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FROM IMAGE TO LOYALTY: THE SERIAL MEDIATING ROLES OF PERCEIVED QUALITY AND SATISFACTION IN CHENGDU'S URBAN PARKS

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Abstract

Urban parks play an important role in sustainable urban development, yet the psychological mechanisms underlying visitor loyalty in the context of “Park City” remain insufficiently examined. This study uses the stimulus-organism-response (S-O-R) model to explore how park image and perceived quality affect the satisfaction and loyalty of visitors in Chengdu, China. A total of 513 valid questionnaires were collected through on-site surveys of two representative urban parks. Partial least squares structural equation modelling (PLS-SEM) was applied to examine the hypothesised relationships among the constructs. The results indicate that park image significantly predicted perceived quality ($\beta = 0.600$, $p < 0.001$), while park image ($\beta = 0.337$) and perceived quality ($\beta = 0.264$) significantly enhanced visitor satisfaction. Satisfaction also had a significant positive effect on loyalty ($\beta = 0.400$). The validated serial mediation pathway (Park Image $\rightarrow$ Perceived Quality $\rightarrow$ Satisfaction $\rightarrow$ Loyalty) demonstrates that park image is a foundational driver of visitor loyalty, whose influence is translated through perceived quality and satisfaction with the park experience. These findings suggest that Park City planning should align image construction with everyday experiential quality, enabling positive park perceptions to support satisfaction, revisit intention, and public recommendation.

Keywords: Park City, Park Image, Perceived Quality, Visitor Satisfaction, Loyalty, PLS-SEM

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INTRODUCTION

In the process of rapid urbanisation, urban parks are no longer limited to ecological functions, but increasingly serve as everyday public spaces for restoration, social interaction, and quality-of-life improvement (Geng et al., 2024). Since China proposed the concept of “Park City”, the positioning of urban parks has changed from traditional green space to a comprehensive carrier of ecological welfare, urban brand and public happiness. In this context, visitors' continued use and recommendation intentions provide useful evidence for understanding how park experience contributes to the everyday performance of urban parks and the implementation of Park City development (Bi et al., 2024; Geng et al., 2024; Zhan et al., 2024).

However, although park image has been confirmed as an important factor influencing visitors' behavioural intentions in urban park and leisure studies (Davras & Özperçin, 2023; Plunkett et al., 2019), its internal mechanism has not been fully explored in the context of non-commercial urban parks. Unlike commercial attractions, the “image” of urban parks is more public and everyday, and its formation is not only derived from physical facilities, but also from visitors' overall perception of natural experience and social atmosphere (Plunkett et al., 2019). Currently, there is still limited integrated research clarifying how park image is transformed into perceived quality, and how this perceptual chain ultimately supports visitors' loyalty through satisfaction.

Based on the above considerations, this paper takes the practice of Chengdu Park City construction as the background to explore how visitors' perception of park image and quality shapes their loyalty. To achieve this goal, this study sets three specific objectives: (1) to analyse the relationships among park image, perceived quality, satisfaction, and visitor loyalty; (2) to test the simple and serial mediating roles of perceived quality and satisfaction in the formation of visitor loyalty; and (3) to provide theoretical and planning implications for improving urban park experiences under Park City development.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Theoretical Framework

This study adopts Mehrabian and Russell's (1974) S-O-R framework, which links environmental stimuli (S), internal cognitive or emotional states (O), and behavioural responses (R). In landscape, tourism, and environmental behaviour research, the S-O-R model has been widely used to explain how physical environments and perceived experiences influence satisfaction and behavioural intentions (Aziz & Niazi, 2024).

In the context of urban green space, park image (PI) and perceived quality (PQ) constitute external stimuli that shape visitors' cognition; satisfaction, as an internal psychological mechanism, reflects emotional

satisfaction (SAT); and loyalty (LOY) reflects behavioural intentions such as revisiting, recommending, and sharing (Bi et al., 2024; Wu et al., 2018). This framework provides a systematic theoretical basis for analysing how environmental cues affect visitor behaviour in the construction of Chengdu's "Park City". This study created a conceptual model shown in Figure 1.

