



Subjective Well-being and Engagement in Leisure Sports Events: an Illustration of Annual 100km Hike in China

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ABSTRACT

Leisure sports events are increasingly popular in China and have an important economic and cultural impact on urban Chinese society. Taking the 100-kilometer Hike Through Shenzhen as an example, the purpose of the study was to investigate the relationship between the dimensions of service quality, leisure involvement, satisfaction and subjective well-being by using a structural equation modelling (SEM). Results show that environment, interaction and outcomes each has a significant positive impact on service quality. It was also found that service quality of the event has a significant impact on participants' happiness by positively affecting their leisure involvement and satisfaction. Results suggest that marketing campaigns with an emotional component can deepen participants' sense of identity in regard to events, enhance individuals' physical well-being and promote a 'healthy China'.

Keywords: Leisure sports events; service quality; leisure involvement; satisfaction; subjective well-being; structural equation model.

Acknowledgments: This research was partially supported by grants from Guangdong Philosophy and Social Science Project (No. GD19CLJ02), Guangdong Soft Science Project (No.2019A101002021) and Shenzhen Philosophy and Social Science Project (SZ2020D013). We would like to thank the anonymous referee and the editor for very helpful and detailed comments.

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How to cite this article:

Xu Tao, Liu Huiyue. Subjective Well-being and Engagement in Leisure Sports Events: an Illustration of Annual 100km Hike in China. International Journal of Service Science and Management, 2020; 3:10



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Website: <https://escipub.com/>

Introduction

The consumption structure of the people of China has been continually upgraded with the development of the economy and society. As part of this development, people's attention to, and investment in, leisure and sports activities have gradually increased, and leisure activities have changed from being mainly a supplementary physical activity to, increasingly, new ways for people to enjoy themselves and relax occasionally despite fast-paced lives. Opinions on Speeding up Development of the Sports Industry and Promoting Sports Consumption was promulgated by the State Council in 2014, which noted 'enriched sports events,' 'vigorously developing multi-level, diversified sports events,' and 'enriching amateur sports events, guiding and supporting capabilities of social sports organizations and other social forces to organize mass participation in sports'. *The National Fitness Plan (2016-2020)* promulgated by the State Council in 2016 also proposed to carry out national fitness activities and provide rich and colorful activities.

In the context of national fitness, leisure sports – typically non-competitive outdoor athletics – have many advantages: they are generally free from age restrictions, provide close contact with others and offer a chance for urban people to interact more closely with nature. The goals of leisure sports development are to help people reduce fatigue and achieve greater happiness and these activities are becoming an increasingly important part of our leisure time. Development of leisure sports also has contributed in turn to development of specific diverse and entertaining leisure sports events, which can be attractive ways to engage large numbers of people in fitness activities ^{[1][2]} while also often showcasing the spirit of a city or region.

Although a number of domestic leisure and

related sports activities have gained popularity, there are still only a few large and influential leisure sports events in China, and their organization and management, and related theoretical research, have not received much attention. Domestic sports topics studied include marathons and other competitive sports events, training, sports medicine, physiology and biochemistry. There has been a lack of theoretical attention to how service quality of leisure sports events affects psychological perceptions of their participants. Thus, in this study, a structural equation modelling is used to explore the impact of service quality on leisure involvement and satisfaction, with an emphasis on the internal mechanisms through which leisure involvement affects subjective well-being. The interpretation of these results provides suggestions for improvement for organizing future activities and should help organizers understand specific ways they can improve event service quality by helping participants engage in more activities and have more enjoyable experiences.

1. Conceptual Model and Research Hypotheses

1.1 Conceptual model

There are two major families of theories in the research of subjective well-being: top-down theory (based on personality) and bottom-up theory (based on situation) ^[3]. We decided to use bottom-up theory in our study, emphasizing role of situations and events (like the 100-km hike) in influencing subjective well-being. Many studies have used this theoretical framework to confirm that life satisfaction is significantly affected by specific situations, such as travel ^[4], leisure sports ^[5] and quality of service at sports events ^[6]. In particular, there is a strong longstanding correlation in the literature between sports activity participation and life satisfaction ^{[7][8]}. Life satisfaction is different from happiness; however, it

is a key component of happiness [9]. Identifying factors that elicit life satisfaction can help explain sources of subjective well-being [10]. Sato [5] and other scholars noted that the direct impact of sports activities on well-being is limited, but participation in these activities is an important factor in improving quality of life. Thus the conceptual model evaluates the service quality of leisure sporting events on three dimensions: physical environment, interaction and outcome. We predict that leisure sports events with high service quality will ultimately enhance the subjective well-being of participants by improving their satisfaction and strengthening their engagement.

