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THE INFLUENCE OF COLLEGE STUDENTS' PHYSICAL HEALTH BELIEFS ON THEIR INTENTION AND HABITS OF PHYSICAL EXERCISE BEHAVIOR*

อิทธิพลความเชื่อด้านสุขภาพร่างกายของนักศึกษาที่มีต่อความตั้งใจและนิสัยของพฤติกรรมการออกกำลังกาย

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Abstract

This research aimed to explore the relationship between physical fitness assessment, willingness to exercise, and exercise habits among university students. The study employed a mixed-methods approach, designed to comprehensively collect and examine data in a way that captured both content and contextual details, allowing for logical and well-grounded analysis.

The findings revealed that nearly all participants acknowledged that their health beliefs significantly influenced their exercise habits and behaviors. This insight represented a new contribution to the understanding of how physical health perceptions relate to exercise practices among students.

Keywords: Physical Health Beliefs; Physical Exercise Behavior; Intention and Habit; Physical Self-Efficacy

บทคัดย่อ

บทความวิจัยนี้มีวัตถุประสงค์เพื่อค้นหาความสัมพันธ์ระหว่างการประเมินสมรรถภาพทางกายกับความเต็มใจและนิสัยการออกกำลังกายของนักศึกษา ด้วยวิธีการวิจัยนี้ได้รับการออกแบบโดยใช้วิธีการแบบผสมผสานโดยรวบรวมและตรวจสอบข้อมูล

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เพื่อให้ครอบคลุมเนื้อหาและรายละเอียดอย่างชัดเจน ข้อมูลสามารถวิเคราะห์ได้อย่างมีเหตุผล

ผลการวิจัยพบว่า เกือบทุกกลุ่มตัวอย่างยอมรับแนวคิดเรื่องความเชื่อด้านสุขภาพกายที่มีอิทธิพลต่อนิสัยและพฤติกรรมการออกกำลังกาย และนั่นคือความรู้ใหม่จากการศึกษาครั้งนี้ด้วย

คำสำคัญ: ความเชื่อด้านสุขภาพร่างกาย; พฤติกรรมการออกกำลังกาย; ความตั้งใจและนิสัย; ความสามารถทางกายภาพ

Introduction

The introduction of the National Student Physical Health Standards (hereinafter referred to as the Standards) is not only a physical health assessment system but also an important incentive and educational tool. By conducting physical fitness testing and evaluation, we aim to promote the healthy development of students' physical fitness, motivate them to actively participate in physical exercise, and cultivate the habit of lifelong physical exercise (Qiu & Wang, 2018).

Statement Problem The real thing is facing the relevant work of conducting physical health assessments in schools, there are still some problems for college students in terms of cognition, attitude, and concern for their health. According to a literature report on college students' attitudes towards physical fitness and health testing, only 15% of college students hold a positive attitude towards physical fitness and health testing. In contrast the majority of students have a dispensable attitude, and 22% of students hold a boring attitude towards physical fitness testing (Dong, 2015).

Another survey on attitudes towards participating in physical fitness and health tests found that 53.9% of college students like to participate in tests, 18.0% do not care, and 28.1% do not like them. A survey on the importance of physical health has found (Hu, 2015).

Research Significance There are many studies of physical health belief in difference approaches. This main research focuses on finding college students that related habits of physical exercise behavior only. However, the

object of this study is explore the influence of their physical health beliefs on their physical exercise behavior.

Therefore, studying the behavioral characteristics and influencing factors of this group is not only of great significance for understanding the laws of college students' sports behavior but also provides a scientific basis for universities to formulate health promotion plans.

Research Objectives

1. To explore the relationship between college students' beliefs in physical health and their intentions and habits towards physical exercise behavior.

2 To analyze the hierarchical and progressive impact of health beliefs on behavioral intentions and habits.

3. To verify the mediating role of physical self-efficacy.

Methodology

1. Research design

This research adopts a mixed methods design, integrating both quantitative and qualitative approaches. The quantitative aspect is based on statistical survey analysis, while the qualitative aspect supports clarification through face-to-face explanations. The research focuses on exploring the intention and habits of physical exercise behavior among college students, structured around a conceptual framework developed from prior theories.

2. Population and Sample Size

This study selected college students from Shanxi University in China which there are 12,840 as statistic survey in 2024 (Wang & Zhang, 2019). As a result, to select as research samples will be calculate with the determination of sample size referred to the finite population sample size calculation formula proposed by Krejcie and Morgan (Krejcie & Morgan, 1970): As a result, sample size is 373 as calculate from formular.

$$n = \frac{N \cdot Z^2 \cdot p(1-p)}{Z^2 \cdot p(1-p) + N \cdot e^2}$$

n: represents the required sample size. That is 373.

