" for residents traveling to rural leisure destinations. Whether for short-distance leisure trips within cities or cross-city recreational tourism, convenient transportation provides robust support for residents' leisure activities, further unlocking the province's full potential for leisure consumption.

6. Conclusions and discussion

6.1. Conclusions

(1) Based on the mean scores across six dimensions, relaxation satisfaction (above 3.5) ranked highest, followed by aesthetic satisfaction and educational satisfaction (both between 3.4 and 3.5). Physical satisfaction and social satisfaction (both between 3.3 and 3.4) ranked fourth and fifth, respectively. Psychological satisfaction (below 3.3) ranked last. This indicates that urban residents can alleviate stress, relax physically and mentally, and enhance their cognition of surrounding objects and others through leisure activities. They also gave high ratings to the design and environment of leisure venues. However, leisure activities did not sufficiently challenge physical abilities or facilitate friendship-building, particularly falling short in boosting self-confidence and a sense of accomplishment.

(2) Regarding significant influence relationships across six dimensions, relaxation satisfaction, aesthetic satisfaction, physical satisfaction, and educational satisfaction all significantly influenced overall leisure satisfaction. Conversely, the hypotheses regarding the significant impact of social satisfaction and psychological satisfaction on overall leisure satisfaction were not supported. This indicates that while Zhejiang Province possesses favorable natural and sociocultural resources, efforts to expand leisure spaces, enrich leisure facilities, develop the leisure industry, and actively guide urban residents toward healthy leisure practices are also influenced by factors such as urban residents' family values, complex demographic structures, and established leisure habits.

(3) Based on the findings, leisure satisfaction among urban residents in Zhejiang Province is primarily influenced by factors such as leisure resource endowment, urban leisure traditions, residents' perceptions of leisure, and urban leisure development. The mediating pathways include influencing the six dimensions through leisure resource conservation and development, cultivation of leisure concepts, economic level improvement, increased leisure demand, and leisure space and facility construction, which in turn reflect on overall leisure satisfaction.

6.2. Discussion

(1) This study focuses on urban residents in Zhejiang Province, attempting to construct a structural equation model for leisure satisfaction. It explores the influence of six dimensions (social satisfaction, psychological satisfaction, relaxation satisfaction, aesthetic satisfaction, physical satisfaction, and educational satisfaction) on overall leisure satisfaction among urban residents in Zhejiang. The empirical analysis of the current state of leisure satisfaction among urban residents in Zhejiang Province provides valuable insights into understanding the satisfaction levels of urban leisure participants with recreational activities. This contributes to the theoretical accumulation of leisure studies and offers a case study for understanding urban residents' leisure satisfaction.

(2) However, this study has certain limitations. First, it did not conduct differential analyses across groups with different demographic characteristics. Future research could focus on gender, occupation, age, or other

demographic segments, or compare leisure satisfaction between urban and rural residents. Second, this paper relies on the simplified leisure satisfaction measurement scale developed by Beard et al., which may not fully align with the leisure characteristics of Chinese urban residents. Future work could develop a scale more tailored to China's context. Some scholars have already proposed using consumption satisfaction as a dimension to measure overall leisure satisfaction.

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