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Extracurricular Physical Exercise Behavior and Motivation of College Students

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ABSTRACT

The study examined the extracurricular physical exercise behavior and motivation of selected students in Xingtai Vocational College of Applied Technology. By shedding light on these effects, the study aimed to provide insights into an action plan that addressed the results. The study measured the extent of extracurricular physical exercise behavior in terms of attitude, subjective norms and perceived behavioral control. Moreover, the study also included the level of motivation in physical exercise in terms of stress control, health, sociability, competitiveness, aesthetics, and pleasure. Three hundred six students out of 1500 population size were the respondents of the study, and all the data were gathered through validated questionnaires. The findings revealed a notable high extent of extracurricular physical exercise behavior and a high level of motivation on the extracurricular physical behavior. No significant differences were observed in the extent of extracurricular physical exercise behavior and the level of motivation as grouped according to sex and course. The study emphasized the importance of implementing an action plan to address issues and improve extracurricular physical exercise. The results also highlighted the need to seek professional development opportunities and the attainment of a more profound understanding of the current industry challenges and success. The study also suggested the sufficient allocation of resources and finance.

INTRODUCTION

Physical fitness is considered an essential component of the national development plans in China, which specifically aim to create a healthier and more active society (Liu *et al.*, 2023). This critical health indicator is significant in ensuring the prevention of various health threats to the public, especially among the younger generation, so it is an important priority for the Chinese government (Dong *et al.*, 2023).

In line with this, based on the study of Pan *et al.* (2022), the level of participation of Chinese college students in physical activities is relatively good and in line with the implemented national standards. However, the National Youth Physical Fitness Reports shows decrease in the amount of exercise performed by learners as time pass by (Liu *et al.*, 2018).

Because of this, Koons (2021) implied that this downward trend in the engagement of students in physical exercises is due to the exam-oriented focused education system in the country. Also, Liu (2023) cited that the education curriculum, including PE, often prioritizes academic achievement over other aspects of students' development. Hence, extracurricular activities are introduced to make up and balance the intense academic pressure and help students develop their overall health and well-being.

In specific, Chinese universities and colleges also implement various extracurricular physical exercises, which refers to activities that are not part of the regular curriculum but are still supported and promoted among students (Zhang *et al.*, 2023). It was stressed that students are encouraged to participate in this system of physical activities since it also helps strengthening their overall well-being, along with their academic pursuits. Also, the author specified that universities and colleges in the country offers a variety of extracurricular activities such as recreational activities, high-level sports, traditional ethnic sports, and medico-healthcare sports activities.

On the contrary, Hao and Yang (2022) reported that the National Physical Fitness and Health Monitor in the country inferred that students in universities and colleges in the country have relatively low engagement in extracurricular physical activities. Given this, Zhang *et al.* (2023) stressed the importance of improving and implementing a better system of physical exercises that are outside the regular curriculum, including elective credits and inclusion of its results with their PE class grades.

Meanwhile, Liu *et al.* (2021) emphasized that most of Chinese college students generally have a positive attitude towards the mentioned activities since they recognize the importance of such physical activities in maintaining good health and preventing chronic diseases. Consequently, considering that the main motivation of students to exercise is to strengthen their physical health, this led them to actively engage with these activities. However, Pan *et al.* (2022) noted that various challenges also affect students' willingness to participate despite positive behavior, including academic pressure, facilities constraints, and lack of professional guidance. Along with this, Hao and Yang (2022) noted that some students tend to disregard and view these physical activities as less significant as they progress in grade level.

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Meanwhile, as per the study of Lin *et al.* (2022), some Chinese college students are also driven by various motivations such as health, enjoyment, stress relief, social interaction, appearance, and school requirement, in engaging in different extracurricular physical activities. Provided this, the author reiterated the importance of considering these factors in designing and promoting the mentioned activity among college students.