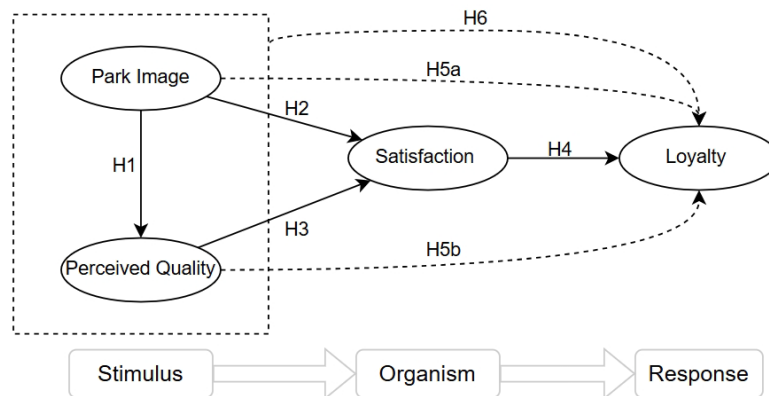


Figure 1: Conceptual model and hypotheses.

Note: Solid lines-direct hypothesised paths, dashed lines-indirect hypothesised paths.

Source: Adapted from Mehrabian and Russell (1974) and modified by the author.

Park Image

Park image describes visitors' overall mental impression of a park, including both cognitive judgements and affective responses (Bigart et al., 2023; Qu et al., 2011). The cognitive dimension reflects the rational cognition of visitors on the physical and symbolic characteristics of the park, while the emotional dimension reflects emotional reactions such as pleasure and excitement (Zhang et al., 2024).

Under the framework of Chengdu's "Park City", parks integrate ecological, cultural and technological values (Bi et al., 2024). A strong park image not only affects emotional satisfaction but also affects quality perception. Empirical studies have shown that a good image can significantly improve visitors' evaluation of park facilities by shaping their interpretive reference framework (Wei & Zhang, 2023). Based on this, the hypothesis is formulated:

H1: PI has a significant positive influence on PQ.

H2: PI has a significant positive influence on SAT.

Perceived Quality

In this study, perceived quality is understood as visitors' assessment of how well the park environment, facilities, accessibility, safety, and maintenance meet their expectations (Sugiyama et al., 2023; Wu et al., 2018). Visitors form satisfaction

judgments by comparing on-site experiences with expectations, where higher perceived quality means functional completeness, environmental comfort, and management effectiveness, thereby triggering positive emotional responses (Geng et al., 2024). Du and Zhao (2022) found that visitors' perception of the park's service and quality has a significant positive impact on their overall satisfaction with the park.

Based on contemporary urban landscape research, this study conceptualizes perceived quality as three interrelated dimensions: (1) support for recreation functions: assessing the completeness of facilities such as fitness areas and leisure areas; (2) spatial accessibility and safety: reflecting the clarity of the signage system and the sense of perceived safety; and (3) ecological landscape and maintenance: capturing perceptions of vegetation management and environmental hygiene (Bi et al., 2024; Zhan et al., 2024). We propose:

H3: PQ has a significant positive influence on SAT.

Satisfaction

Satisfaction represents the emotional evaluation generated by the comparison between visitors' expectations and experience (Geng et al., 2024). In the context of public parks, satisfaction includes both the emotional pleasure brought by leisure activities and the satisfaction of aesthetic or cultural needs (Davras & Özperçin, 2023). Studies have confirmed that satisfaction, as a core organism variable, closely links environmental perception with behavioural outcomes (Bi et al., 2024; Wu et al., 2018). Thus, the following hypothesis is formulated:

H4: SAT has a significant positive influence on LOY.