1.2 Theoretical Background

1.2.1 Service Quality

As the basis for survival in service industries, service quality has been widely valued and studied in various disciplines. While measuring service quality has been a focus of many scholars' research, there is no consensus as to its definition. Scholars tend to view service as invisible, perishable and consumer-centered [11]. One approach defines service quality from the point of view of differences between expectations and actual perceived service quality and emphasizes that quality of service is judged by results obtained [12]. One measurement model is adjusted or developed based on the classic SERVQUAL model [13]. Another model extends from the concept of product quality to quality of service and tries to comprehensively measure quality of service from many angles. Cronin and Brady [14] defined quality of service from different abstract levels; they proposed a hierarchical measurement model, including physical environment, interaction, results and enhanced awareness of the concept of quality of service. The advantage of this measurement model is that service quality is based on specific service performance, which is different from that of SERVQUAL for specific

scenarios [15].

Based on the above research and considering the uniqueness of leisure sports events, we defined service quality here as a combination of environment, interaction and outcomes, with reference to Cronin's and Brady's three-dimensional measurement model [14]. Environmental quality refers to elements such as social factors, design factors and environmental conditions, and interactive quality refers to interactive relationships between participants, volunteers and service personnel. Quality of outcomes is related to realization of participants' expectations of the events. Therefore, we hypothesize:

H1: Environmental quality has a significant positive effect on service quality.

H2: Interaction quality has a significant positive effect on service quality.

H3: Outcome quality has a significant positive effect on service quality.

1.2.2 Service Quality, Satisfaction and Subjective Well-being

Satisfaction is composed of both cognitive and emotional aspects [16]. We used Yoshida's and James' [17] definitions of participants' satisfaction in sports events as sense of pleasure from participating in activities. At present, there is no consensus among scholars as to the relationship between service quality and satisfaction. Some believe that satisfaction is the antecedent of service quality perception and most believe that higher quality service leads to an increase in customer satisfaction [18]. In studying sports and leisure activities, scholars have supported service quality as the predicate for improving consumer satisfaction [19] [20]. On this basis, many scholars have further discussed the relationship between service quality and satisfaction in relation to sports events. Different conclusions have, however, been reached: some scholars have found that the influences of environment and

interaction on satisfaction was greater than that of other outcomes [21]. Other scholars believe that activities – such as event arrangement and one's own performance– has a greater impact on satisfaction than other outcomes [21] [22]. Based on the above research, we assert that all dimensions of service quality can have a positive impact on participants' satisfaction. Therefore, we hypothesize:

H4: Service quality has a significant positive effect on participants' satisfaction.

It is well-established that customer satisfaction can be enhanced by providing better service to improve customer well-being [23]. This aforementioned study also confirmed that, in case of positive and pleasant results, experiential – rather than material – leisure consumption can bring greater happiness to consumers [24]. The significant positive impact of satisfaction on subjective well-being related to participation in leisure and sports activities has been widely verified [25] [26]. Chen [27] showed that service quality ultimately affected well-being by affecting activity satisfaction, which acted as an intermediary variable in his model. In a study of regularly scheduled running activities, Nicholas [28] confirmed that dimensions of service quality had a positive impact on well-being and activity satisfaction, and level of activity satisfaction directly affected level of well-being.

Thus, we presumed that improving mood and overall satisfaction with service quality of events would lead to greater happiness. That is, participants' satisfaction with leisure sports events should determine subjective participant well-being. Therefore, we hypothesize:

H5: Hikers' satisfaction with an event has a significant positive effect on subjective well-being.

