



STUDY OF COMMITMENT TO RECREATIONAL SPORTS IN CHINESE URBAN RESIDENTS

ESTUDO DO COMPROMETIMENTO ESPORTIVO LÚDICO DOS HABITANTES URBANOS CHINESES

ESTUDIO DEL COMPROMISO CON EL DEPORTE RECREATIVO EN LOS HABITANTES URBANOS CHINOS



ORIGINAL ARTICLE
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ABSTRACT

Introduction: Exercise commitment plays an explanatory and guiding role in an individual's adherence to exercise behavior. However, exercise commitment in recreational situations is poorly studied. **Objective:** Develop a sporting and recreational behavior questionnaire based on the commitment scale for Chinese urban residents. **Methods:** Two stages were conducted, the first with a sample of 453 individuals to explore and verify the determinants of behavioral commitment in recreational sport and the fit of the framework, and the second with a sample of 786 individuals to investigate the relationship between behavioral commitment in recreational sport and its determinants. **Results:** Behavioral commitment in-play sport included five determinants: 'motivation to participate', 'personal involvement', 'choice to participate', 'opportunity to participate', 'social support'. The constructed model showed a good fit. The factors: 'motivation to participate', 'personal engagement' and 'interest to participate', showed a significant positive association with engagement and a significant negative association with a choice to participate. **Conclusion:** The resulting model shows characteristics of recreational sport behavior and can be used as a measure of commitment to recreational sport behavior among residents of a Chinese city. **Level of evidence II; Diagnostic Studies - Investigating a Diagnostic Test.**

Keywords: Leisure Activity; Community Participation; Behavior.

RESUMO

Introdução: O compromisso com o exercício físico tem um papel explicativo e orientador para a adesão do indivíduo ao comportamento do exercício, no entanto, o compromisso com o exercício físico em situações lúdicas é pouco estudado. **Objetivo:** Desenvolver um questionário de comportamento esportivo e recreativo baseado na escala de compromisso para residentes urbanos chineses. **Métodos:** Foram realizadas duas etapas, sendo a primeira com uma amostra de 453 indivíduos para explorar e verificar os determinantes do compromisso comportamental no esporte lúdico e o ajuste da estrutura, e a segunda com uma amostra de 786 indivíduos para investigar a relação entre o compromisso comportamental no esporte lúdico e seus determinantes. **Resultados:** O compromisso comportamental no esporte lúdico incluiu cinco determinantes: 'motivação para participar', 'envolvimento pessoal', 'escolha para participar', 'oportunidade para participar', 'apoio social'. O modelo construído apresentou bom ajuste. Os fatores: 'motivação para participar', 'engajamento pessoal' e 'interesse em participar', apresentaram uma significativa associação positiva com o compromisso e uma significativa associação negativa com a escolha de participar. **Conclusão:** O modelo resultante apresenta características próprias do comportamento esportivo lúdico e pode ser utilizado como medida de compromisso do comportamento esportivo lúdico dos moradores de uma cidade chinesa. **Nível de evidência II; Estudos diagnósticos - Investigando um teste diagnóstico.**

Descritores: Atividades de lazer; Participação da Comunidade; Comportamento.

RESUMEN

Introducción: El compromiso con el ejercicio tiene un papel explicativo y orientador de la adherencia del individuo a la conducta de ejercicio, sin embargo, el compromiso con el ejercicio en situaciones recreativas es poco estudiado. **Objetivo:** Elaborar un cuestionario de comportamiento deportivo y recreativo basado en la escala de compromiso para los residentes urbanos chinos. **Métodos:** Se realizaron dos etapas, la primera con una muestra de 453 individuos para explorar y verificar los determinantes del compromiso conductual en el deporte recreativo y el ajuste del marco, y la segunda con una muestra de 786 individuos para investigar la relación entre el compromiso conductual en el deporte recreativo y sus determinantes. **Resultados:** El compromiso de comportamiento en el deporte recreativo incluía cinco determinantes: "motivación para participar", "implicación personal", "elección para participar", "oportunidad para participar", "apoyo social". El modelo construido mostró un buen ajuste. Los factores: "motivación para participar", "compromiso personal" e "interés por participar", mostraron una asociación positiva significativa con el compromiso y una asociación negativa



significativa con la elección de participar. Conclusión: El modelo resultante presenta características propias del comportamiento deportivo recreativo y puede utilizarse como medida de compromiso del comportamiento deportivo recreativo de los residentes de una ciudad china. **Nivel de evidencia II; Estudios de diagnóstico - Investigación de una prueba diagnóstica.**

