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# **A Study of Cyclists, Participation Motivation, Serious Leisure and Recreational Specialization**

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## **Author's contribution**

*The sole author designed, analysed, interpreted and prepared the manuscript.*

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## **ABSTRACT**

The purpose of this study is to analyze the structural relationship among cyclists' participation motivation; serious leisure and recreational specialization. In this study, cyclists were used as the research object, non-random sampling method was used, and a total of 237 effective questionnaires were collected. After descriptive statistics and partial least squares (PLS) statistics analysis, the results show that: the cyclists' participation motivation is higher, their characteristics of serious leisure are more obvious, and the recreational specialization also higher; and cyclists have characteristics of serious leisure their recreational specialization is also higher. In addition, the study also confirms that serious leisure has a mediate effect on recreational specialization.

*Keywords: Cyclist; participation motivation; recreational specialization; serious leisure.*

## **1. INTRODUCTION**

In recent years, with the prevalence of leisure culture in society, more people are devoted to cycling activities during leisure time. It was

originally just a leisure activity, and gradually developed a close friendship due to their serious involvement, attention and recognition of the activity, and interact with other cyclists. Because cyclists are seriously involved in this leisure

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activity, with the increase of experience, they have also changed from amateur cyclists to professional cyclists with improved bicycle skills and knowledge, which is processed from serious leisure [1] to recreational specialization [2]. But there are few studies on how cyclists learn from amateur recreational cyclists, transformed into serious leisure cyclists and become experts. Although the research on the relationship between serious leisure and recreational specialization has been paid attention by researchers, some studies have confirmed that serious leisure has a positive effect on recreational specialization [3], but most researchers still prefer to use an independent variable to analyze dependent. For example, the relationship between recreational specialization and place attachment [4], the relationship between serious leisure and involvement [5], but few scholars connect the application of the two variables from a theoretical point of view [6]. Based on the above mentioned background analysis, this study intends to select three elements of cyclists' participation motivation, serious leisure, and recreational specialization, examine their internal relationship from a structural perspective, establish a conceptual model and hypothesis based on the review of the literature, and use the empirical analysis to verify, hoping to provide a basis for people to participation in bicycle leisure activities through this study on the basis and practice of marketing reference.

## **2. LITERATURE REVIEW AND CONCEPTUAL MODEL**

### **2.1 Leisure Motivation**

Munn, Fernald and Fernal [7] defined motivation as a kind of internal activity, such as interest and attitude, which can influence and change behavior [7]. Maslow [8] thinks that the motivation is drive individual force of growth, which is composed of different levels and properties. There are different needs among them, and each level has a sequence, and the level of needs and satisfaction of each level will determine individual personality development [8]. In terms of leisure motivation, Crandall [9] pointed out that leisure motivation is based on the individual's demand for leisure and recreation, which causes the individual to engage in and maintain the leisure activities, and leads the activities to carry out an internal process towards a certain goal, so as to meet the individual's leisure needs through the participation of leisure

activities [9]. Beard and Ragheb [10] also pointed out that leisure motivation is the psychological and social reasons for people's participation in leisure behavior, and its leisure motivation includes five aspects: exploration, achievement, physical and mental, social and relief demand [10]. Kelly [11] divides leisure motivation into intrinsic and extrinsic motivation. The former refers to the internal psychological needs or desires that drive individual behaviors to take place and engage in leisure purely for their own or their own internal comfort and pleasure. The latter refers to the external situational stimulation, and engaging in leisure is an attribute for external factors or others [11].

### **2.2 Serious Leisure**

Stebbins [12] elaborated on the phenomenon of leisure participation by exploring the degree to which people are involved, committed to and identified through leisure [12]. He created the term "serious leisure" to refer to individuals having a committed orientation toward participation in a particular recreation activity that is personally meaningful to them [13]. Compared with casual leisure, only short-term reward and pleasure, deep leisure can bring long-term participation benefits and activity rewards to participants [14]. Stebbins [12] conceptualized the phenomenon of serious commitment to a particular recreational activity as serious leisure, which refers to "the systematic pursuit of an amateur, hobbyist, or volunteer activity sufficiently substantial and interesting for participants to find a career there in the acquisition and expression of a combination of its special skills, knowledge, and experience" (p. 3) [12]. Stebbins (1992) pointed out that there are six characteristics of serious leisure people [12]: perseverance, significant effort, career development, durable benefits, strong identification, and unique ethos. Individuals who experience serious leisure involvement exhibit these six qualities and as outcomes, they may gain personal and social benefits [13].