3) 1.2.3 Service Quality, Leisure Involvement and Subjective Well-being

In recent years, scholars have explored people's behaviors and attitudes in relation to leisure activity involvement. Wiley [30] interpreted participants' degree of leisure involvement as illustrating the significance, benefit and relevance of such activities to them. Havitz [31] defined leisure involvement as a potential motivation that arouses interest in leisure activities but cannot be directly observed. Measurement of leisure involvement has gradually developed a multi-aspect conceptual model. The most prominent consumer involvement profile (CIP) scale [29] asserts that there are five aspects of involvement: importance, pleasure, sign value, risk probability and risk importance. McIntyre [32] introduced the CIP scale into the field of leisure and proposed that leisure involvement should be explained from three dimensions: attraction, centrality and self-expression. Domestic scholars Yu Yong and Tian Jinxia [33] defined leisure involvement as cyclists' degree of commitment and concentration and positive psychological effects gained from cycling. Though there have been few empirical studies of service quality and leisure involvement, many scholars suspect that there is a relationship between service quality and leisure involvement [34]. Based on the above-cited research, we assert that leisure involvement includes behavioral involvement and social-psychological involvement. In relation to large-scale hiking, the former describes time and money expended for hiking, while the latter measures the importance of pleasure and symbolism. McGinnis and Gentry [35] meanwhile found that leisure experiences can satisfy golf participants while maintaining a high degree of participation. Therefore, we hypothesize:

H6: Service quality has a significant positive effect on leisure involvement.

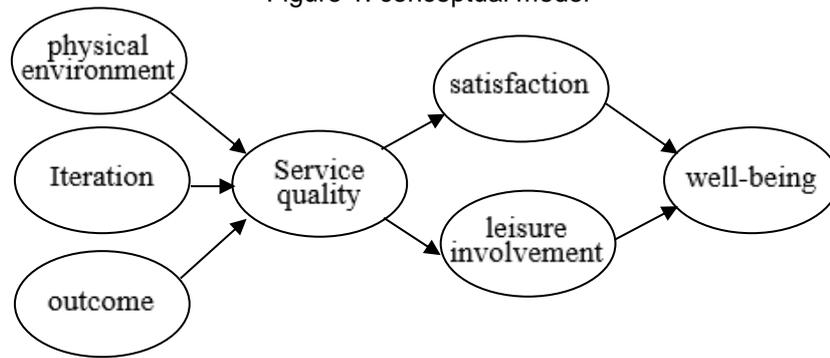
Continuous engagement in a particular leisure activity can alleviate the pressures of life and

contribute to happiness, suggesting that degree of leisure involvement is positively correlated with feelings of well-being [36] [37]. Many studies have shown that the degree of involvement of leisure participants has a significant effect on their subjective well-being, and that leisure involvement can predict overall well-being. Tang

Huijuan studied the effect of leisure activities on leisure perception and overall well-being and reported that participation in leisure activities can help establish good interpersonal relationships and reduce stress [38].

Based on the above assumptions, we used the model shown in Figure 1.

Figure 1. conceptual model



2. Sample and Research Design

2.1 Sample

The origin of the 100-kilometer Hike Through Shenzhen sponsored by DoYouHike.net was in the ‘Checking the Length of Shenzhen by Hiking’ event held in 2001, which had just 52 participants in comparison to more than 20,000 who participated in the 19th annual event in 2019. What began as a regional activity grew into a broader leisure sports activity that now draws hiking enthusiasts from all over country. We use this annual hike as a case study because it is an excellent example of a large regularly-held leisure sports event organized on a voluntary, non-profit basis.

2.2 Research Design

After consulting the relevant literature and conducting a focus group, we determined measurement variables for our questionnaire. The focus

group had eight participants who represented three groups of people: hiking enthusiasts willing to participate in the 100-kilometer Hike Through Shenzhen, previous participants in the event and official staff members. An early survey draft was administered to several hiking enthusiasts and then revised to make it easier to understand. The questionnaire included participant demographics (e.g., gender, age, education level, monthly income, place of residence, participation experience and other basic personal information) as well as questions about six other variables (physical environment, interaction, outcome, leisure involvement, satisfaction and subjective well-being) and 22 observation variables. Variables were designed with reference to relevant literature (see Table 1). Items were evaluated on a 5-point scale in which 1 = totally disagree and 5 = totally agree.

Table 1 Variable measurement item

Variable	No.	Observed variable	Sources
Physical environment	PEQ1	The atmosphere was very good during the hike	Alexandris [38]
	PEQ2	There was a lot of support from sponsors during the competition	