Mediation Mechanisms of Perceived Quality and Satisfaction

In the S-O-R framework, behavioural loyalty (R) is formed through the dual mediation mechanism of parallel and sequence. Specifically, park image may directly trigger the emotional response of satisfaction, and may also indirectly affect loyalty through the cognitive evaluation of perceived quality. At the same time, perceived quality itself can be used as a leading variable of satisfaction to form an independent cognitive path to loyalty (Sugiyama et al., 2023). This dual-processing structure is supported by environmental behaviour research, which shows that visitors' behavioural intentions can be formed through direct emotional resonance or shaped through a cognitive-emotional complex chain (Afshardoost & Eshaghi, 2020). Therefore, this study tests both simple mediation paths (H5a, H5b) and a sequential mediation path (H6), capturing the multi-layered psychological process underlying park-based experiences. Accordingly, we propose:

H5a: SAT mediates the relationship between PI and LOY.

H5b: SAT mediates the relationship between PQ and LOY.

H6: PI, PQ, and SAT form a serial mediation path (PI → PQ → SAT → LOY) that influences visitor LOY.

RESEARCH METHODOLOGY

Study Area

Quantitative empirical research was adopted in this study based on the S-O-R framework. The study site was located in Chengdu (30°05'–31°26'N, 102°54'–104°53'E), which is the first national demonstration city of China's "Park City" initiative (Figure 2). The questionnaire survey was carried out in two comprehensive urban parks: People's Park and Tianfu Art Park. People's Park was built in 1911 and is a historical urban park with long-established social functions. It has undergone renewal and quality enhancement under Chengdu's Park City development. Tianfu Art Park, on the other hand, was built in 2018 and embodies a contemporary park type characterised by modern landscape design. These two parks were selected because they have high visitor volumes and represent different trajectories of Chengdu's urban park development.

