



A Study of College Students Perceived Sport Benefit, Tennis Learning Satisfaction, and Participation Behavioral Intention

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

The purpose of this study is to analyze the college students perceived sport benefit, learning satisfaction, and both for the future tennis participation effects of behavioral intentions. In this study, elective tennis students as the research subject from six universities, adopted the method of census survey, a total 342 effective questionnaires were collected. The effective data used descriptive statistics and Partial Least Squares (PLS), this study has the following findings: 1. The students that are generally considered to be engaged in sports can bring physical, psychological, and social benefits. 2. Students have a high degree of satisfaction from the learning of tennis, and the intention of engaging in sports is also high in the future. 3. The students' perception of sports benefits has a positive effect on the learning satisfaction from tennis course. 4. The students perceived sport benefit and learning satisfaction have positive effect on behavior intention. According to the above findings, this study not only gives suggestion for physical education teaching, but also support research reference direction to the future researchers.

Keywords: Tennis course; sport benefit; learning satisfaction; behavioral intention; physical education.

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1. INTRODUCTION

1.1 Background

Physical education (PE) is one of the longest courses that students learn in school. From primary school to high school or even university, this course is almost accompanied by the growth of students. Recent years in Taiwan, influenced by the consciousness of teaching reform, plus the autonomy of college students, the implementation mode of physical education has been carried out in a laissez-faire way for a long time, so that the problem of physical education is often discussed and criticized by people. In a related study pointed out that the exercise habits are in the period of student or children [1,2], PE curriculum will influence the children to engage in physical activity patterns [3]. For students engaged in sports, even some people think that PE is not important, but it provides students the opportunity to engage in sports. However, there are little research the sports benefits and analysis it directly affected the students' PE satisfaction.

In the study of participation in sports can obtain the benefits, most of the leisure perspective [4], although both of them in different time, the implementation of sports class time is relatively short, but the possibility of establishing students' perception of sports has interests, is the assessment results of the implementation of PE. PE is part of the curriculum implementation in schools, teachers and students, although not belong to the relationship between consumers, but in recent years the introduction of the concept of customer satisfaction, widely used in the teaching process analysis [5], mainly to understand the students' curriculum implementation of satisfaction [6]. The concept of PE actually exists on consumer behavior, students of PE will not only affect the satisfaction after learning attitude, and are related to engage in physical activities in their leisure time [7], and the influence of their intentions to participate in sports activities of the future [8].

Although studies confirm that students' satisfaction with physical education can affect their sports behavior intention, in most sports teaching researches, they only analyze the results of students' satisfaction with PE classes. And there is no use of behavioral intention to predict whether students will be able to engage in sports in the future after the study of physical education. According to the related leisure

research, tennis is one of the popular leisure activities in society [9]. The study also found that the students engage in recreational sport in leisure time is related to the they engaged sports in the physical education course [10]. Therefore, based on the above viewpoints, this study to the practice of tennis class students as the subject, motion analysis of main courses of the students' interests and feelings, learning satisfaction, and understand the two factors of their future students to participate in the tennis behavioral intention influence, expected results can provide reference to sports teaching practice and future researchers.

1.2 Purpose

- Analyzes the college students' perceived sport benefits and learning satisfaction in tennis course.
- Understand the influence of perceived sport benefits and learning satisfaction on future participate behavior intention.

2. LITERATURE REVIEW

Although schools are different from commercial sports organizations of the society, such as private swimming pools, sporting club hotel, etc., but the result is similar, that is to let students and people get the benefits of sports. According to the study, engaged sports can bring physical, psychological, and social benefits to individuals [11,12]. Bailey [13] review of benefits and outcomes of PE and sport (PES) in schools. The result found that PES have the potential to make distinctive contributions to the development of student's fundamental movement skills and physical competences, which are necessary heralds of participation in later lifestyle and sporting physical activities. They also, when appropriately presented, can support the development of social skills, social behaviors, self-esteem, and proschool attitudes, and in certain circumstances, academic and cognitive development. The review also stresses that many of these benefits will not necessarily result from participation, per se; the effects are likely to be mediated by the nature of the interactions between students and their teachers, parents, and coaches who work with them [13]. Wankel and Berger [14] research evidence pertaining to the contribution of sport and physical activity to personal enjoyment, personal growth, social integration, and social change. In all 4 areas, there is seen to be a potential for significant positive contributions; however, there is also a