### **2.3 Recreational Specialization**

The origin of recreational specialization is mainly from Bryan's (1977) research on trout fishers [2]. Bryan (1977) defined recreational specialization as "the preference for sports and activity environment, and therefore the continuous behavior with equipment and skills, from ordinary to special" [2]. Recreational specialization has generally been treated by leisure researchers as

a measure of intensity of involvement and has been used to explore variation among activity participants in terms of their preferences, motivations, attitudes, and the like [15]. McIntyre and Pigram [16] study on recreation specialization, using the concept of specialization ring proposed by Little [17] as an indicator of specialization [16]. Little [17] thinks that the recreational people with expert characteristics have the following characteristics [17]: 1. Spend a lot of time in the activities; 2. Have a strong sense of participation in the activities; 3. Learn advanced professional knowledge in the activities; 4. Closely integrate with the participants to get a sense of happiness. Little's specialization includes cognitive, emotional and behavioral systems. McIntyre and Pigram [16] divided campers' specialization into three aspects [16]: cognition (environmental attributes, skills, knowledge), behavior (past experience, familiarity with recreational environment), emotion (importance, happiness, self-expression, centrality). In Lee and Scott's [18] specialization research, according to the relevant research, the specialization indicators are divided into behavior involvement, skills and knowledge, behavior commitment, and personal commitment [18].

## 2.4 Research Hypothesis

In the past relevant leisure research, it is found that motivation and serious leisure are related [19]. Herman [20] studied the relationship between cyclists' leisure motivation and serious leisure, and found that there was a correlation between them, among which demographic variables had a high effect [20]. As for the relationship between serious leisure and recreational specialization, there are many

scholars to link and verify the relationship between them. For example, Tsaur and Liang [3] research found that the serious leisure has a positive relationship with recreational specialization. Having a career in a recreational endeavor, making significant personal efforts and identifying strongly with the activity are the major predictors of recreational specialization. All of the qualities of serious leisure that were evaluated with the exception of the unique ethos were found to be positively related to past experience and centrality-to-lifestyle [3]. Lee and Scott [21] take the members of American Bird Watching Association as the subjects, and the empirical results show that serious leisure and recreational specialization are highly related [21]. Tsai (2018) studied the relationship among motivation, recreational specialization and serious leisure of leisure tennis players. The results showed that participation motivation had a significant positive effect on serious leisure, indicating that the higher the participants' recreational motivation, the higher the serious leisure. And that participants' recreational motivation and serious leisure have a significant effect on recreational specialization [22]. Based on the above, this study proposes the third hypothesis as follows:

H1: the higher the motivation of cyclists to participation in bicycle activities, the higher serious leisure characteristics.

H2: the higher the motivation of cyclists to participation in bicycle activities, the higher recreational specialization.

H3: the more obvious the cyclist's serious leisure characteristics, the recreational specialization.