Descriptor: Actividades Recreativas; Participación de la Comunidad; Comportamiento.

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INTRODUCTION

In the 1970s and 1980s, in order to explain the relationship among psychological commitment, behavioral persistence and leisure participation in leisure research, the concept of commitment was introduced. Shamir (1988) believed that leisure commitment can be divided into external commitment and internal commitment, and external commitment can be divided into material and social dimensions. The material dimension refers to the money and time invested. Social dimension refers to social relations, others' expectations, etc. Internal commitment is related to personal goals, values, norms, and is part of self-identity.¹

Scanlan et al. first proposed the concept of sports commitment. He believes that sports commitment refers to a psychological state of individual desire and determination to continue to participate in sports, which is composed of five dimensions: sports fun, participation choice, personal investment, social constraints and participation opportunities.³ In subsequent empirical studies, due to model data fitting problems, some dimensions such as 'participation selection' and items such as 'money input' were excluded from the measurement model.² Scanlan et al. supplemented and revised the original model through collaborative interviews, adding the 'social support' dimension on the basis of the original five-factor model.^{4,5,6} Scanlan et al. (2013) they added the 'pursuit of excellence' dimension again.⁷ Scanlan et al. developed and tested the second edition of the Sport Commitment Scale (SCQ-2), and finally formed a Sport Commitment Scale that included 12 subscales of two types of sport commitment and 10 sources of sport commitment, including 58 items.⁸ However, SCQ is not suitable for the general exercise population. Therefore, Wilson et al. proposed that the exercise commitment of exercise population may be related to the type of motivation for individuals to participate in exercise, and developed the exercise commitment scale. After testing, it was found that the scale had good reliability and validity. Qiu et al. tested the reliability and validity of the scale in Chinese college students, and the results showed that the scale could be used as an effective tool for measuring individual exercise commitment under the Chinese cultural background. Alexandris (2002) applied the theory to fitness for the first time. The results showed that participation opportunities had the strongest predictive effect on sports commitment, followed by personal involvement, sports fun and social engagement bundle.¹¹ Casper et al. on tennis fitness research shows that personal investment, sports fun, participation opportunities, social support and sports commitment are positively correlated, and participation selection, social constraints and sports commitment are negatively correlated.¹²

Based on the theory of sports commitment, Chinese scholars mainly take college students as samples in relevant studies under the physical exercise scenario. Ding Qingjian et al. think that college students' sports tendency and sports fun, intervention options, personal investment have a positive effect, and social constraints have a negative effect.¹³ Chen Shan-ping et al. proposed an explanatory model of exercise adherence mechanism for college students, in which personal investment, participation opportunities and social support can promote exercise adherence behavior, while social constraints and participation choices

have a negative impact on behavior.¹⁴ The results of Wu Jian et al. show that five factors will affect sports commitment, but the hierarchical model of sports fun and participation selection as intermediary variables is more reasonable.¹⁵

METHODS

Participants

The study selected leisure sports activities in Beijing and Tianjin as the research object. The leisure activities included fitness, mountain climbing, jogging, cycling, yoga, fishing, square dance and so on. The respondents were 22 – 65 years old with an average age of 41.6 years old, of which 57.3 % were males and 42.7 % were females.