However, despite the provided information, there is still insufficient study regarding the level of extracurricular physical exercise behavior and motivation of Chinese college students, specifically in the Hebei province. Given this, this study primarily aims to determine the extracurricular physical exercise behavior and motivation of students in Hebei province. Specifically, this intends to identify the level of extracurricular physical exercise behavior of students in terms of attitude, subjective norms, and perceived behavioral control. Also, this will reveal their level of motivation in respect with stress control, health, sociability, competitiveness, aesthetic, and pleasure. Further, this will determine if there are significant differences in level of extracurricular physical exercise behavior and motivation when both grouped according to demographic profile of students. Also, this will ascertain if there is a significant relationship between the mentioned variables. Finally, based on the results and discussion, an action plan will be designed and proposed as the output of the study.

LITERATURE REVIEW

Physical Health of Students in China

Better physical health is significant for an individual to attain better performance and better mental health state in their daily lives (Fadare *et al.*, 2022). The author stressed that promoting physical health also foster self-care, personal health, personal growth and stress management that can help individuals to maintain a stable state of mind. In line with this, Xiang *et al.* (2023) stressed that China is one of the countries which has been making efforts to enhance the physical health of its population, particularly among learners. Specifically, the Chinese government has enforced various initiatives and policies to promote physical activity and overall well-being, including the Health China 2030 plan (Liu *et al.*, 2019). This strategy primarily aims to ensure the healthy development of Chinese children and adolescents through focusing on physical activities.

Moreover, a study by Xinhua (2022) cited that physical education (PE) has been mandatory for Chinese students in the compulsory education system to further increase the emphasis on physical activities in the country. Given this, educational institutions are continuously developing high-quality PE and health curricula to enhance the overall situation of Chinese students' physical activity levels.

In respect with tertiary education, Chinese colleges and universities offers variety of compulsory courses designed to promote quality education and improve the physical and mental health levels of learners (University of Nottingham, 2024). However, Gu (2022) reiterated that the current curriculum mainly focuses on reaching physical fitness standards of students through examinations, which leads to the neglection of student's individual differences and can demotivate them to meet the expected physical levels.

Furthermore, Fu and Zhu (2022) also reported that almost 85% of colleges and universities in the country lack sufficient teaching hours for the mentioned curriculum, causing them to fail in completing the prescribed 2-3 hours per week of physical education and health curriculum, mainly due to economic, cultural, and other shortages, especially in remote areas. Also, the author mentioned the limited variety in teaching content and sports program in the current curriculum, which cannot meet the learners' developmental, physical, and psychological needs.

Extracurricular Physical Exercises

In China, extracurricular physical exercises are deemed as an important part of physical education and the extension and supplement to current PE courses (Hao & Yang, 2022). Also, it was noted that such activity is considered as the destination of regular physical exercises, given that the ideas and methods of the latter are applicable to the former, leading to further enhancement of students' health and well-being. Likewise, Lobo *et al.* (2020) inferred that such activities can effectively decrease one's anxiety, boost self-confidence, and improve psychological health. Hence, extracurricular physical exercises for Chinese college students cater wide range of interests in order to ensure its alignment with students' interests and psychological needs. Also, Zhang *et al.* (2023) stressed the importance of its diversity as it can effectively ensure the motivation of students actively engage and reap benefits for their physical and mental well-being.

As per the study by Pan *et al.* (2022), aerobic exercises, including running, walking, jogging, and dancing, are considered the most popular form of extracurricular exercise among Chinese college students, providing that their primary motivation is to strengthen their physical fitness. These activities can significantly help students to enhance their stamina, flexibility, and overall fitness levels. Also, it was stressed that many college students prefer to exercise alone, leading them to prefer activities that do not require partners and can be conducted on their own and independently.