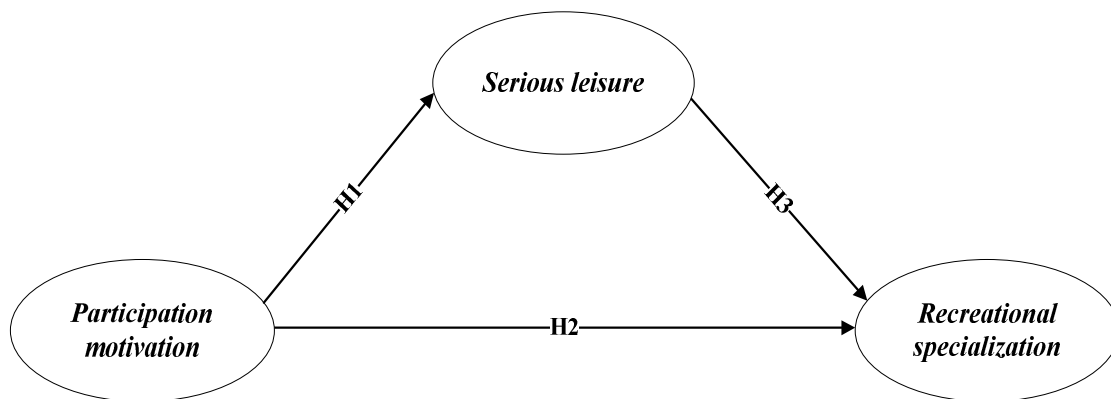


Fig. 1. Research framework

### 3. METHODOLOGY

#### 3.1 Subjects and Sampling

The Xiamen is one of the most beautiful tourist cities in China, while the island bike lane often attracts professional cyclists and tourists to engage in cycling activities. In order to meet the characteristics of the study's recreation specialization, this study focuses on cyclists who are engaged in cycling around the island. Tourists rent bicycle and residents ride ordinary bicycles (not for leisure) are not subject in this study. In order to effectively distinguish cyclists from general tourists, this study first inquired the opinions of the members of two bicycle clubs in Xiamen before the survey, and according to their suggested that a fixed-point survey should be conducted in the coastal park around the island bicycle lane. The reason for the survey is that most cycling club members and individual cyclists will rest here. In addition, the two club members also promised to help fill in the questionnaire. If they were not present at the time of the survey, they suggested that the researcher should judge whether they are cyclists or tourists (renting is a general bicycle, with single, double, three seat). After confirming that they are cyclists rather than tourists, the researcher then asked the cyclists about their willingness to fill in the questionnaire. If they answer have free time and can help this study, the research assist will give questionnaire to fill in. In this study, a total of 250 questionnaires were given to members, 237 valid questionnaires were collected, the valid rate was 94.8%.

#### 3.2 Questionnaire

This research questionnaire is divided into four parts, the first part is the cycling participation motivation scale, which is mainly to understand the reasons for cyclists to participation in bicycle activities. There are 15 questions in this part of the scale, and 5 factors, which are relieve stress, experience nature, social interaction, Learn new knowledge and self-challenge. This part of the scale mainly refers to the leisure participation motivation scale [9,10] and leisure participation motivation research [11]. The second part is the serious leisure scale, which is mainly to understand the characteristics of cyclists' serious involvement in bicycle leisure activities. There are 18 questions in this part of the scale. The six factors are perseverance, career, durable benefits, efforts, unique spirit and Identify. This part of the scale mainly refers to the serious leisure participants have six characteristics [1,12]

and related serious leisure research [14,17]. The third part is about the scale of recreational specialization, which is mainly to understand the professional level of cyclists and their cycling activities. There are 13 items and 3 factors in this scale, namely commitment, behavior involvement and skill knowledge. This part of the scale is mainly based on the characteristics of recreation specialization [2] and related research [14,15,17]. The above three scales are measured by Likert's five-point scale, ranging from very agree (5 points), agree (4 points), common (3 points), disagree (2 points), to very disagree (1 point). The fourth part is cyclists their demographic characteristics, included: gender, age, education level, monthly income, marital status, and occupation.

#### 3.3 Statistical Methods

The effective questionnaires collected in this study are statistically analyzed using the following steps: 1. Use statistical software SPSS for Windows 23.0 and method of descriptive statistics to analyze the demographic variables of the cyclists. 2. Use statistical software Warp-PLS 6.0 and the statistical method of partial least squares (PLS), to analyzed the reliability and validity of cyclists' participation motivation, serious leisure and recreational specialization scale, as well as the among influence relationship of three variables. 3. In terms of the reliability and validity measurement indicators, the two indicators of composition reliability (CR) and Cronbach's  $\alpha$  value are used to judge. The average variation extraction (AVE) are used to determine whether the potential variable has aggregation validity [23]. In the structural model, it depends on (1) whether the standardized path coefficient is statistically significant; (2) the interpretation ability of the model is judged by  $R^2$  [24].

### 4. RESULTS AND DISCUSSION

#### 4.1 Respondents Profile

Of the 237 valid samples collected in this study, 190 (80.2%) were male and 47 (19.8%) were female. In terms of marital status, 203 unmarried people (85.7%), 4 married people without children (1.7%), and 30 married people with children (12.7%). In terms of age, there are 114 people (48.1%) aged 20, 94 (39.7%) aged 21-30, 17 (7.3%) aged 31-40, 9 (3.8%) aged 41-50 and 3 (1.3%) aged over 50. In terms of education level, there are 15 students (6.3%) with junior high school level (including below), 21 with

senior high school level (8.9%), 147 with junior college level (62%), 44 with undergraduate level (18.6%), and 10 with postgraduate level (4.2%). In terms of occupation, there are 173 people (73%) in the industry and commerce service industry, 10 people (4.2%) in the public education of the military police, 11 people (4.7%) in the students, 6 people (2.2%) in the free industry, 32 people (13.5%) in the manufacturing industry and 6 people (2.5%) in the agriculture, forestry, fishery and animal husbandry. In terms of personal monthly income, there are 199 people (84%) with a monthly income of less than 5000 yuan (US\$=714), 12 people (5.1%) with a monthly income of 5001-7000 yuan (US\$=714-1000), 3 people (1.3%) with a monthly income of 7001-8000 yuan (US\$=1000-1143), 1 person (.4%) with a monthly income of 8001-9000 yuan (US\$=1143-1285), and 22 people (9.3%) with a monthly income of more than 9001 yuan (US\$=1285.86).