potential for negative outcomes. The critical feature then becomes identifying the prerequisite activity, leadership, organizational, and environmental conditions for facilitating positive outcomes. results also showed that movement satisfaction was beneficial to enhancing learning [14]. In PE, students can learn health-related fitness knowledge, fitness knowledge in short, refers to the concepts and principles of our body's ability to move effectively and efficiently for disease prevention and health promotion [15]. Halaweh, Mousaay, and Abualtaieb [16] study found college students that sport satisfaction was beneficial for enhancing learning. Researchers suggest the need to create classroom participation that favors sport satisfaction environments. Fairclough and Stratton [3] to 62 boy students and 60 girl's students (age 11-14), the research on physical education curriculum for their health effects, and found the positive effect on the children's health and physical education, but also on their regular physical activity in effect [3]. According to Lee [17] found that the benefits of recreational sport also have positive effect on learning satisfaction, recreational sport benefits and students has a complete mediating effect between learning motivation and learning satisfaction, also confirmed the badminton sports curriculum learning motivation, learning satisfaction and the correlation between the benefits of recreational sports [17]. Wan [18] found that leisure benefits on the job satisfaction has a positive influence; Wu [19] found that leisure benefits will have a positive impact on job satisfaction, and the sub dimensions of physiological benefits, psychological benefits and social benefit of job satisfaction have a positive influence. Based on the above, the present study propose the following first hypothesis:

H1: There is a positive causal relationship between the perceived sports benefits of college students and the satisfaction form the learning of tennis course.

The concept of behavioral intention is used in consumer behavior research, mainly to understand consumer loyalty and whether it will continue to engage in the same consumption tendency towards the future [20]. Oliver [21] suggested that behavioral intentions are an affirmation of the likelihood of instituting a certain behavior. Hagger, Chatzisaranti, and, Biddle [22] based on the theory of planned behavior, analysis of the factors the effect of spontaneous

activity in the body clock, with their 1088 12-14 years old children as the subject, in the way of questionnaire survey, the analysis results showed that spontaneous motivation, attitude, locus of control and other factors, there is a positive effect on students' intention to engage in physical activity in the future. Hagger, Chatzisaranti, Culverhouse, and, Biddle [23] continue to analyze the influence factors of leisure time physical activity of high school students engaged in the architecture, found that physical education will directly affect students to engage in leisure time physical activity, but also indirectly affected students' spontaneous motivation and attitude, locus of control and other factors [23]. In the study of related sports participation behavior, also found that the participants' perceived higher benefit of sports participation, their behavior of continuous involvement in sports will be higher [24], and the high loyalty to their participation sports [25]. The analysis of consumer behavioral intentions is one of the key issues in the service marketing literature because of its relevance to the success of firms [26], and many studies have found a significant relationship between satisfaction and behavioral intentions [27]. And in the study of sports consumption behavior, it is found that the satisfaction with participants has an influence on their future behavior intention [28]. Chen and Lu [29] study teaching quality, students' perception of sports course of senior high school learning satisfaction with exercise behavior intention, the teaching quality of PE to achieve positive effects on exercise behavior intention, the learning satisfaction of PE on exercise behavior intention to achieve positive effects [29]. Based on the above discussions, according to the relevant empirical research, it is pointed out that past behaviors habits will affect future action [30], therefore, the establishment of personal future sports habits will be related to the good exercise habits of his past [31]. Moreover, students' PE activities and physical activities are closely related to their sports activities in leisure time [8,32]. According to the above discussion, this study concludes and proposes the following two hypotheses:

H2: There is a positive causal relationship between the perceived sports benefits and the behavioral intention of college students.

H3: There is a positive causal relationship between the learning satisfaction and the behavioral intention of college students.

