

The Structural Relationship Among Interests, Teaching Satisfaction and Sports Sustained Consciousness of College Physical Education

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Abstract—This study is an empirical study on college physical education. Through questionnaire survey, it uses descriptive statistics, exploratory factor analysis, correlation analysis, structural equation model analysis and other methods. This paper analyses the relationship among interest, teaching satisfaction and sports sustained consciousness of college physical education against the background of the new era. The results show that the interest of college physical education has an impact on the teaching satisfaction; the teaching satisfaction of college physical education has an impact on the sports sustained consciousness; and the interest of college physical education has an impact on the sports sustained consciousness through the teaching satisfaction.

Keywords—college physical education; interest; teaching satisfaction; sports sustained consciousness

I. INTRODUCTION

College physical education can not only improve students' health, but also cultivate all-round development of morality, intelligence and physical education. The colleges and universities can stimulate students' learning life and social vitality through sports activities, so as to improve the quality of life. College life is an important period for establishing self-awareness and determining the criteria of value judgment, and an important period of social life [1]. Therefore, the established concept of sports awareness and action mode is very important factors in future life. Physical education is an important way to implement quality education and cultivate all-round development talents. It follows the law of physical and mental development and hobbies of college students, achieves the main objectives of strengthening physical fitness, improving health and promoting physical literacy through college physical education classes, and lays a good foundation for students to engage in lifelong physical exercise. In May 2016, the new curriculum standard of "Sports and Health" put forward: "the college physical education should adhere to the guiding ideology of "health first", promote students' healthy growth, stimulate students' interest in sports, and cultivate students' awareness of lifelong sports. Also, it should focus on students' development, attach importance to students' principal position, pay attention to individual differences and

different needs, and ensure the benefits of each student." [2] Faced with the reform of new basic education curriculum, classroom teaching has become the key to success or failure of education. At present, foreign scholars have explored more about university physical education, and domestic scholars have also done some research on university physical education. The results of research on university physical education are summarized as the following: qualitative research is more; quantitative research is insufficient; and the breadth and depth of research content is insufficient. Therefore, descriptive statistics, exploratory factor analysis, Pearson correlation analysis and structural equation model (SEM) are mainly used in the study to explore the relationship among interest of physical education, teaching satisfaction and sports sustained consciousness. This paper attempts to reveal the structural relationship among interest, teaching satisfaction and sports sustained consciousness of physical education, and to provide useful reference for further promoting the reform of classroom education in colleges and universities. Based on the above research background, this paper will study the following questions: How does the interest of college physical education satisfy the teaching? Does the teaching satisfaction of college physical education have an impact on the sports sustained consciousness? How is the relationship among interest of physical education, teaching satisfaction and sports sustained consciousness?

II. RESEARCH OBJECTS

Taking college students in Yanbian University as the research objects, male and female students in colleges and universities as the sampling population, a stratified cluster sampling survey was conducted. A total of 600 questionnaires were sent out. After the recovery, 573 valid questionnaires were collected. The validity rate of the questionnaires was 97.61%. The basic characteristics are as the followings. (See "Table I").

TABLE I. BASIC CHARACTERISTIC OF RESEARCH OBJECTS

Specialty	Items	Frequency	Ratio
Gender	Male	331	57.7%
	Female	242	42.3%
School Year	Freshman Year	317	55.4%
	Sophomore Year	256	44.6%
	Total	573	100%

III. QUESTIONNAIRE

The questionnaire is an open-ended questionnaire consisting of the interest scale for physical education, the teaching satisfaction scale and the scale of sports sustained consciousness. Interest is divided into three levels, including 11 questions; teaching satisfaction is divided into three levels, including 12 questions; and sports sustained consciousness is divided into two levels, including two questions [3] [4], which are measured by Likert five-point scoring method of 1-5 points.

A. Analysis on Questionnaire Validity and Reliability

In the study, the validity was tested by factor analysis with principal component analysis. The appropriate sampling quantity of interest of physical education class was Kaiser-Meyer-Olkin=.680; the appropriate sampling quantity of teaching satisfaction was Kaiser-Meyer-Olkin= .790; and the appropriate sampling quantity of sports sustained

consciousness was Kaiser-Meyer-Olkin=.952, which indicated that variables were suitable for factor analysis.

The reliability analysis is tested by Cronbach's α coefficient, and the α coefficient of each scale is between 0.749-0.902, which shows high reliability.

B. Data Processing Method

This paper uses Excel to input and organize data, and uses SPSS 20.0 software and AMOS 7.0 software to make descriptive statistics, exploratory factor analysis, correlation analysis, structural equation model analysis and other methods.

IV. RESULTS AND DISCUSSION

A. Correlation Analysis

Before evaluating the fitness of the research model designed in the study, Pearson's product-moment correlation coefficient was used to test the problem of multiple collinearities (see "Table II"). Subordinate factors of interest are social accomplishment and sense of accomplishment. The subordinate factors of health maintenance and teaching satisfaction are curriculum management, teaching guidance, and teaching environment. The subordinate factors of sports sustained consciousness are sports sustained possibilities, and all of them are related.