#### 4.2 Analysis of the Reliability and Validity of Scales

The analysis results from Table 1 show that the component reliability and Cronbach's  $\alpha$  value of each factor of this scale meet the standard, and it has a high degree of reliability. In terms of validity, the average variation of each scale factor is higher than .60, indicating that each scale has a high convergent validity.

#### 4.3 Analysis of Discriminant Validity

Table 2 shows that the AVE square root of all potential variables is between .75 and .70, and the AVE of each potential variable is greater than all the correlation coefficients of the same column, indicating each scale have good Discriminant validity.

#### 4.4 Analysis of Structure Model

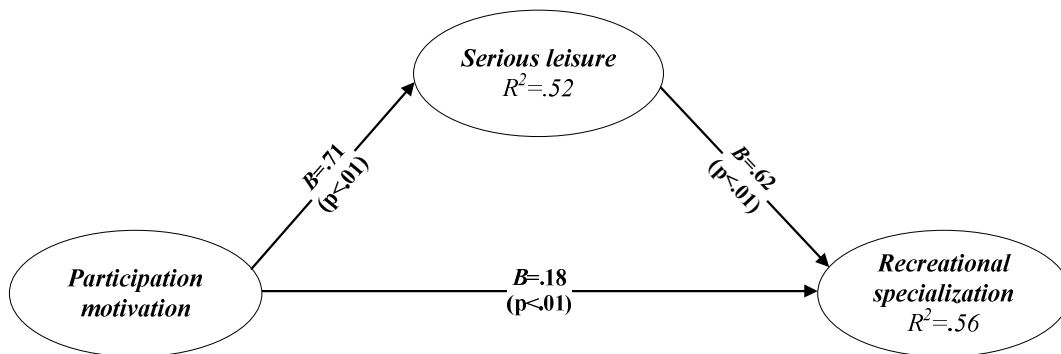
In this study, the test of structural model is used, and the results of structural equation mode are shown in Fig. 2. In Figure, the path coefficient is standardized expression coefficients ( $\beta$  value). The analysis results show that participation motivation has a positive effect on serious leisure ( $\beta = .71, p < .01$ ); participation motivation ( $\beta = .18, p < .01$ ) and serious leisure ( $\beta = .62, p < .01$ ) also have a positive effect on recreational specialization. Therefore, from the perspective of the structural relationship, due to the positive influence of participation motivation on serious leisure and recreational specialization, serious leisure also plays a part of a mediating effect role in the structural model [25]. In addition, from the results of the relationship between the variables in Fig. 2, that the explanatory power of participation motivation to serious leisure is 52%, and that to recreational specialization through serious leisure is 56%.

Table 1. Analysis of the reliability and validity of scales

Latent variables	CR	Cronbach's $\alpha$	AVE
<b>Participation motivation</b>			
Relieve stress	.82	.75	.63
Experience nature	.84	.72	.64
Social interaction	.80	.63	.60
Learn new knowledge	.87	.80	.70
Self-challenge	.88	.83	.72
<b>Serious leisure</b>			
Perseverance	.90	.83	.74
Career	.86	.76	.70
Durable benefits	.86	.76	.70
Effort	.89	.82	.74
Unique spirit	.91	.85	.77
Identify	.88	.78	.70
<b>Recreational specialization</b>			
Commitment	.91	.86	.71
Behavioral involvement	.81	.70	.52
Skill and knowledge	.88	.83	.60

**Table 2. Analysis of discriminant validity**

Latent variables	Participation motivation	Serious leisure	Recreational specialization
Participation motivation	.75		
Serious leisure	.69	.85	
Recreational specialization	.51	.70	.74