3. METHODS

3.1 Research Design

According to the research questions and purposes, the researchers decided to adopt the questionnaire method after referring to the relevant physical education research literature, which is the best way to achieve the purpose of this research [22,23,24].

3.2 Sampling Technique Adopted

This research is based on six university tennis elective students. The number of students that elect tennis courses in this study is about 380. Therefore, the census is conducted in this study. The survey is conducted when students are in class. The researcher asked the teacher to assist, and the questionnaire was given to each student before class ended. Before filling in the questionnaire, the researchers will tell the students the purpose of the survey and will not affect the academic performance of their tennis lessons. And the questionnaire is not to fill in the name, and ask them to fill in the answer without worrying about it. A total of 342 valid questionnaires were collected.

3.3 Questionnaire

The first part of this study is the perceived sport benefit scale. There are 24 questions on this part of the scale, mainly to understand the physiological, psychological and social benefits of College Students' participation in sports. This part of the scale is mainly referred to the research of the sport benefits of compilation [14,15,16,17]. The second part are the learning satisfaction scale of physical education, this scale consisted of 26 items, mainly to understand the students for teachers' teaching, teaching administration, learning effect, facilities, and peer relationship satisfaction with tennis course, this scale is mainly referred to the research of the satisfaction with physical education to compilation [23,24,25,26,27]. The third part is the sports participation behavior intention scale. There are 5 questions, mainly to understand the future intention of college students to engage in recreational sports. This part is mainly compiled research of sports participation behavior intention [28,29,30]. The above three scales were measured by Likert five-points. The scoring methods are form very satisfied (5 points), satisfaction (4 points), common (3 points), dissatisfaction (2 points), and very dissatisfied (1

points). The last part is the students' personal backgrounds, there is gender, grade, department, whether to participate in sports clubs, and recreational sports participation frequency.

3.4 Data Analysis

The effective questionnaires were statistically analyzed by SPSS For Windows 22 version and Warp PLS 6 version statistical software. The analysis steps included: (1) the frequency distribution and percentage were used to analyze the distribution of the students' personal background variables. (2) The average and standard deviation from descriptive statistics is used to understand the benefits of College Students' perceptual sport and the satisfaction with tennis course. (3) The PLS method is used to analyze the causal relationship between perceived sport benefits and tennis course learning satisfaction in terms of behavioral intention. There are two steps to analyze and interpret the PLS model. The first step is to test the reliability and validity of the measurement model. The second step detect the significance and prediction ability of the path coefficient of the structural model. In measuring the reliability of the project, this study will be detected by composite reliability (CR) and Cronbach's alpha coefficient. According to Fornell and Larcker [33] (1981) and Nunnally and Bernstein [34] pointed out that the verification standard for the CR value and Cronbach 's alpha value must be equal to or larger than.70. In terms of validity, the verification standard for factor loading value of each observation variable must be greater than.50; and the average variances extracted (AVE) must be greater than.50 [35].

4. RESULTS

4.1 Respondents Profile

In 342 valid questionnaires, includes: 235 males (68.7%), 107 female (31.3%); the sophomore students have 228 people (66.7%), the junior students have 114 people (33.3%); in the other hand, highest is the major in the business and management students of 144 people (42.1%), the lowest is music students only 10 people (2.9%); to participate in sports clubs have 178 people (52.2%), without the participation of 164 people (48%); the frequency of participation in recreational sports, often with 106 participants the highest (31%), never to participate in the 12 (3.5%).

4.2 Analysis of Students Perceived Sport Benefits, Tennis Course Learning Satisfaction, and Behavioral Intention

4.2.1 Perceived sport benefits

The results of the analysis showed that the students interviewed were generally believed to be engaged in physical, psychological, and social benefits (M=4.21 to M=3.77). In terms of physical benefits, it is the highest to make people healthy (M=4.21, SD=.90); in terms of psychological benefits, it is the highest to make mental health (M=4.15, SD=.90); in terms of social benefits, it is the highest to increase interaction with others (M=4.05, SD=.96).