	PEQ3	The service and ceremony are well designed	
	PEQ4	High quality of interaction with organizers.	
Interaction	IQ1	The staff is very polite	Alexandris [38]
	IQ2	The staff is well-knowledge	
	IQ3	Staff to provide timely services	
Outcome	OQ1	It is a great hiking experience	Alexandris [38]
	OQ2	It is good for both the physical and mental health	
	OQ3	It makes a lot of sense to take part in this activity	
Leisure involvement	LI1	I keep spending money on hiking	Ridinger [39]
	LI2	I keep spending time on hiking	
	LI3	I keep practicing to improve my hiking proficiency	
	LI4	Hiking is a necessary part-time activity in my life	
	LI5	I got a sense of pleasure from hiking	
	LI6	Hiking explains who I am	
Satisfaction	SA1	I am satisfied with the decision to take part in the event	Brady [40]
	SA2	I'm glad to be part of this event.	
	SA3	I think it's the right thing to be here	
Subjective Well-being	HP1	I am glad to think that I have been in the competition	Nicolao [42]
	HP2	The participation in the competition improved my overall happiness.	
	HP3	I think the money for the event is worth it.	

2.3 Data acquisition

On May 11, 2019, eight members of the trained research group participated in the entire annual 100-kilometer Hike Through Shenzhen event. A total of 448 paper-based questionnaires were collected by convenient sampling at three points: during the admission period at the beginning of the event, at the refreshment station and the rest point. After the event, we used the official event exchange group to send online questionnaires to more participants and an additional 202 surveys were collected for a total of 650 questionnaires, of which 602 (92.6%) were considered valid. (Questionnaires were determined to be invalid if the respondent spent less than three minutes completing it, if multiple responses were selected for the same question or if the responses were incomplete.)

Approximately three-quarters (75.2%) of respondents were male and 24.8% were female. Most of the respondents (61%) were age 25-34, while those 16-24, 35-44 and 45-49 years old

accounted for 15%, 17% and 7%, respectively. This was generally in line with widely estimated characteristics of long-distance hikers. As for educational attainment, 78% of participants had a high school and college education, 12% held a postgraduate degree and only 10% had less than a high school diploma. The vast majority (82%) of participants were from Shenzhen. Most of the hikers (80%) had participated previously in this event, although 20% had not; 42% reported they had participated once before and 38% reported that they had participated two or more times. Distribution of monthly income was relatively uniform., people with a monthly income of less than 5000 yuan account for 12%, while those who earned more than 20000 yuan make up 13%. In between, the proportion of monthly income from 5000 yuan to 6999 yuan was 19%, while 7000-8999 yuan 20%, 9000-11999 (18%), 12000-14999 yuan (10%),and 15000-19999 yuan (8%). Overall, hiking participants were mainly young and middle-aged men, and most of

the them had received higher education. It is expected that people with higher levels of education have higher levels of awareness of leisure opportunities.

3. Data Analysis and Results

3.1 Reliability and validity test

We used SPSS 24.0 to test the reliability and validity of the data. Cronbach’s alpha was used to test reliability. The higher Cronbach’s coefficient, the higher the reliability of measurement. It is generally believed that data is adequately reliable if Cronbach’s alpha is greater than 0.7 [40]. The overall reliability of our questionnaire results was 0.927, and Cronbach’s coefficient of each latent variable was greater than 0.7. Thus, reliability was high, indicating that the internal consistency of the questionnaire was quite good (Table 2). We then measured validity of the scale by using a Kaiser-Meyer-Olkin (KMO) test, whose results showed an overall KMO value of the questionnaire of 0.923, greater than the minimum standard value of 0.5, showing that the questionnaire was suitable for factor analysis. The convergence validity was reflected by standard load, average variance extraction (AVE) and combinatorial reliability [41]. According to the data in Table 2, after deleting LI1, LI2 and PEQ1, with factor loads of less than 0.7, the factor load of

observed variables was between 0.731 and 0.905. All the indices were greatly improved, and the convergence of scale reached an ideal level [43]. AVE values of each latent variable were between 0.589 and 0.760 – all of which were greater than 0.5 – indicating that the six latent variables obtained a high degree of variation from their corresponding observed variables, and the measurement model had very good convergence [44]. Combinatorial reliability (CR) is an index used to test reliability of latent variables in a structural equation measurement model. If the CR value of the latent variable is between 0.6 and 0.7, the construction reliability of measurement model is good; if the CR value is greater than 0.7, the construction reliability of the measurement model is very good [45]. The CR values of each latent variable in this study were all greater than 0.7, indicating that the internal consistency of the research model was very good. Finally, AVE value was used to test discriminant validity. If AVE values are greater than the squared value of the correlation coefficient between corresponding latent variables, discriminant validity is good [46]. We tested the discriminant validity of the construction of this study, and it was good.