**Fig. 2. Structure model**

**5. DISCUSSION**

The results show that cyclists' motivation to participation in cycling activities has a positive effect on serious leisure, so hypothesis 1 is supported. Show that cyclists are engaged in their own activities, the main purpose of which is to achieve relieve stress, experience nature, social interaction, learn new knowledge, and self-challenge. According to research, for all cyclists, the most powerful leisure motivation is the sense of ability. The strongest motivation for leisure is a sense of pleasure, followed by hard work. A cyclist wants to feel capable when riding a bicycle, wants to feel hard work while riding a bicycle, wants to have a sense of pleasure [20]. And serious leisure view is regarded as the transformation of life style, as well as the individual expression of self-participation in leisure activities and self, culture and leisure [26]. Because of the above reasons, they can continue to engage in activities, and then produce the characteristics of serious leisure cyclists [1,12,13]. Compared with previous studies, the above results support that leisure motivation directly affects serious leisure [21]. Therefore, it can be found that when cyclists are engaged in bicycle activities, the higher and more positive motivation they are participating in, and they will continue to participation in activities, and seriously engage in this leisure activity, as a part of their own life, relatively, the higher the degree of investment. The results show that the motivation of cyclists' participation also has a positive effect on recreational specialization, so

hypothesis 2 is supported. It shows that the higher the cyclists engage in cycling activities, the more committed they are to the activities, the more involved they will be in the activities, and the more advanced their cycling skills and knowledge will be. Compared with previous studies, the above results support that leisure motivation directly affects recreational specialization [19,21].

The results show that cyclists' serious leisure characteristics in cycling activities have a positive effect on recreational specialization, so hypothesis 3 is supported. It shows that the cyclists are unremitting in their participation in the activities, and they are as committed as their own career, and constantly get lasting personal benefits from the activities. Therefore, they have a unique spirit and a strong spirit in their efforts to participation in the activities. The above characteristics of serious leisure make him not only commit to activities, but also constantly involve in activities, and improve his cycling skills and knowledge. The above results support Scott [6] to point out that the two variables of serious leisure and recreational specialization can be used in different activities, can be measured, and evaluate the degree of serious leisure and recreational specialization [6]. And Tsaur and Liang [3] took bird watchers as an example to explore the relationship between them. The results showed that the more serious leisure characteristics, the higher of recreational specialization [3]. The results of this study are the same as those of related studies [27]. It

shows that people will participate in leisure activities more deeply and become a part of their life with the increasing involvement in leisure activities. In addition, with the increase of participation frequency, we will have a better understanding and proficiency in the activities we participate in. The level of understanding of the equipment, as well as the money invested will also be higher.

Finally, although the study found that participation motivation and serious leisure have a direct impact on recreation specialization, the influence of participation motivation through serious leisure on recreation specialization is more obvious. In other words, based on the theory of leisure participation motivation, people have a high degree of motivation to participate in bicycle. After continuous serious leisure participation, their degree of recreational specialization is higher. Therefore, in the process of participating in cycling, participants' motivation is an important factor [28], but their degree of recreational specialization is also indirectly affected by the intermediary of serious leisure. Review the research on leisure activities, we find that the reasons for the specialization of participants are all influenced by different factors, such as positive and negative social influence [29], leisure constraint [30], etc., but serious leisure is an important intermediary variable.

## 6. CONCLUSION

According to the above discussion and the hypothesis verification, this study has the following three conclusions: 1. The higher the motivation of cyclists to participate, the higher their level of serious leisure, and the more obvious their characteristics. 2. The higher the motivation of cyclists to participate, the higher their recreational specialization. 3. The more obvious the characteristics of serious leisure of cyclists, the higher their recreational specialization.

## 7. SUGGESTION

### 7.1 Suggestions to Government Sport and Tourism Sectors

The government sport and tourism sectors should handle large-scale bicycle activities through specific programs, attract and encourage people to participate, and promote and inform the benefits of people's continuous participation in bicycle activities through activities, including physical, psychological, social and learning new

knowledge. In addition, it is necessary to plan and develop cycling routes, because for cyclists with serious leisure, it is important to provide self-challenging routes so that they can continuously participate in this activity.

### 7.2 Suggestions for Bicycle Operators

For the bicycle industry (including retailers, car shops, manufacturing factories, etc.), not only to assist and sponsor the government's bicycle activities, but also to persuade the public to understand the benefits of engaging in bicycle activities in the advertising and marketing, so that they can start to engage in activities. In addition, the operators should organize a member club. With the long-term investment of these riders (members), their serious and leisure characteristics will be more obvious, and the various costs of bicycles will also be improved, which will benefit the operators in the long term.

### 7.3 Suggestions for Future Researchers

First, future researchers can survey different activities and compare with this study to understand the differences between different leisure activities. Second, cyclists from different regions can also conduct a survey to understand the relationship between the characteristics of serious leisure people and recreational specialization. In terms of research variables, because there are a lot of variables that may have an effect on leisure participation behavior, there may be intermediary or interference effects in the specialization of participants, so it is suggested that further research can add relevant variables for discussion and analysis.

## COMPETING INTERESTS

Author has declared that no competing interests exist.

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