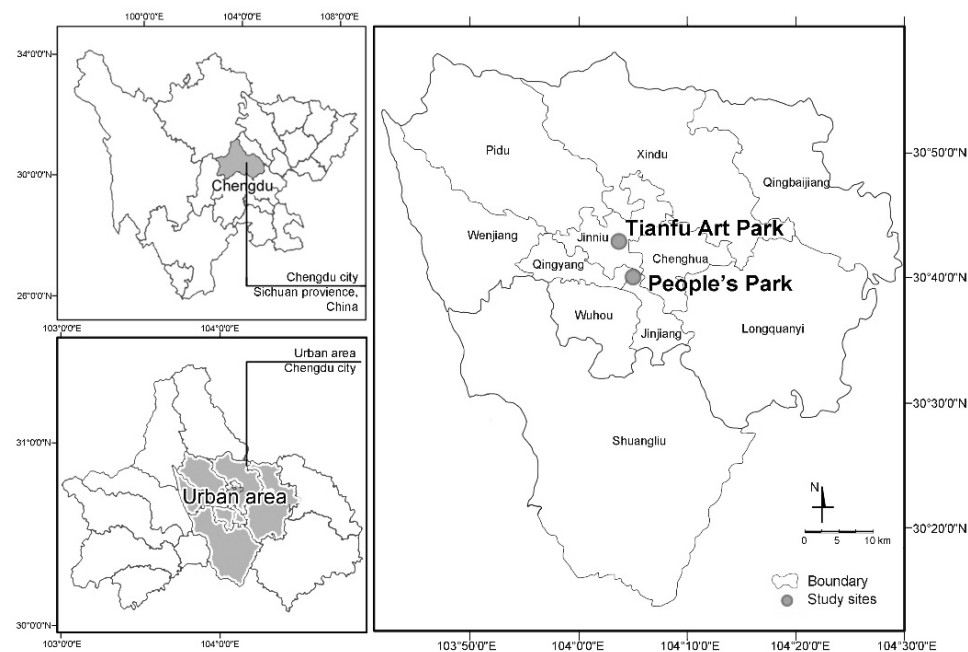


Figure 2: Location of the Study Sites

Source: Author, 2026

Data Collection and Sampling

The on-site survey was conducted in the two parks from March to April 2025 using the convenience sampling method, and the survey subjects were adult visitors. To improve the diversity of responses and reduce time-location bias, questionnaires were distributed on both weekdays and weekends, covering morning, midday, afternoon, and evening periods. Within each park, respondents were approached at different locations, including entrances, walking areas, leisure spaces, and activity zones. After data screening and quality control, a total of 513 valid questionnaires were retained for analysis. The final sample size was adequate for PLS-SEM analysis and met the statistical power recommendation (Hair et al., 2019).

Measurement of Variables

This study measured the four core latent constructs by using a five-point Likert scale questionnaire (1 = “strongly disagree” to 5 = “strongly agree”). Park image captures the overall impression of urban parks by visitors through cognitive and emotional dimensions (Bigart et al., 2023). Perceived quality, as a reflective construct, is composed of three composite dimensions: recreational function, accessibility and safety, and ecological landscape maintenance (Qiu et al., 2023; Ramkissoon, 2020; Wei & Zhang, 2023). Visitor satisfaction is the overall evaluation of visitors on the park experience, reflecting their overall pleasure, decision satisfaction and satisfaction relative to the expected goals, using three items which were adapted from Wu et al. (2018) and Davras & Özperçin (2023). Loyalty is defined as a multidimensional behavioural construct of revisit intention, recommendation intention, and positive word-of-mouth (WOM) behaviour, adapted from Zhan et al. (2024) and Wu et al. (2018).

Data Analysis

The questionnaire data were analysed in SmartPLS 4.0 using a PLS-SEM procedure. This technique was chosen because it is suitable for structural models with mediating variables, limited sample sizes, and non-normal data distributions (Hair et al., 2019). Model assessment proceeded in two stages: the measurement model was evaluated using Cronbach’s alpha, composite reliability (CR), average variance extracted (AVE), and the heterotrait-monotrait ratio (HTMT); the structural model was then assessed using bootstrapping with 5,000 resamples.

ANALYSIS AND DISCUSSION

Descriptive Analysis

A total of 513 valid questionnaires were collected from visitors to two representative urban parks in Chengdu. Since this study aims to examine the general structural relationships among park image, perceived quality,

satisfaction, and loyalty rather than park-specific effects, the data from the two parks were combined for the main PLS-SEM analysis. The two sites differ in historical background and design orientation, but both are major public urban parks within Chengdu's Park City context, with nearly balanced sample sizes.

The sample demonstrates a balanced distribution across gender, age, education, and occupation, indicating a diverse respondent profile among the surveyed park users. As shown in Table 1, the respondents were almost evenly distributed between the two study sites, with 49.7% surveyed in People's Park and 50.3% in Tianfu Art Park. In addition, the sample was almost evenly distributed by gender, with 49.9% of respondents being male and 50.1% being female. The vast majority of participants were aged between 25 and 54 (64%), indicating that urban parks in Chengdu mainly attract visitors of working age. In terms of education, more than half of the visitors (56.5%) had a college or bachelor's degree, and 15.6% had completed postgraduate studies, indicating that the overall education level of park users was high. In terms of occupational distribution, the proportion of enterprise employees was the highest (35.5%), followed by employees of public institutions (15.8%) and retirees (13.8%), showing a wide social mix of working and leisure people. Overall, the sample has a balanced age structure, a high level of education and a diverse social background, which laid a good foundation for the structural model analysis.

Table 1: Demographic Profile of Respondents (N = 513).