Table 2 Descriptive Statistics and Reliability Test and Convergence validity of the scale

Construct	Items	Mean (Std. Deviation)	Standard factor loading	Composite reliability	Average variance extracted	Cronbach’s α
Physical Environment	PEQ1	4.24(0.715)	0.591*	0.829	0.619	0.822
	PEQ2	3.57(0.958)	0.75			
	PEQ3	3.65(0.887)	0.841			
	PEQ4	3.56(0.894)	0.767			
Interaction	IQ1	4.31(0.713)	0.731	0.840	0.637	0.832
	IQ2	4.03(0.812)	0.864			
	IQ3	4.00(0.841)	0.794			
Outcome	OQ1	4.23(0.740)	0.779	0.871	0.693	0.866
	OQ2	4.40(0.660)	0.866			

	OQ3	4.46(0.694)	0.85			
Leisure	LI1	3.95(0.784)	0.498*	0.851	0.589	0.832
	LI2	3.80(0.854)	0.569*			
	LI3	4.21(0.672)	0.756			
	LI4	4.23(0.710)	0.734			
	LI5	4.24(0.739)	0.777			
	LI6	4.40(0.658)	0.801			
Satisfaction	SA1	4.41(0.682)	0.827	0.905	0.760	0.901
	SA2	4.32(0.709)	0.905			
	SA3	4.20(0.777)	0.882			
Subjective well-being	HP1	4.12(0.832)	0.868	0.882	0.713	0.877
	HP2	4.24(0.715)	0.87			
	HP3	3.57(0.958)	0.793			
Cronbach's $\alpha=0.927$			KMO=0.923			
Bartlett's test : Chi-Square =7793.961			df=190	Sig.=0		

*: Not up to ideal standard, standard factor load < 0.7

3.2 Model fitting and correction

Using reliability and validity scores, we constructed the absolute fitness index (c^2/df , RMSEA), value-added adaptation index, Tucker-Lewis index (TLI), comparative fit index (CFI) and other indices to judge the fit of the model. Most indices which fit the original model reached the threshold value, indicating that the setting of the structural equation model was reasonable. However, the index can be revised (multiple imputation). We discovered that the model can increase the path of 'E13 / E14' to further modify; that is, there was a covariant relationship between the residual terms of two observation variables involved in leisure, and the chi-square value can be reduced by 85.014. From a theoretical level, there can be a covariant relationship between residual terms of index variables, and the path accords with setting of structural equation model. However, considering the actual levels, there was indeed a certain correlation

between the two. The more participants in leisure activities regard hiking as an integral part of their lives, more likely they are to devote time to practice hiking. Therefore, the recommendation given by model correction index was adopted to connect E13 and E14. The results of a confirmatory factor analysis showed that the statistical values of $c^2/df = 2.897 (< 3)$, RMR = 0.035 (< 0.005) and RMSEA = 0.056 (< 0.008). The other indices – namely, CFI = 0.965 and TLI = 0.956 – were more than 0.9, indicating that the overall fit of the samples was excellent.

3.3 Results

We tested our hypotheses using Mplus7, and results showed that the variance and residual of the model were positive and significant, so we conducted a further fitting test. We built a modified structural model path (Table 3) and a modified structural model path diagram (figure 2). This led us to a number of notable discoveries:

Table 3 Modified structural model path

Hypothesis path	Standardized estimate	S.E.	C.R.	P-Value	Hypothesis results
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H1 : Physical environmental→ Service quality (PEQ→SQ)	0.706	0.033	21.541	***	Support
H2 : Interaction → Service quality (IQ→SQ)	0.768	0.079	23.938	***	Support
H3 : Outcome → Service quality (OQ→SQ)	0.892	0.058	42.255	***	Support
H4 : Service quality →Satisfaction (SQ→EST)	0.626	0.039	16.244	***	Support
H5 : Satisfaction →Subjective well-being (EST→HAP)	0.233	0.043	5.416	***	Support
H6 : Service quality →Leisure involvement (SQ→LI)	0.753	0.048	15.795	***	Support
H7 : Leisure involvement → Subjective well-being (LI→HP)	0.677	0.042	16.242	***	Support