Meanwhile, Hao and Yang (2022) emphasized that compared to regular PE classes that focuses on teaching sports skills, health knowledge, and physical fitness through structured lessons and activities, extracurricular physical activities intend to provide more opportunities for students to actually apply the concepts and skills they have learned and participate in activities they enjoy. Also, it has more flexibility in terms of content and format compared to former which are expected to meet specific learning objectives and standards set by the Chinese MOE (Bania, 2020).

Student Behavior in Extracurricular Physical Exercises

According to the study of Pan *et al.* (2022), it was stated that the engagement and behavior of Chinese students in physical activities varies as it can be influenced by various factors. Specifically, the low engagement of the mentioned demographic can be influenced by various constraints such as academic pressure, lack of time, facilities constraints, and the absence of professional exercise guidance (Deng *et al.*, 2023). As per Junli (2019), despite the base level of physical activity among the said students, more efforts are needed to improve to increase their participation and ensure positive behavior towards it.

Particularly, Zhang *et al.* (2024) concluded that Chinese college students collectively value the benefits, positive impact, and usefulness of engaging in extracurricular physical exercises for their overall well-being and life satisfaction. Also, they believe that these exercises provide numerous health benefits and is crucial for improving their immunity, preventing diseases, and improving mental well-being (Zhang *et al.*, 2023). Given this, Zhang (2024) reported the increasing active participation of the said demographic to physical exercises outside regular classes, leading them to achieve improved physical fitness, social connections, and academic performance, which can further strengthen their positive perception and engagement level.

In support, Liu *et al.* (2023) concluded that in the Chinese context, parent' perception on the value of physical activities significantly influence their children's engagement in such. Also, it was stressed that those family who encourage their children and provide full support can positively impact their participation in physical activities. Similarly, Tadesse *et al.* (2022) also reiterated that peer support has been proven to have a more significant impact on the physical activity engagement of college students, given that college students' communication and support tends to shift from families to their peers.

In connection to this, the findings of the study of Balla *et al.* (2024) concluded that both attitude and PBC were consistent predictors of physical activity intentions of students. This implies that the mentioned domains are directly proportional with their intention and behavior. However, the author mentioned that the effect size of subjective norms was smaller and not statistically significant. As per Fischer and Karl (2021), it is important to note that the influence of social pressure may var across different populations and contexts, causing it to have a weaker impact on students' intentions to engage in physical activity.

Motivation in Engagement in Extracurricular Physical Exercises

Additionally, Zhao *et al.* (2023) stressed that motivation serves a crucial role in determining the frequency, intensity, and duration of physical exercises among Chinese university students. It was noted that this element is multifaceted and may originate from various factors. In line with this, Pan *et al.* (2022) cited that the main motivation for the mentioned demographic to engage in physical exercises are their health, specifically to strengthen their bodies, improve their physical health, and enhance their overall well-being. In a study of Deng *et al.* (2023), students tend to actively participate in physical exercises given that they primarily aim to attain numerous health benefits, such as reducing the risk of chronic diseases, improving mental health, and boosting immune system.

In relation to health, it was also concluded that the desire of Chinese students to achieve their ideal body significantly shape their drive to participate in physical exercises (Wang *et al.*, 2023). Particularly, being 'ideally thin' is viewed as the desirable aesthetic for body physique, especially for university students, which they believe they can only achieve through being physically active. Also, the author stressed that this demographic actively link their body image with their personal emotions and integrate it into their self-concept, leading them to consider physical activities as essential to attain their aesthetic-related objectives.

Moreover, Wang *et al.* (2023) also cited that stress management is one of the significant motivational factors for students to participate in physical exercises, as it is proven to be effective in reducing psychological challenges and promoting mental well-being. Also, Tao *et al.* (2023) stressed that various studies has already provided evidence that actively engaging in physical exercises can help alleviate stress, anxiety, and depression among college students. Specifically, it was mentioned how regular exercises can increase the production of endorphins, which are natural mood elevators that can promote better sleep and enhanced mental health.