Measures

On the basis of the existing theoretical framework of leisure commitment and sports commitment, the subjects are designed with reference to the sports commitment scale and the exercise commitment scale, and the leisure sports behavior commitment scale is developed with the interview data of participants in leisure sports activities. After reviewing by 10 experts in the field of leisure sports in China, it is considered that the operational definition of variables is sufficient. The questionnaire is divided into three parts. The first part is the basic situation, including gender, age and income. The second part is to participate in leisure sports activities, including whether to participate in the leisure activities adhere to the time to participate. The third part is the individual commitment to participate in Leisure sports activities and determinants, including sports commitment items, such as "I am determined to continue to participate in this sports activities", as well as the reasons for the decision to adhere to sports, such as "I participate in leisure sports activities, is to promote physical health", "I adhere to participate in leisure sports activities, because in this project invested money", a total of 27 topics. The scoring method was Likert 5-point scale. Number 1-5 represented different degrees, "1" represented very disagree, "5" represented very agree.

Procedures

The leisure sports behavior commitment scale was distributed on leisure sports sites or WeChat groups via Internet. There are two stages. The first stage is to explore and verify the determinants of leisure sports behavior commitment and the fitting degree of the framework. A total of 500 questionnaires were distributed, 453 were answered, and the effective rate was 90.6 %. In the first phase of the survey sample, all people participate in leisure sports activities, 88 people adhere to less than 6 months, 66 people adhere to 6-12 months, 130 people adhere to 12-24 months, 168 people adhere to more than 24 months. The second stage is to examine the internal relationship among the determinants of leisure sports behavior commitment. A total of 1000 questionnaires were distributed, 786 were answered, and the effective rate was 78.6%, to the people adhere to participate in leisure sports activities for more than 6 months, the project involves climbing, running, cycling, yoga, etc.

Data Analysis

SPSS 20.0 software and AMOS 15.0 software were used to analyze the obtained data. Descriptive statistics are used to analyze the basic situation of the sample and the participation of leisure sports activities. The principal component factor analysis is used to explore the determinants of leisure sports behavior commitment. Confirmatory factor analysis (CFA) is used to examine the fitting of leisure sports behavior commitment framework. Pearson correlation analysis is used to examine the relationship between the determinants of leisure sports commitment.

RESULTS

Exploration and Verification of Leisure Sports Behavior Commitment

The collected data were randomly divided into two parts, 226 of which were used to explore the decisive factors of leisure sports commitment, and 227 were used to verify the model adaptation of leisure sports commitment framework. Firstly, in order to determine whether the original variables are suitable for factor analysis, KMO and Bartlett's sphericity tests are used. The results showed that KMO=0.902, Bartlett's sphericity test with probability of 0.000, less than significant level, indicating that it is suitable for factor analysis. In this study, principal component analysis is used to extract factors, and Kaiser standardized optimal skew method is used to obtain the rotated matrix (see Table 1). The results show that the eigenvalues are greater than 1, and the rotation converges after 9 iterations. Six factors are extracted, and the cumulative

Table 1. Exploratory Factor Analysis of Leisure Sports Behavior Commitment.

Ingredients	Factor					
	1	2	3	4	5	6
F1 Determined to continue to attend the leisure activities	0.847					
F10 Willing to insist on attending the leisure activities	0.789					
F16 Will not stop the leisure activities	0.829					
F2 I like this sport event		0.849				
F8 I like this kind of lifestyle		0.872				
F11 To improve the quality of life		0.798				
F18 To promote good health		0.648				
F24 To improve athletic ability		0.669				
F27 To enjoy pleasure		0.578				
F3 A sense of movement around			0.709			
F9 To listen to other opinions			0.791			
F13 For the influence of idols or sports stars			0.559			
F19 Company of friends or support of family			0.728			
F5 Other sports are more attractive				0.559		
F20 More likely to attend other leisure activities				0.641		
F25 More sense to do other things				0.601		
F6 Having a positive attitude					0.831	
F12 Improve yourself and challenge yourself					0.810	
F15 Show personal charm					0.730	
F22 Stay in shape or improve shape					0.551	
F26 Adjusts the spirit, releases the pressure					0.628	
F7 As the time invested in the activity						0.801
F14 As the money invested in the activity						0.858
F23 As the energy invested in the activity						0.909