Type		No.	Percentage (%)
Park	People's Park	255	49.71
	Tianfu Art Park	258	50.29
Gender	Male	256	49.90
	Female	257	50.10
Age	18 – 24	57	11.10
	25 – 34	124	24.20
	35 – 44	99	19.30
	45 – 54	107	20.90
	55 – 64	73	14.20
	≥ 65	53	10.30
Education	Middle school or under	30	5.90
	High school or equivalent	113	22.00
	Diploma or undergraduate	290	56.50
	Postgraduate or above	80	15.60
Occupation	Enterprise employee	182	35.50
	Public institution staff	81	15.80
	Retired	71	13.80
	Student	68	13.30
	Self-employed	49	9.60
	Freelancer	27	5.30
	Jobless / Other	35	6.80

Source: Author's calculation

Measurement Model Assessment

The measurement model evaluation focused on indicator reliability, internal consistency, convergent validity, and discriminant validity. Indicator reliability was assessed by outer loadings. Table 2 shows that all loading values exceeded the 0.65 threshold, indicating that the reliability was within an acceptable range. Although the factor loadings of some items of the park image and ecological maintenance dimensions (e.g., PI-A2 and PQ-E2) were between 0.65 and 0.70, they were retained because the removal of these items would not significantly improve the CR or the AVE, and they were theoretically necessary for the content validity of the constructs.

Table 2: Outer loadings.

No.	Item	Statement	Loading
1	PI-A1	Visiting this park is relaxing.	0.685
2	PI-A2	Visiting this park is exciting.	0.657
3	PI-A3	Visiting this park is delightful.	0.664
4	PI-A4	Visiting this park is interesting.	0.65
5	PI-C1	The park has contributed to ecological health and environmental sustainability.	0.745
6	PI-C2	The park represents Chengdu's unique culture and heritage.	0.729
7	PI-C3	The park is inclusive and accessible to everyone.	0.759
8	PI-C4	The park contributes to the local economy.	0.747
9	PI-C5	The park is attractive and provides diverse recreational functions.	0.724
10	PI-C6	The park integrates modern technology to enhance visitor experience and sustainability.	0.728
11	PQ-F1	The park provides well-designed fitness and exercise facilities.	0.764
12	PQ-F2	The park offers sufficient leisure amenities and a shaded area.	0.761
13	PQ-F3	The park includes diverse social and commercial spaces.	0.754
14	PQ-S1	The park's lighting system makes nighttime visits safe and comfortable.	0.761
15	PQ-S2	The park provides a clear and user-friendly signage system.	0.767
16	PQ-S3	Feeling safe and secure while spending time in this park, both during the day and at night	0.787
17	PQ-E1	The park provides clean, well-maintained, and easily accessible restrooms and public facilities.	0.672
18	PQ-E2	Plants, lawns, and facilities are well-maintained in the park.	0.661
19	PQ-E3	Fresh and clean environment and good air quality.	0.654
20	SAT1	Generally, I am satisfied with the park.	0.872
21	SAT2	Overall, I am satisfied with the decision to go to the park.	0.859
22	SAT3	Compared to my expectations before the visit, I am satisfied with my experiences in this park.	0.843
23	LOY1	Willing to revisit this park	0.851
24	LOY2	Willing to recommend the park to others	0.850
25	LOY3	Willing to share experience via social media	0.875

Source: Author's calculation

Note: PI-A = Affective Image; PI-C = Cognitive Image; PQ-F = Recreational & Functional Support; PQ-S = Spatial Access & Safety; PQ-E = Eco-Landscape & Maintenance; SAT = Satisfaction; LOY = Loyalty.

Internal consistency was confirmed by Cronbach's alpha (0.821 - 0.891) and CR (0.824 - 0.891), both exceeding the 0.70 benchmark. Convergent validity was established as all AVE values (0.504 - 0.737) surpassed the 0.50 requirement (Table 3). Furthermore, discriminant validity was assessed by using the HTMT Ratio, which was below the strict threshold of 0.85 (Table 4), proving that the constructs are empirically distinct from one another (Hair & Sarstedt, 2021).

Table 3: Construct reliability and validity.