Additionally, Liu (2023) also claimed how social interactions and peer influence plays an important role in encouraging students to actively participate in physical activities. The author stressed that engaging in such activities can enable students to interact with their peers, establish friendships, and develop a sense of belongingness. Specifically, team exercises or group sports can foster cooperation and camaraderie among students, providing a more supportive environment that can further enhance their overall exercise experience (Zhang *et al.*, 2022).

Meanwhile, based on the study of Subhrajyoti *et al.* (2023), other factors that urges student to be involved in extracurricular physical activities includes the fact that they believe their particiaption it can help them achieve higher academic success, and improved character development– specifically in terms of time management and leadership skills.

MATERIALS AND METHODS

For this study, the researcher employed a descriptive-comparative research design, wherein compiling and assessing numerical data is a primary step in the research process to determine the level of extracurricular physical exercise behavior and motivation of Chinese college students. In this design, the researcher takes into account two unmanipulated variables and uses a formal technique to compare them with independent variables in order to determine whether there is a significant

difference. Subsequently, this study also compared if there is a significant difference in the extent of extracurricular physical exercise behaviour and level of motivation of the respondents as grouped according to demographic profile.

As for the population and sampling, students from Xingtai Vocational College of Applied Technology were the subjects of this study and were selected through a purposive sampling technique. Specifically, Third Year students with a total of 1500 students was the population and samples were selected randomly. In specific, three hundred six (306) students from the mentioned population participated in the study as respondents based on the computed sample size in Raosoft calculator. Those samples are under the courses of Health Management, Artificial Intelligence, Digital Media Art Design and Big Data.

Meanwhile, the main source for the gathering of data is the survey-questionnaire and it was crafted based on the stated variables stated in the statement of the problem. Bhandari (2021) claims that the purpose of questionnaires was to get specific data from study subjects. It was feasible to learn about the respondents' ideas, feelings, beliefs, ideals, opinions, temperament, personality type, and other characteristics by using questionnaires. The questionnaire is divided into three parts: The first part involves the profile of the student-respondents according to sex, and course; the second part involves the extent of extracurricular physical exercise behavior assessed in terms of attitude, subjective norms, and perceived behavioral control, wherein the following scale will used: 4 – Very Great Extent, 3 – Great Extent, 2 – Low Extent, and 1 – Very Low Extent; and the third part involves the level of motivation as assessed by the respondents in terms of stress control, health, sociability, competitiveness, aesthetics, and pleasure, which used the following scale of: 4 – Very High, 3 - High, 2 - Low, and 1 – Very Low.

In terms of data gathering procedure, the researcher conducted several actions to gather data for this study. First, the researcher's proposal was submitted to and approved by the Perpetual University Ethics Review Committee. Also, the principal of the school granted the necessary permission for the study. Following this, each participant received an informed consent form, which was also approved by the school principal. Moreover, to address challenges associated with in-person data collection, a Chinese-language questionnaire was developed and made available on a Chinese data website. The form link was sent via WeChat to the individuals assigned as teachers and students. Finally, the gathered data was interpreted using appropriate statistical tools.

Mathematical Expressions and Symbols

Researchers systematically organized the collected data using various statistical methods. In specific, the following statistical methods were used in this study:

Frequency Count and Percentage

The following formulas were used to quantitively describe the demographic profile of Chinese college students in terms of age, sex, and course.

f = Number of occurrences of a specific category or value

P=f/N x100

Wherein:

P= Percentage

f= Frequency of the specific demographic profile

N= Total number of occurrences (sum of all frequencies)

Weighted Mean

This was utilized to analyze the extent of extracurricular physical exercise behavior in terms of attitude, subjective behavior, and perceived behavioral control; as well as the level of motivation in terms of stress control, health, sociability, competitiveness, aesthetic, and pleasure.

$=(\Sigma(w_i \blacksquare x_i))/(\Sigma w_i)$

Wherein:

= Weighted mean

$\underline{X}_w$= Weight assigned to each data point t

x_i= Value of each data point

$\underline{X}_{w'_i}$= Sum of all weights

Analysis of Variance (ANOVA)/F-test and T-test for independent samples.