TABLE II. CORRELATION ANALYSIS

Factors	1	2	3	4	5	6	7
Social accomplishment	-						
Sense of accomplishment	.551**	-					
Health maintenance	.478**	.471**	-				
Curriculum Management	.535**	.589**	.485**	-			
Teaching guidance	.206**	.116*	.147**	.187**	-		
Teaching environment	.362**	.422**	.318**	.466**	.213**	-	
Sports sustained consciousness	.411**	.345**	.447**	.435**	.238**	.533**	-

^a. ** p< .01, * p< .05

B. Adaptability Verification of Research Model

The fitness index refers to the consistency between the hypothetical theoretical model and the actual data. In the process of model evaluation, it is assumed that the closer the covariance matrix $\hat{\Sigma}$ implied in the model to the sample covariance matrix S is, the better the fitness of the model is. [6]

“Table III” shows that the fitness index Q and the fitness level of CFI, GFI, RMSEA and RMR of the research model

are consistent. The GFI value is 0.952, which shows that the hypothetical mode is acceptable, and the AGFI value is 0.904, which is larger than the standard value of 0.09. According to the definition of Browne and Mels (1990), RMSEA = 0.074 is an acceptable adaptation between 0.05 and 0.08. The overall fitness index presented by the above results shows that the sample hypothesis model is acceptable. The revised path map is shown in "Fig. 1".

TABLE III. ADAPTABILITY INDICATORS OF THE OVERALL MODEL

Indicators	X^2/df	NC	CFI	GFI	RMSEA	AGFI	RMR
Determination Model	4.86	4.85	.951	.952	.074	.904	.022
Standard Value	1-5	≤5	≥.9	≥.9	≤.08	≥.9	≤.05

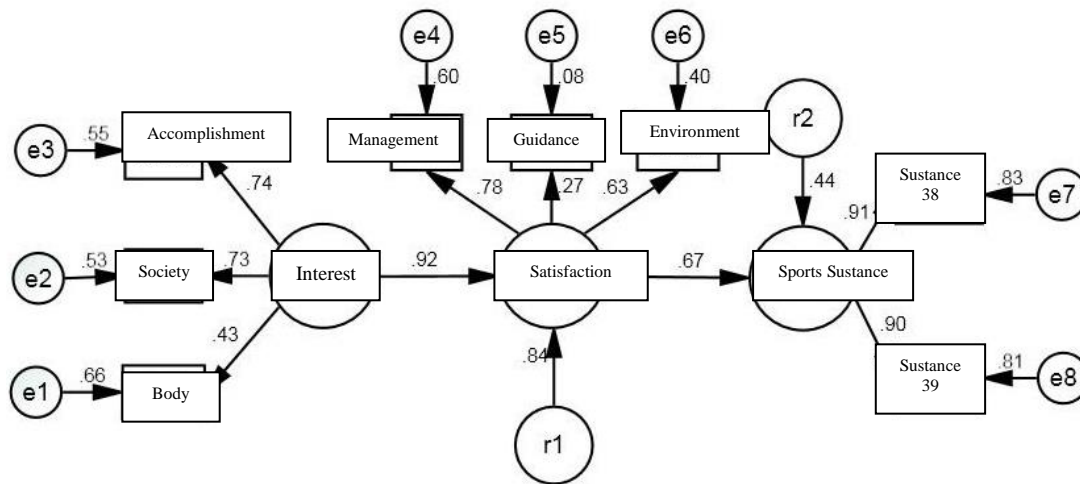


Fig. 1. The path map and standardization index of the revised model.

C. Analysis on Overall Fitness of Hypothesis Model

The model set up in this study is an acceptable adaptation model, and the results of validation of each hypothesis are shown in "Table IV".

TABLE IV. RESULTS OF HYPOTHESIS VALIDATION

Hypothesis	Estimate	S.E	C.R	p	Hypothesis Verification
interest→teaching satisfaction	.781(.915)	.061	12.896	.000***	acceptance
teaching satisfaction→sports sustained consciousness	.997(.667)	.086	11.582	.000***	acceptance

According to the analysis results of Hypothesis 1, the interest in college physical education has an effect on the teaching satisfaction of $\beta=.92$.

Hypothesis 1: Accepting that interest has an impact on teaching satisfaction.

According to the analysis results of Hypothesis 2, the teaching satisfaction of college physical education has an effect on the sports sustained consciousness of $\beta=.67$.

Hypothesis 2: Accepting that teaching satisfaction has an impact on the sports sustained consciousness.

According to the Hypothesis 1 and Hypothesis 2, it can be concluded that interest in college physical education meets Hypothesis 3, which has indirect influence on sport sustained consciousness ($.915 \times .667 = .610$) through teaching satisfaction.

TABLE V. THE CAUSAL RELATIONSHIP AMONG RESEARCH MODEL MEASUREMENT FACTORS

Factor	Direct Effect	Indirect Effect	Causal Effect
Factor→teaching satisfaction	.915		.915
teaching satisfaction→sports sustained consciousness	.667		.667
interest→teaching satisfaction→sports sustained consciousness		.610	.610

V. CONCLUSION

From the above research process, it can be concluded that the interest in college physical education has an impact on the teaching satisfaction; the teaching satisfaction of college physical education has an impact on the sports sustained consciousness; and the interest in college physical education has an indirect impact on the sports sustained consciousness through the teaching satisfaction. In addition, in the process of verifying the purpose of this study, there are the following limitations. This will be the direction of future research.

Specifically, this study takes the students of various colleges of Yanbian University as the research objects, doesn't take into account the diverse university physical education environment, and has limitations in generalization. In the future, further analysis of interest of physical education, teaching satisfaction and the diversity of factors beyond the sports sustained consciousness will be the basis for more in-depth research. In this study, the results of indirect effects of teaching satisfaction on interest and sports sustained consciousness were synthetically verified. In the follow-up

study, teaching satisfaction was used as mediating variable to verify the effect of mediating variable.

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