Note: Extraction factor method: principal component analysis (Kaiser standardized optimal skew method).

contribution rate is 65.051%. Factor 1 contains 3 items named "Behavior Commitment". Factor 2 contains 6 items named "Participation Motivation". Factor 3 contains 4 items named "Social Factors". Factor 4 contains 3 items named "Participation Alternatives". Factor 5 contains 5 items named "Participation Interest". Factor 6 contains 3 items named "Personal Input". Three other items were excluded because the load value was less than 0.5, including "F4: Feelings like Exercise", "F17: Can Be with Family or Friends", and "F21: Can Promote Interpersonal Communication". A total of 24 items were adjusted.

On the basis of exploratory factor analysis, confirmatory factor analysis was conducted on 24 items of 6 factors. The results show that the ratio of chi-squared freedom (χ^2 / df) is 2.071, between 2.0 and 5.0. RMSEA = 0.072 (<0.08), CFI=0.913(>0.9), TLI = 0.906 (> 0.9), IFI = 0.932 (> 0.9), indicating that the constructed model has good fitting degree (see Table 2). Therefore, this study explores the behavioral commitment framework of leisure sports composed of behavioral commitment and its five determinants, and verifies that it meets the overall model adaptation standard.

Relationship between Behavior Commitment of Leisure Sports and Its Determinants

Based on the results of the first stage, the determinants of leisure sports behavior commitment include five: participation motivation, personal investment, participation choice, participation interests, and social factors. The second stage of this study related to the use of Analyze the relationship between leisure sports behavior commitment and its determinants. It can be seen from Table 3 that among the five determinants, there is a significant positive correlation between participation motivation, personal investment, participation interests and behavioral commitment, while there is a significant negative correlation between participation choice and behavioral commitment. Only the correlation between social factors and behavioral commitment is not statistically significant.

Table 2. Adaptability Test of Leisure Sports Behavior Commitment Structure.

Model	χ^2 / df	RMSEA	CFI	TLI	IFI
Adaptability	2.071	0.072	0.913	0.906	0.932

Table 3. Correlation Analysis on Behavior Commitment and Determinants of Leisure Sports.

Factors of Determinant	Behavior Commitment	participation motivation	personal investment	participation alternatives	participation interests
participation motivation	0.529**				
personal investment	0.232**	0.181**			
participation choice	-0.104**	-0.140**	-0.180**		
participation interests	0.440**	0.647**	0.426**	-0.041	
social factors	0.010	0.120**	0.533**	0.517**	0.304**

Note: **p<0.01.

DISCUSSION

The purpose of this study was to construct the leisure sports behavior commitment model, on the basis of interviews and the data collected through leisure sports behavior commitment scale, extensive collection of leisure sports behavior commitment information, combined with the existing leisure commitment and sports commitment theory and literature, a scale with 27 items were summed up. Through exploratory factor analysis and confirmatory factor analysis, behavioral commitment and 5 determinants were obtained: participation motivation, personal investment, participation alternatives, participation interest and social factors, and the final total items were 24.

Buchanan thought: Commitment is an individual's emotional or emotional intention to something. If an individual participates in a work or activity and maintains a period of time, it is because they want to do, must do, and should do.²⁰ This is a commitment formed by the integration of cognitive, emotional, will and behavior factors. Behavioral commitment is the individual to participate in leisure sports activities arising from a positive investment in the performance of the individual subjective decision to continue to participate in, do not give up the sports activities of a psychological state. Behavioral commitment can explain the reasons for individual behavior persistence and behavior stability. Individuals with higher behavioral commitments are often willing to continue and determined to adhere to participating in sports activities.