N: represents the total population. That is 12,840.

Z: represents the critical value of the standard normal distribution. That is 1.96

P: represents the estimated proportion. That is 0.5

e: represents the allowable error range. That is 0.05

$n= 12,840x1.96^2x0.5(1-0.5)/ 1.96^2x0.5(1-0.5)+12,840x0.05^2 = 373$

3. Research Instrument

The instrument used in this study is a structured questionnaire developed from the research's conceptual framework. Items were constructed to align with each variable under investigation. Where clarification was needed, participants could contact the researcher directly or receive face-to-face support.

To ensure content alignment and quality:

Item-Objective Congruence (IOC) was used to validate content relevance.

IOC scores ranged between +1 to -1, and for this study, the average IOC=1.00, indicating perfect agreement among expert raters.

4. Data Collection

The data is stored with collecting methods by experiments, tests or measurements from sample size. It is a very selective way of looking at the purpose of research.

For research tools has designed from the conceptual framework by original concept. However in the process, if any questions need to clear more, the author will face to face to explain or can connect the author directly.

5. Data Analysis Statistics Used to Analyze the Data

Firstly, we evaluated the reliability of the scale. Reliability analysis uses the Cronbach alpha (Cronbach, 1951) coefficient to test the internal consistency of each dimension. The closer the coefficient value is to 1, the higher the reliability of the scale.

According to the analysis results in validity, the Cronbach alpha coefficients of all five dimensions exceeded 0.7, indicating that the reliability

of each dimension is high and can stably and reliably reflect the relevant factors of college students' intention and habit of physical exercise behavior (Chen et al., 2015).

The Item-Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on the score range from -1 to +1 (Congruent = +1, Questionable = 0, Incongruent = -1). And the results from IOC test for this current research was more than 0.9 in sum (IOC average 1.00).

Results

Descriptive Analysis

Descriptive Analysis of Basic Demographic Information in the Questionnaire

Table 1 Number and composition ratio of each category of basic information of respondents

Variable	Category	Number of people	Composition ratio
Age			
	Under 19 years old	20	5.7%
	19-23 years old	282	75%
	23 years old and above	71	19.3%
Gender			
	Male	180	48.2%
	Female	193	51.8%
Education			
	College	138	37.2%
	Undergraduate	147	39.6%
	Graduate students and above	88	23.2%
Professional Direction			
	Liberal Arts	149	39.8%
	Science and Engineering	58	15.6%
	Economic Management	67	18%
	Arts and Sports	28	7.6%
	Other	71	19%

In this survey, the age distribution of the respondents was mainly concentrated between 19 and 23 years old, accounting for 75%, or 282 people. Next is the age group of 23 and above, accounting for 19.3%,

corresponding to 71 people. In terms of gender distribution, there were 180 male respondents, accounting for 48.2% of the total; and 193 female respondents, accounting for 51.8%.

The educational level of the respondents is as follows: 138 people have a college degree, accounting for 37.2%; 147 people hold a bachelor's degree, accounting for 39.6%; 88 people have a postgraduate degree or above, accounting for 23.2%.

From the data, the majority of respondents have a bachelor's degree or above, with a bachelor's degree accounting for nearly 40%. This distribution of educational levels is of great significance to this study.

In terms of professional direction, there are 149 students majoring in humanities, accounting for 39.8%; 58 students majoring in science and engineering, accounting for 15.6%; 67 people majoring in Economics and Management, accounting for 18%; 28 people majoring in art and sports, accounting for 7.6%; There are 71 other majors, accounting for 19%. The proportion of liberal arts students is the highest, followed by economics and management, as well as science and engineering.