4.2.2 Tennis course learning satisfaction

The results of the analysis show that the subjects for students' tennis course learning satisfaction are close to "satisfaction", the highest of five items are in "order to get along with classmates in class case" (M=3.96, SD=.92), to understand the benefits of exercise (M=3.95, SD=.94), the interaction with the students. (M=3.94 SD=.91), to learn tennis skills (M=3.90, SD=.95) and pay more attention to the tennis class (M=3.90, SD=.99).

4.2.3 Behavioral intention

The results of the analysis show that the behavioral intention of university students in the future movement, each item of the gap between the small, which is the highest "in the future I will think of my classmates and friends engaged in sports" (M=3.86, SD=1.01), then "I will continue to be engaged in sports or leisure time in the future" (M=3.81, SD=.92) and "I'll be very happy to recommend my friends engaged in sports" (M=3.81, SD=.88), "I will be very happy to tell my friends in the benefits of exercise" (M=3.79, SD=.89), and "the future I will think of my classmates and friends engaged in sports together" (M=3.57, SD=1.02).

4.3 Analysis of Reliability and Validity

4.3.1 Perceived sport benefits scale

From the results of Table 1, the reliability and validity of the "perceived sports benefit scale" of this study is good. First, in terms of physical benefit factors, the factor loading of each item is above.80, CR is.96, Cronbach' s Alpha

coefficient is.97, AVE=.83. Second, in terms of psychological benefit factors, the factor loading of each item is above.80, CR is.97, Cronbach' s Alpha coefficient is.97, AVE=.81. Third, in terms of social benefit factors, the factor loading with each item is above.80, CR is.97, Cronbach' s Alpha coefficient is.97, AVE=.80.

4.3.2 Tennis course learning satisfaction scale

From the results of Table 2, the reliability and validity of the "learning satisfaction scale" of this study is good. First, in terms of teacher teaching factor, the factor loading of each item is above.80, CR is.96, Cronbach' s Alpha coefficient is.94, AVE=.84. Second, in terms of teaching administration, the factor loading of each item is above.80, CR is.94, Cronbach' s Alpha coefficient is.92, AVE=.76. Third, in terms of learning effect factor, the factor loading with each item is above.80, CR is.97, Cronbach' s Alpha coefficient is.96, AVE=.85. Fourth, in terms with course equipment factor, the factor loading with each item is above.80, CR is.95, Cronbach' s Alpha coefficient is.94, AVE=.80. Fifth, in terms of peep relationship factor, the factor loading of each item is above.80, CR is.97, Cronbach' s Alpha coefficient is.96, AVE=.82.

4.3.3 Behavioral intention scale

From the results of Table 3, the reliability and validity of the "behavioral intention" of this study is good, factor loading of each item is above.70, CR is.93, Cronbach' s Alpha coefficient is.91, AVE=.74.

4.4 Structural Model Analysis

This study uses structural model detection, its structural equation model (path analysis) and results as shown in Fig. 1. In Fig. 1, the line represents the value of path coefficient of standard regression coefficient, among perceived sport benefits have positive influence on the learning satisfaction with tennis course ($\beta_1=.94$, $p<.01$), the explanatory power reached 97% ($R^2=.97$), but no influence on behavioral intention ($\beta_2=.03$, $p>.01$). The learning satisfaction with tennis course ($\beta_3=.67$, $p<.01$) on the behavioral intention also has positive effect, the explanatory power reached 49% ($R^2=.49$).

Table 1. Analysis of reliability and validity of perceived sport benefits scale

factors	Items	Factor loading	CR	Cronbach's Alpha	AVE
Physical	1. Make a person healthy	.92	.97	.97	.83
	4. Prevention of various diseases	.91			
	7. Control of chronic diseases	.84			
	10. Keep in good body shape	.93			
	13. Make a rule of life and rest	.87			
	16. Improve physical fitness	.94			
	19. Improve the fitness of the body	.94			
	22. Promote the metabolism of the body	.94			
Psychological	2. Make the mental health	.90	.97	.97	.81
	5. Reducing stress and tension	.87			
	8. Keep self-mood happy	.90			
	11. Increase confidence	.92			
	14. Achieve a sense of achievement	.91			
	17. Get a sense of comfort	.91			
	20. Get a sense of satisfaction	.90			
	23. Gaining creative thinking and stimulating potential	.92			
Social	3. Expanding self-life circle	.92	.97	.97	.80
	6. Let me get the respect of others	.88			
	9. Increase the opportunity to make friends	.91			
	12. Enhancing the opportunity to interact with others	.92			
	15. Enhance the feelings of family or family and friends	.89			
	18. The pleasure of sharing sports with friends	.88			
	21. Understand the different ideas of others	.88			
	24. Let self-feel the feeling of belonging to a certain group	.88			