Participation motivation refers to the internal psychological process or internal motivation that guides, stimulates and maintains individuals to engage in leisure sports activities. QIU pointed out that people's motivation to participate in leisure activities is the pursuit of physical fitness and fun, including close to nature, personal development, social interaction and altruistic behavior.^{16,22} "Interests or hobbies", "for health", "enjoy happy" were more mentioned in the interview process. Individuals who have just participated in leisure sports activities may be in order to achieve a certain goal. According to QIU's study on motivation and limiting factors in the development stage of leisure sports behavior, the current urban work too fast rhythm makes people bear too high pressure, through leisure sports activities can effectively alleviate or release pressure, because to participate in the perceived physical and mental pleasure, the more positive emotions, the higher the psychological attachment to leisure activities, the more active to participate.^{16,21,22} In the process of participation, individuals not only achieve the goal, but also gradually feel other effects of leisure activities. When this comprehensive effect can meet people's needs, individual behaviors will be regular. Therefore, when the individual's motivation is stronger in the process of exercise, it will play a positive role in behavioral commitment, thus promoting behavioral persistence.

Personal input refers to the personal resources invested in sports. If the sport is stopped, these inputs cannot be recovered. The participants studied by Song (2008) were paid members of operating sports fitness clubs. Although the payment was voluntary, it was precisely because their exercise was paid that they were able to adhere to and continue to engage in exercise. The reason cannot exclude the constraint of the "payment" factor.¹⁷ Iwasaki, through a survey of leisure institutional customers; found that continued participation was a non-direct factor in behavioral loyalty, while personal ability, motivation, social support and social constraints had a significant impact. Rusbult's investment model points out that higher investment is an important cause of continued behavior. In this study, the respondents involved in some leisure sports activities such as fishing, yoga also need higher economic investment. The interview results show that personal investment in leisure sports activities mainly includes money, time and energy. For individuals whose persistence time is not very long (less than 6 months, or 6~12 months), money investment is more important. For individuals with longer persistence time (more than 24 months), time and energy investment is more obvious. This is also consistent with the conclusion of Qiu that the higher the input is, the higher the commitment to participate is.¹⁰

Participation alternatives refer to the attraction of alternative projects relative to current sports activities. If the attractiveness of other projects is greater than the current behavior, individuals will consider making choices in existing projects and other projects. On the contrary,

if the attractiveness of other projects is less than the current behavior, individuals will continue the current behavior. The results of this study also show that there is a negative correlation between participation selection and behavioral commitment, which is consistent with some existing research results.

Participation interest refers to the benefits that may be obtained through participation. If the activity is abandoned, these opportunities or benefits will be lost. In order to continue to obtain these benefits, they will adhere to the current behavior. In the process of participating in the current leisure sports activities, the behavioral results brought by individuals can reach or exceed the expectations in advance, which will promote individuals' commitment to the behavior and insist on participating in the activities. On the contrary, if the benefits brought by the current behavior are lower than the expected results, the individual's commitment to the behavior will be reduced, and it is possible to withdraw from the current behavior. Therefore, there is a positive correlation between participation interests and behavioral commitment.

Social factors refer to the influence of important people around. Social factors involved in leisure sports mainly come from family and friends, including encouragement and support of family and friends, suggestions and influence of surrounding people. Alexandris investigated paid members of private fitness clubs and proposed that the primary and secondary influencing factors of commitment are different in different environments and different sports. Economic investment and participation opportunities are the most important factors in the context of fitness clubs, while social environmental factors are less considered.¹¹ Casper Survey of adult tennis participants found that social support was a significant predictor of sports commitment.¹² The results of this study show that there is no significant correlation between social factors and behavioral commitment, which may be due to individual participation in leisure sports activities, more out of their own wishes, rather than from the influence of others. Result of the study is not consistent with the existing commitment to competitive sports behavior.

CONCLUSIONS

Through exploratory factor analysis and confirmatory factor analysis, this study concluded that the determinants of leisure sports behavior commitment include five variables: participation motivation, personal input, participation alternatives, participation opportunity, social factors, and the framework has good fitting degree. Further statistical analysis shows that participation motivation, personal investment and participation opportunity are positively correlated with behavioral commitment, and participation choice is negatively correlated with behavioral commitment. The results are different from the sports commitment model proposed by Scanlan based on competitive sports, which reflects the characteristics of leisure sports behavior and can be used to measure the leisure sports behavior commitment of urban residents.

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