Confirmatory Factor Analysis

Table 2 Confirmatory Factor Analysis Fitting Parameters for the Physical Health Belief Scale

Index name		Result	Evaluate
Chi-Square/degree of freedom Absolute fitting index	**X^2/df**	**4.513**	**Better**
	RMSEA	0.097	Slightly higher than the recommended value, but still within an acceptable range
Relative fitting index	TLI(NNFI)	0.857	But slightly lower than the ideal value of 0.9
	CFI	0.875	Better
	IFI	0.875	Better
Number of Information	AIC	110.144	——

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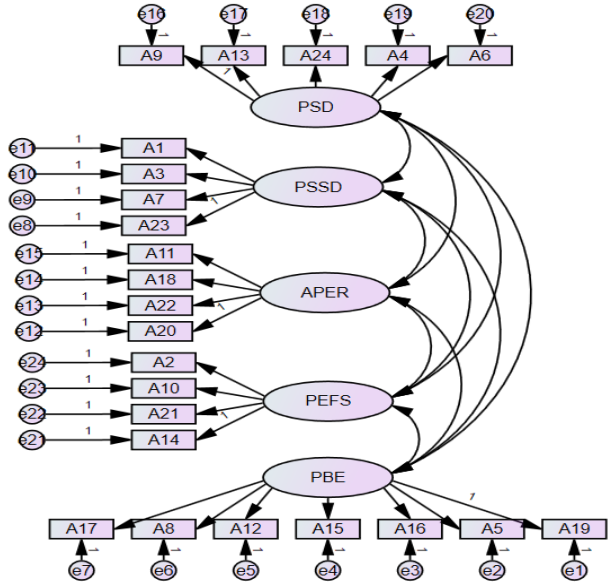


Figure 2 Five Factor Model of Physical Health Belief Scale Structural Model Analysis

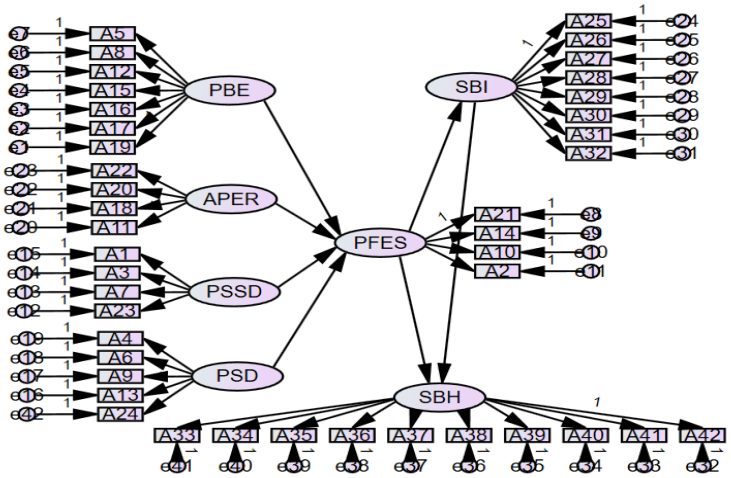


Figure 3 Structural Model of "Physical Health

As shown in the model diagram, the concept of physical health includes four main influencing factors: perceived exercise benefits, physical strength and susceptibility to illness, perceived severity of illness and frailty, and attention to physical evaluation results. These factors indirectly affect behavioral intentions and habits through the mediating variable physical evaluation self-efficacy.

Discussions

The findings from the descriptive analysis reveal that the majority of participants were between the ages of 19–23 years old, predominantly female, and primarily pursuing undergraduate degrees in liberal arts. This demographic distribution is significant as it aligns with the common profile of students who actively engage in physical activity awareness programs, suggesting a relevant and responsive sample for the study's focus on physical health beliefs.

The confirmatory factor analysis (CFA) supported the five-factor structure of the Physical Health Belief Scale. The model fit indices (X^2/df = 4.513, RMSEA = 0.097, CFI = 0.875, IFI = 0.875) indicated an acceptable, though not perfect, model fit. While RMSEA slightly exceeded the ideal threshold, other indices such as CFI and IFI were within acceptable ranges, reinforcing the structural validity of the scale used. These results affirm the internal coherence of the dimensions used to measure students' health beliefs.

Furthermore, the structural model illustrated that physical health perceptions such as perceived exercise benefits and vulnerability to illness are mediated by physical evaluation self-efficacy, which in turn influences behavioral intentions and habits. This finding is consistent with prior research (Chen et al., 2015), which emphasizes self-efficacy as a crucial mediator between belief and behavior in health contexts.

In sum, the results validate the proposed model and suggest that reinforcing self-efficacy and promoting health literacy can play a critical role in shaping long-term physical health habits among university students.

Body of Knowledge

In summary, this model validates the path through which college students' physical health concepts influence their behavioral intentions and habits through self-efficacy and emphasizes the key role of behavioral intentions and self-efficacy in intervening in physical exercise behavior.