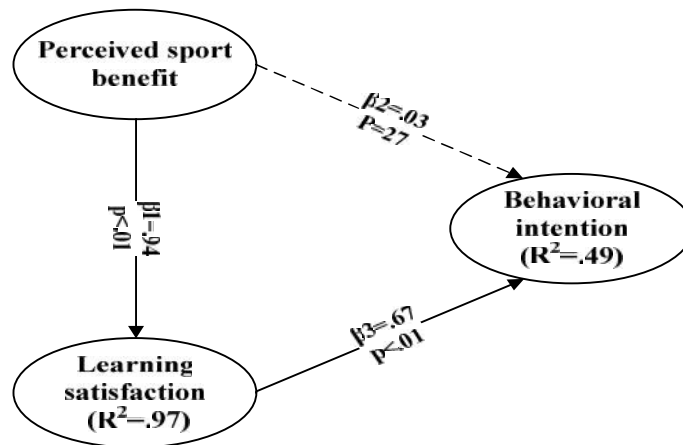


Fig. 1. Structural model

Table 2. Analysis of reliability and validity of tennis course learning satisfaction scale

Factors	Items	Factor loading	CR	Cronbach's Alpha	AVE
Teacher teaching	1. The degree of effort in Teaching	.92	.95	.94	.84
	6. Teaching demonstration ability	.92			
	11. Interaction with students	.94			
	16. Technical ability of Sports Specialty	.89			
	21. Scoring method of athletic performance	.91			
	26. Class management means	.90			
Teaching administration	2. Various rules for the class of tennis	.88	.94	.92	.76
	7. The class time of the tennis lesson	.88			
	12. The arrangement of teaching progress	.90			
	17. The degree of attention to tennis lessons	.82			
	22. Tennis textbooks used in class	.88			
Learning effect	3. Learn to exercise skills	.89	.97	.96	.85
	8. Learning about sports knowledge	.94			
	13. Understand the benefits of sports	.95			
	18. The promotion of self-physical fitness	.92			
	23. Cultivate the habit of self-exercise	.92			
Course equipment	4. Use the quality of sports equipment	.90	.95	.94	.80
	9. The amount of equipment used	.92			
	14. The quality of the sports field used	.88			
	19. Number of sports venues	.90			
	24. The convenience of borrowing equipment	.87			
Peer relationship	5. How to get along with your classmates	.90	.97	.96	.82
	10. Interaction with students	.91			
	15. The opportunity to compete with the students	.92			
	20. Enjoy the sports skills of the students	.90			
	25. Enhance the feelings between students	.89			

Table 3. Analysis of reliability and validity of behavioral intention scale

items	Factor loading	CR	Cronbach's Alpha	AVE
1. I want to play tennis in the future.	.79	.93	.91	.74
2. In the future I will continue or begin to engage in sports in my leisure time	.89			
3. I would be very happy to recommend my friends and relatives to engage in sports	.93			
4. Willing to tell my friends and relatives for the benefits of sports	.91			
5. In the future, I would like to engage in recreational sport with my friends.	.79			