Construct	Cronbach's α	CR	AVE
Park Image	0.89	0.891	0.504
Perceived Quality	0.891	0.891	0.537
Satisfaction	0.821	0.824	0.736
Loyalty	0.822	0.825	0.737

Source: Author's calculation

Table 4: Discriminant validity assessment: HTMT ratios.

	Loyalty	Park Image	Perceived Quality	Satisfaction
Loyalty				
Park Image	0.518			
Perceived Quality	0.551	0.669		
Satisfaction	0.484	0.578	0.537	

Source: Author's calculation

Structural Model Assessment

After confirming the reliability and validity of the measurement model, bootstrapping with 5,000 resamples was used to evaluate the direct and indirect effects. The results are summarised in Table 5. The hypothesised relationships and the results of the structural model analysis are illustrated in Figure 3. Path coefficients (β), significance levels, and the coefficient of determination (R^2) for each endogenous variable are clearly presented to show the overall model performance.

The bootstrapping results showed significant effects for all hypothesised direct paths ($p < 0.001$), providing strong support for the proposed relationships. Specifically, park image exerted a substantial positive effect on perceived quality ($\beta = 0.600$, $t = 20.501$, $p < 0.001$) and satisfaction ($\beta = 0.337$, $t = 7.063$, $p < 0.001$). Perceived quality significantly influenced satisfaction ($\beta = 0.264$, $t = 5.576$, $p < 0.001$), while satisfaction had a significant positive effect on loyalty ($\beta = 0.400$, $t = 11.409$, $p < 0.001$).

The f^2 effect size further reveals that park image had a large effect on perceived quality ($f^2 = 0.563$), while its effect on satisfaction was small to medium ($f^2 = 0.102$). The effect of satisfaction on loyalty was also moderate ($f^2 = 0.190$). The variance inflation factor (VIF) values ranged from 1.000 to 1.563, which were below the recommended threshold of 5.0, indicating that multicollinearity was not a serious concern among the predictor constructs.

Table 5: Structural Model Results and Mediation Effects

Relationship	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	f^2	VIF	Support
Direct									
H1: PI -> PQ	0.600	0.029	20.501	< 0.001	0.537	0.652	0.563	1.000	Yes
H2: PI -> SAT	0.337	0.048	7.063	< 0.001	0.240	0.427	0.102	1.563	Yes
H3: PQ -> SAT	0.264	0.047	5.576	< 0.001	0.172	0.358	0.063	1.563	Yes
H4: SAT -> LOY	0.400	0.035	11.409	< 0.001	0.329	0.465	0.190	1.000	Yes
Indirect									
H5a: PI -> SAT -> LOY	0.135	0.024	5.659	< 0.001	0.090	0.183	/	/	Yes
H5b: PQ -> SAT -> LOY	0.105	0.022	4.843	< 0.001	0.066	0.151	/	/	Yes
H6: PI -> PQ -> SAT -> LOY	0.063	0.014	4.549	< 0.001	0.039	0.093	/	/	Yes