However, this study has showed new concept as new knowledge that exogenous and endogenous variables will influence to mediation variable as PFES that showed below:

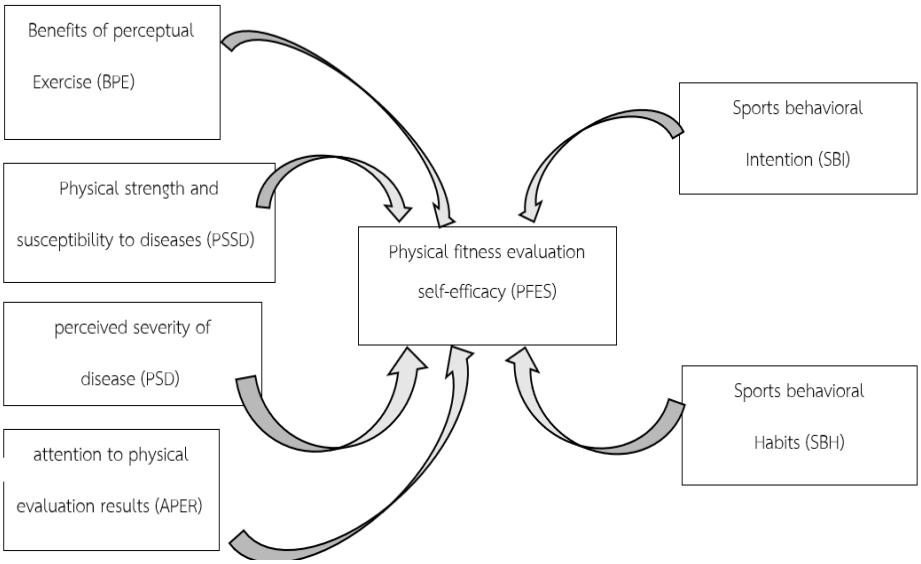


Figure 4 New finding from research

Conclusion

1. Benefits of Perceived Exercise (BPE)

College students hold a positive attitude towards the benefits of physical exercise, with an average score of 4.22 on the dimension of "perceived benefits of exercise". This indicates that, on average, students recognize and value the health benefits associated with regular physical activity. In addition, the high standard load and AVE value of this dimension indicate that the measurement of perceived benefits is both effective and reliable.

2. Physical Strength and Susceptibility to Disease (PSSD) In terms of physical strength and susceptibility to diseases, students showed relatively high levels of attention, with an average score of 5.43. This indicates that many students consider themselves somewhat prone to illness and are concerned about their physical condition. However, as shown by the relatively high standard deviation, there is considerable variation in this dimension.

3. Severity of Perceived Disease and Frailty (SPDF) The average score for the dimension of "perceived severity of illness and weakness" is 3.66, indicating that students have a moderate level of awareness of the potential severity of health issues. This score indicates that although students do recognize the potential negative impacts of poor health, their views may not be as sharp as those related to the benefits of exercise.

4. Physical Fitness Evaluation Self Efficacy (PFES) In terms of assessing self-efficacy in physical condition, the average score of students is 3.57, indicating a moderate level of confidence in their ability to manage health through exercise. Again, there is a significant difference in this dimension, indicating that some students may be more confident than others in improving their health through exercise.

5. Attention to Physical Fitness Evaluation Results (APER) The average score for the dimension of "paying attention to physical fitness assessment results" is 4.00, indicating that students generally pay attention to their physical fitness assessment results and care about their health status. This discovery highlights the importance of physical assessment in shaping students' health beliefs and behaviors.

6. Behavioral Intentions and Habits (SBI), (SBH) In terms of behavioral intention and habits, research has found that students exhibit moderate levels of intention and habits in physical exercise, with average scores of 3.55 and 3.47, respectively. There is a strong correlation between behavioral intention and habit, with a standardized path coefficient of 0.843, indicating that students' exercise intention is an important predictor of their actual exercise behavior.

Recommendations

Policy Recommendations

Promote physical self-efficacy training as part of university health policies Universities should incorporate physical self-efficacy development into student health policies to enhance motivation, support long-term engagement in exercise, and reinforce healthy behavioral intentions.

Operational Recommendations

Integrate personalized physical assessment feedback into campus health programs Health programs should include individual fitness evaluations with tailored feedback to increase students' awareness, concern, and responsiveness to their physical health status.

Recommendations for Next Research

Examine long-term behavioral outcomes of self-efficacy-based interventions Future studies should investigate the sustained impact of interventions focusing on self-efficacy to determine their effectiveness in shaping long-term physical exercise habits.

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