5. CONCLUSION AND IMPLICATION

5.1 Conclusion

The surveyed students generally think sports can bring physiological and psychological and social benefits, in physiological benefits, to "make people healthy" is the highest; the psychological benefits, to "make better mental health" was the highest; in social benefits, "to improve the opportunity to interact with others" is the highest. Above analysis shows that the students surveyed generally to believe that engaging in sports can bring physiological, psychological and social benefits, and also meet the relevant research findings [9,10,11,12,13]. Although the public and college students all hope that physical education can be reformed, but from the above results, they do not require physical education to be abolished from universities. The main reason are that they still think that sports are helpful. After, the study found that the students learning satisfaction of tennis course, which in terms of teacher teaching in "interaction with the other students" is the highest; in the teaching administration, with emphasis on physical education is the highest; in the learning effect, to understand the benefits of exercise is the highest; in the field of equipment, quality and the use of sports equipment and convenience is the highest; in the peer relationship, the situation of interact with students is highest. From the previous research related to sports satisfaction comparison [12,13,14], results showed that: the equipment, safety and health, school administration, teachers' teaching, points are in the upper level, students' physical education learning satisfaction more than sports class can use the space feel satisfaction score is the highest of roughly the same. In addition, researchers believe that the reason for students' learning satisfaction is that tennis courses are their elective courses, which are from the mind, so they have strong learning motivation. In

addition, this course is related to the recreational activities of the public in the society, and the teaching and field offered by the school can satisfy them, so their learning satisfaction is high. The results of the analysis showed that the behavioral intentions of the students in the future were high, and the difference between them was not large. The highest one was "I would like to engage in sports with my friends and classmates" in the future. From the above results, it is found that in the course of learning, the students that have the greatest impact on the school are their classmates. In the process of sport socialization, the force of peer plays a significant influence, which proves the argument with the above results [2,3,6]. The above reasons, researchers think they see students on their tennis days after more useful than before, and compare with the basketball, volleyball, track and field course more interesting, so they again in the future to participate in the intention is very high.

In structural model relationship, the analysis results showed that perceived sport benefits "have positive impact on the learning satisfaction with physical education", the explanatory power reached 97%, indicating that the perception of the students engaged in sports can bring physiological and psychological and social benefits to the people, will affect their learning satisfaction for PE. Because in previous PE research, it did not explore the relationship between sports interests and learning satisfaction [5,6]. This also shows that students know that engaging in sports can bring benefits, so that physical education has the function of providing these benefits. Therefore, when the student's perceived benefit is higher, and when the effectiveness of PE is better, it can enable students to think that they can get these benefits, and their learning satisfaction will also be higher. In addition, the study found that the students'

satisfaction with learning in tennis also had a positive effect on behavior intention, and the explanatory power reached 49%. This shows that students' perception of sports can bring physiological and psychological and social benefits to the people, together with their high school during the school physical education, for learning is very satisfied with their future in the sport will, even after graduation, in the future will be the intention of leisure sports is very high. The above research finds that support related research points out that students learn sports skills and knowledge in school, understand the benefits of sports, and they will have high intention engage in sports in the future [22,23,24,25,27].

5.2 Implication

5.2.1 From sport benefits

Teachers play a very important role in the course of students' learning [36]. From the results of the survey, it is known that students generally believe that engaging in sports can bring about physical, psychological and social benefits. Therefore, in the implementation process of PE, teacher should be clearly telling students about the benefits of regular participate in sports, so that let students no longer regard sports participation as an unnecessary behavior.

5.2.2 From learning satisfaction

This study found that the satisfaction with the students in the test schools is close to the satisfaction with tennis class, so there is still room for improvement. The main reason is that if the PE class can provide good interaction between teachers and students, students will enjoy this course. Besides, in addition, teachers can guide effectively and explain the benefits of sports. Schools should attach importance of sports and provide good facilities and venues, which can help students learn sports skills.

5.2.3 From behavioral intention

For physical education teachers, physical education is not just laissez-faire for students to play ball games, but also for students that do not play ball games are learning and developing lifelong sports opportunities. So, in the sports class layout, this time should be arranged and the public preferences for leisure sports, such as swimming, hiking, golf, tennis, cycling, jogging, etc.

5.2.4 For future researchers

The researchers are concerned with the relationship between ability and time. Only six universities surveyed, though they contribute to the implementation of tennis courses, they still have limitations of other schools. Therefore, in view of the above problems, the researcher suggests that the following researchers, such as capacity and time permission, can expand the subjects, such as increasing the number of samples, and investigating schools in different regions.

COMPETING INTERESTS

Author has declared that no competing interests exist.

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