* : P < 0.05, ** : P < 0.01, *** : P < 0.001

3.3.1 Physical environment, interaction, outcome and event service quality

Table 3 and Figure 2 show that the quality of the physical environment, human interaction and outcomes had significant positive effects on the service quality of leisure sports events. For example, quality of physical environment had a significant positive effect on service quality ($b = 0.706, p < 0.001$), which supported our first hypothesis. Quality of human interaction had a significant positive effect on quality of service ($b = 0.768, p < 0.001$), which supported our second hypothesis. Quality of outcomes had a significant positive effect on quality of service ($b = 0.892, p < 0.001$), which supported our third hypothesis. Among factors affecting leisure sports events, the quality of outcome was the most important factor. And the perception of the quality of the event depended on many factors, and different factors had different effects on different participants. But the main factor was whether desired results were achieved. The interactive experiences accompanying the event and environmental factors also were important considerations. When these three factors were

enhanced, participants' satisfaction with the event was significantly improved.

3.3.2 The mechanism of service quality and participants' satisfaction on subjective well-being

The service quality of this event had a significant positive effect on participants' satisfaction ($b = 0.626, p < 0.001$), which supported our fourth hypothesis. Satisfaction had a significant positive effect on subjective well-being ($b = 0.233, p < 0.001$), which supported our fifth hypothesis. This shows that when participants met their expectations of satisfaction with leisure sports events and their own physical and psychological needs, subjective well-being improved.

3.3.3 The mechanism of service quality and leisure involvement on subjective well-being

Service quality had a significant positive effect on leisure involvement ($b = 0.753, p < 0.001$), which supported our sixth hypothesis. Leisure involvement had a significant positive effect on participants' well-being ($b = 0.677, p < 0.001$), which supported our seventh hypothesis. Once

the event created interest and motivation, participants had a sustained willingness to participate, and participation significantly enhanced their subjective well-being.

4. Research Conclusions and Discussion

4.1 Conclusions

Taking the 100-kilometer Hike Through Shenzhen as an example, we examined service quality on three dimensions: physical environment, interaction and outcome. We discussed the influence of those dimensions on the service quality of the event and, in turn, the influence of that service quality on the subjective well-being of participants. The results showed that physical environment, interaction and outcome each had significant positive effects on the service quality of the event, and outcome play a most important role for ensuring high service quality. The form of the event and the social atmosphere during it appeared to affect participants' perception of the quality of the event, but participants paid more attention to the leisure experience and the physical and mental challenges that hiking brought to them. The quality of the event had a significant positive effect on subjective well-being by affecting satisfaction and leisure involvement. This suggests that sports and leisure events can improve subjective well-being by improving leisure involvement and satisfaction respectively, although 'leisure involvement' had a more significant positive effect on improvement of participants' subjective well-being over time.

4.2 Suggestions

Based on the conclusions above, we have some suggestions to help participants increase positive psychological feedback from such activities and also to help event organizers with their marketing.

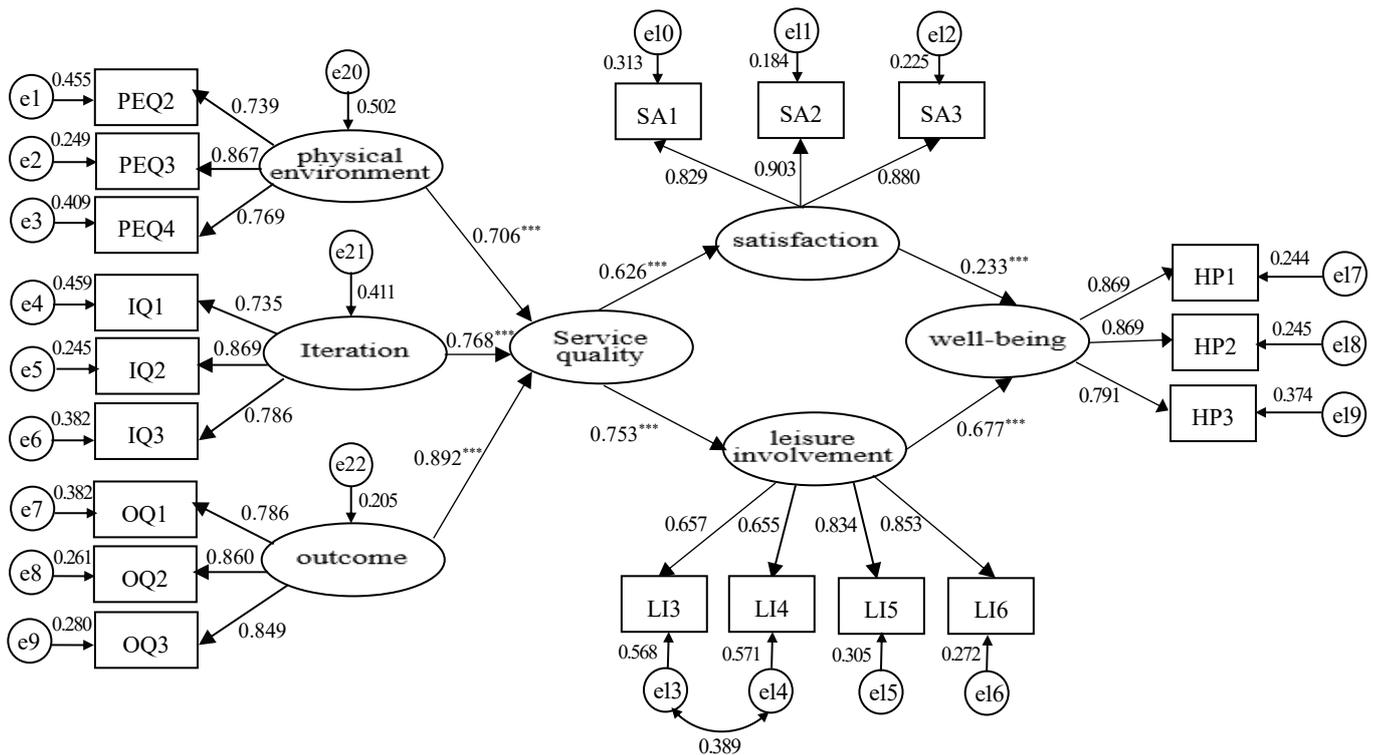
Leisure sports events are non-competitive and requirements for participation are not high. Therefore, requirements for the environments of