Source: Author's calculation

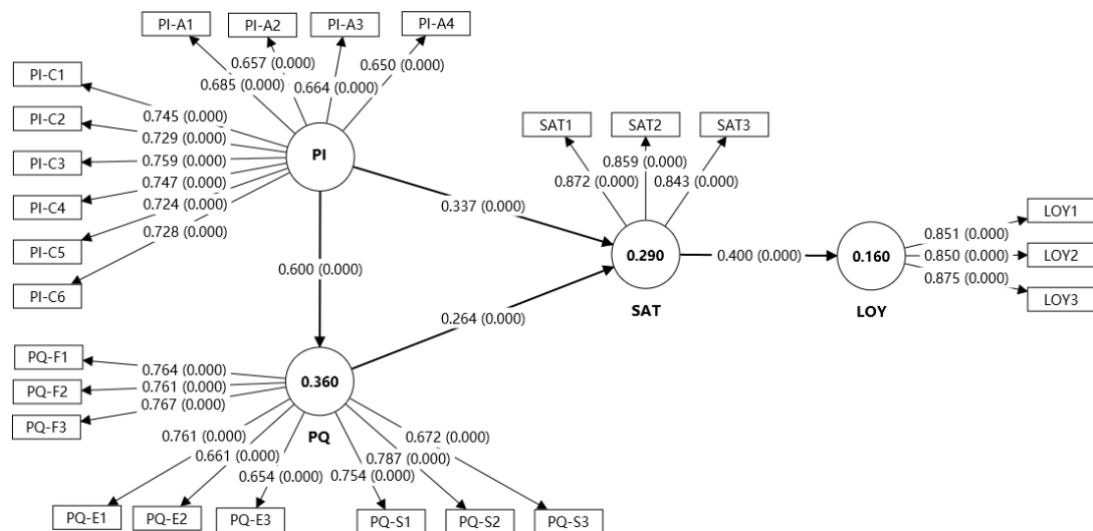


Figure 3: Structural Equation Model with Bootstrapping Results

Source: Author's calculation

Mediation Analysis

The indirect-effect results further confirmed the mediating functions of satisfaction and perceived quality in the relationship between park image and loyalty. The results of the bootstrap method showed that all mediating paths were statistically significant (see Table 5). Specifically, the indirect effect of park image on loyalty through satisfaction was significant (H5a: $\beta = 0.135$, $t = 5.659$, $p < 0.001$), confirming that visitors' emotional satisfaction mediated the impact of the overall park image on their loyalty intentions. Similarly, the indirect path of PQ→SAT→LOY was significant (H5b: $\beta = 0.105$, $t = 4.843$, $p < 0.001$), which indicated that the perception of facility quality and environmental maintenance indirectly improved visitors' loyalty through satisfaction. In addition, the serial mediation effect (H6: PI → PQ → SAT → LOY) was also significant ($\beta = 0.063$, $t = 4.549$, $p < 0.001$), indicating that park image indirectly drove loyalty through the cognitive-emotional sequence: improved quality perception enhanced satisfaction and ultimately promoted revisit intention and public recommendation behaviour. The above results jointly support the proposed serial mediation mechanism based on the S-O-R theoretical framework.

Explanatory Power and Predictive Relevance

The explanatory power of the structural model was assessed using R^2 and adjusted R^2 values. As shown in Figure 3, the model explained 36.0% of the variance in perceived quality, 29.0% of the variance in satisfaction, and 16.0% of the variance in loyalty, with adjusted R^2 values of 0.359, 0.287, and 0.158, respectively. In addition to explanatory power, predictive relevance was assessed using Q^2 values. The Q^2 values for perceived quality, satisfaction, and loyalty were 0.353, 0.240, and 0.135, respectively, all exceeding zero and therefore indicating predictive relevance. Overall, the model showed moderate explanatory and predictive relevance for perceived quality and satisfaction, while the explanatory power for loyalty was relatively limited.

DISCUSSION

The empirical results of this study validate the structural relationships proposed within the S-O-R framework and clarify the psychological mechanism by which park image, perceived quality, and satisfaction jointly shape visitors' loyalty. The establishment of the H1 hypothesis confirms that the park image is a strong leading factor of perceived quality. In the context of Chengdu, perceived quality is not only an assessment of physical facilities, but also a social constructivist cognitive judgment influenced by the symbolic meaning carried by the park image. When visitors internalise the image of "modern, ecological, and cultural park" (PIC2, PIC6), they still tend to think that the maintenance level and facility quality are excellent, even if there are minor defects. This finding confirms Wei

and Zhang (2023), who argue that symbolic authenticity often surpasses functional practicality in shaping urban visitors' perceptions.