When classified according to their profile, it was utilized to identify if there is a significant difference in the level of extracurricular physical exercise behaviour and behaviour of Chinese college students. T-test was used to compare the variables in terms of sex (male and female) while ANOVA/F-test was for the course which was categorized into four.

For ANOVA F-Test:

F = (MS between)/(MS within)

Wherein:

$MS_{between}$= Mean Square Between Groups

MS_{within}= Mean Square Within Groups

For T-test for Independent Samples:

Wherein:

$$t = \frac{\underline{X}_1 - \underline{X}_2}{\sqrt{\frac{\frac{1}{s^2}}{n^1} + \frac{\frac{2}{s^2}}{n^2}}}$$

$\underline{X}_1 \underline{X}_2$= Sample means of group 1 and 2

$s^{(2/1)}$ $s^{(2/2)}$= Sample means of group 1 and 2

n_1 n_2= Sample means of group 1 and 2

RESULTS AND DISCUSSION

Table 1: Demographic Profile of the Respondents in terms of Age

Profile	Frequency N= 306	Percentage
Female	181	59 %
Male	125	41 %

Table 1 presents the demographic profile of the respondents in terms of age. The results showed that females dominated the male by earning a frequency

of 181 equivalent to 59%, while the latter garnered a frequency of 125 (41%). In support, the University of California (2023), women tend to significantly show greater importance and frequency in participating in extracurricular activities compared to men.

As per Liu (2021), there is still an existing gender gap in extracurricular physical activities due to traditional gender stereotypes, discriminations and expectations. However, the author noted that women are seen as less engaged in physical and technical activities, and face more restrictions and disadvantages compared to male students, who are strongly encouraged to participate in a wider range of such activities (Wen *et al.*, 2023). Because of this, there is a limited opportunities for women's physical development and ability to attain relevant skills and experience.

Table 2: Demographic Profile of the Respondents in terms of Course

Profile	Frequency N= 306	Percentage
Health Management	12	4%
Artificial Intelligence	73	24%
Digital Media Art Design	64	21%
Big Data	157	51%

Based on Table 2, majority of the respondents are taking Big Data as their course, gaining the highest frequency of 157 (51%), followed by Artificial Intelligence with a frequency of 73, equivalent to 24%. Also, the results revealed that there are 64 (21%) of them pursuing Digital Media Art Design. However, Health Management only earned a frequency of 12 (4%). Therefore, the results indicate the strong interest of students in technology-related academic fields which also implies the significance of these areas in the current educational and job market in China.

Moreover, as per the study of Shahzad *et al.* (2024), the growing interest in the mentioned academic fields and its increasing importance in various sectors lead the students to gravitate towards these disciplines. Also, Ren *et al.* (2022) stressed that this trend can also be attributed to the increasing demand for skilled professionals in the Chinese technology industry, the rapid growth of the said sector, and the government's emphasis on technological innovation.

Meanwhile, the low enrollment in Health Management courses infers their lesser interest in the field compared to technology and creative sectors. Provided this, Chinese government started to increase the number of public health education institutions in the country over the years in order to boost the number of enrollments (Hou *et al.*, 2018).

Table 3: Extent of Extra Curricular Physical Exercise Behavior in terms of Attitude

Statements	Mean	Interpretation
Extracurricular physical exercises are beneficial for my health and overall well-being.	3.22	Great Extent
Engaging in extracurricular physical exercises is a good way to spend my free time outside regular classes.	3.17	Great Extent
I feel fulfillment and happiness after engaging in extracurricular activities.	3.18	Great Extent
I believe extracurricular exercises help in improving my academic performance.	3.16	Great Extent
I believe extracurricular physical exercises contribute to my overall self-esteem and confidence.	3.24	Great Extent
I believe that participating in extracurricular physical exercises helps me develop important life skills such as discipline and perseverance.	3.20	Great Extent
I believe extracurricular physical exercises contribute to my overall satisfaction as a student.	3.18	Great Extent
I believe that engaging in extracurricular physical exercises positively impacts my emotional well-being.	3.22	Great Extent
Grand Mean	**3.20**	**Great Extent**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very Great Extent, 2.50 – 3.49 for Great Extent, 1.50 – 2.49 for Low Extent, and 1.00 – 1.49 for Very Low Extent