leisure sports events are not so crucial. Participants seek to achieve desired results from group activity. Because of this, organizers should further highlight natural and cultural elements of hiking in terms of publicity and route design, adding to participants' opportunities to be close to nature and experience culture while hiking through optimizing hiking route. The focus of customer service in the activity should be to help participants immerse themselves in activities without negatively affecting their normal hiking progress. At the same time, interaction between organizers, staff and participants should be strengthened. So in addition to providing services, staff members can encourage participants – by, for example, verbal cues and eye contact – to help hikers try their best to complete the entire hike, giving participants more confidence and motivation. Encouraging participants to devote themselves to hiking can also increase their perceptions of quality of interaction with staff. The interaction between organizers and participants can be reflected through official opinion collection channels during (or immediately after) events. Experienced hikers should be encouraged to share their skills – for example, regarding equipment selection – so new hikers can gain a better understanding of various facets of hiking. Improving satisfaction and involvement of participants is important in helping improve subjective well-being. Leisure sports events have the potential to provide satisfaction and enhance subjective well-being of a large number of participants. Promotion of leisure involvement can have a long-term, sustainable effect on subjective well-being, as participants can be stimulated by internal and external factors while participating as well as after events. By generating more motivation and incentive to persuade someone to participate in leisure sports activities – and produce a sustained willingness to participate –

subjective well-being will be further enhanced, forming a virtuous circle. In addition to ensuring the service quality of the hiking event, organizers should pay attention to participants' self-expression, better understand the lifestyle of hiking enthusiasts and add appropriate knowledge and information to activities, stimulating continued participant enthusiasm for leisure activities. By establishing an interactive exchange platform for

leisure sports events, organizers can encourage participants to share their knowledge and experiences, strengthen targeted publicity and motivate participants to deepen their degree of leisure involvement. Marketing campaigns with an emotional component can deepen participants' sense of identity with regard to the event, enhance individuals' physical well-being and promote a 'healthy China'.

Figure 2. Modified structural model path



4.3 Limitations and future research

(1) We used six variables in our study of leisure involvement. Reliability and validity tests and confirmatory factor analysis suggested that there was only one item left at level of LI1 and LI2 – behavioral involvement. There was a significant correlation between LI4 and LI5. This implies that hiking, as a sport with a low threshold for participation, is not regarded by public as a competitive activity and is recognized for having varying degrees of expertise, thus most participants have not been engaged in relevant professional training. Participants were more likely to

challenge themselves to participate in activities. Over time, it is expected that people who take part in those activities will become more professional.

(2) We did not test whether leisure involvement and satisfaction acted as mediating factors between service quality and subjective well-being, but this question could be explored in future research.

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