The study found that both park image and perceived quality were significant drivers of visitor satisfaction, supporting hypotheses H2 and H3. It is worth noting that the influence of park image is slightly stronger than that of perceived quality (see Figure 3), which is different from the view that traditional landscape research emphasises the dominant role of physical space patterns (Bi et al., 2024). This suggests that in high-density urban environments such as Chengdu, the emotional resonance and cultural connotations carried by the image of the park may provide a stronger sense of psychological satisfaction than simple functional facilities. Therefore, satisfaction becomes a complex result jointly shaped by the physical supply and symbolic meaning of the park (Wu et al., 2018).

The positive relationship between satisfaction and loyalty (H4) is consistent with findings in park, tourism, and environmental behaviour studies (Zhan et al., 2024), confirming satisfaction as the critical organismic response that triggers the behavioural response, like revisiting and recommending. However, the relatively low explanatory power for loyalty ($R^2 = 0.160$) should be interpreted cautiously. It suggests that satisfaction explains only part of visitors' loyalty intentions, as continued park use may also be shaped by residential proximity, travel time, daily routines, accessibility, and activity opportunities. This finding indicates that loyalty in public urban parks is influenced by both psychological evaluation and spatial use conditions, which is consistent with the park accessibility perspective (Tan et al., 2022).

The mediation analysis further clarified the influence mechanism of park image and perceived quality on visitors' loyalty. The significant simple mediation effect of satisfaction (H5a and H5b) confirmed that emotional satisfaction is the core path of image and quality affecting loyalty intention, which is consistent with the existing research conclusions in the fields of tourism and environmental psychology (Jaafar et al., 2025).

In addition to the above verification results, the key theoretical contribution of this study is the verification of the serial mediation path (H6: PI→PQ→SAT→LOY). Although the effect size of this path is relatively small ($\beta = 0.063$), it reveals the cumulative and sequential characteristics of cognitive-emotional processing in the urban park experience. Visitors are first attracted by the symbolic image of the park, and then assess its credibility through perceived quality, and finally form satisfaction based on experience verification, and then generate loyalty intentions. In this sequence, perceived quality becomes the key bridge between image construction and emotional response, indicating that image attractiveness alone is not enough to maintain loyalty, and it must be achieved through continuous experience verification.

From a planning perspective, this hierarchical mechanism is consistent with the Park City approach. Park image can create initial recognition, but sustained visitor loyalty depends on whether perceived quality and satisfaction are supported by the everyday park experience. Therefore, urban park planning should align image construction with improvements in recreational functions, accessibility, safety, ecological landscape maintenance, and culturally meaningful public-space experience.

CONCLUSION

This study shows that visitor loyalty in Chengdu's urban parks is formed through a structured cognitive-emotional process rather than an isolated direct effect. Park image serves as the initial cognitive anchor, perceived quality verifies this image through on-site experience, and satisfaction translates these evaluations into loyalty intentions. The validated serial mediation path from park image to perceived quality, satisfaction, and loyalty extends the application of the S-O-R model to non-commercial urban green spaces and shows that loyalty to public parks depends on the fit between symbolic image and experiential confirmation (Zhao et al., 2025).

From a planning perspective, the findings suggest that Park City development should not rely only on image construction or physical provision, but should continuously improve the everyday quality of park experience. Planning actions should strengthen recreational functions, accessibility, safety, ecological landscape maintenance, and culturally meaningful public-space experiences, so that positive park perceptions can be translated into satisfaction, revisit intention, and public recommendation (Bi et al., 2024; Zhan et al., 2024).

Several limitations should be acknowledged. This study focused on two representative comprehensive parks, adopted a cross-sectional design, and used convenience sampling, which may limit the generalisability of the findings. Although the survey covered different locations and time periods, the sample mainly represents surveyed park users rather than all Chengdu residents or non-users of urban parks. In addition, because People's Park and Tianfu Art Park differ in historical background and design orientation, the aggregated model should be interpreted as an overall mechanism across the two selected parks rather than as park-specific evidence. Future research could include a wider range of park types and use longitudinal, comparative, or probability-based sampling methods to further examine differences in the formation mechanism of visitor loyalty.

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DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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