Table 3 reveals the extent of extracurricular physical exercise behavior in terms of attitude. Based on the results, the grand mean of 3.20 can be verbally interpreted as 'great extent.' This infers that students have a relatively positive evaluation of such activities and their perceived outcomes. Consequently, this positive attitude implies a higher engagement rate with it. In support, Pan *et al.* (2022) mentioned that Chinese students generally have favorable views in such activities so educational institutions are taking steps to promote and facilitate greater student participation.

Specifically, all of the indicators gained a verbal interpretation of 'great extent', wherein the statement emphasizing the contribution of the extracurricular physical exercises to the overall self-esteem and confidence gained the highest mean of 3.24. In a study

of Ke *et al.* (2024), it was also concluded how such exercises effectively provides opportunities for personal achievement, mastery, and social interaction, which significantly contribute to learner's sense of self-worth and their belief in their abilities. Also, Shang *et al.* (2021) cited how the positive feedback and recognition students received in these settings boosts their confidence.

Moreover, statements indicating the benefits of extracurricular to health and overall well-being, as well as emotional well-being (3.22); to life skills such as discipline and perseverance (3.20); to overall satisfaction as a student, and to sense of fulfillment and happiness (3.18); to productivity during free time (3.17); and to improvement of academic performance (3.16), also gained relatively positive attitude. As per Pan *et al.* (2022), the main driving force of Chinese college students to participate in extracurricular physical exercises is their belief that it would help them strengthen their physical health, and help them effectively prevent chronic diseases. Also, engaging in such activities also help students to develop dedication, commitment, and time management skills, which are essential in achieving academic goals (The Vision, 2024).

Table 4: Extent of Extra Curricular Physical Exercise Behavior in terms of Subjective Norms

Statements	Mean	Interpretation
I feel pressured by my friends to participate in extracurricular physical exercises.	2.89	Great Extent
My family encourages me to engage in extracurricular physical exercises.	3.25	Great Extent
I believe that important people in my life expect me to participate in extracurricular physical exercises.	3.23	Great Extent
My teachers fully support and guide me to participate in extracurricular physical exercises.	3.30	Great Extent
I think that most of my classmate value participating in extracurricular physical exercises.	3.18	Great Extent
I am influenced by the social media posts and discussions related to extracurricular physical exercises among my peers.	3.12	Great Extent
I mainly consider the opinions of influential individuals in my social network regarding my participation in extracurricular physical exercises.	3.05	Great Extent
I believe that participating in extracurricular physical exercises is a way to fit in with my social group.	3.17	Great Extent
Grand Mean	**3.15**	**Great Extent**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very Great Extent, 2.50 – 3.49 for Great Extent, 1.50 – 2.49 for Low Extent, and 1.00 – 1.49 for Very Low Extent

According to Table 4, there is great extent of extracurricular physical behavior in terms of subjective norms. The results shows that the grand mean of the mentioned variable is 3.15, which infers that the perceived social pressure from important people have a significant influence to student's decisions to participate in such activities. Similarly, Zhang *et al.* (2022) also emphasized that social pressure can push students to such activities as they strive to meet the expectations and fulfill their sense of obligation to please those who support and believe in them. Also,

In particular, indicator stating the full support and guidance from teachers garnered the highest mean of 3.20 equivalent to 'great extent'. This infers that educators plays the most significant role in encouraging students to participate in physical exercises outside the regular PE curriculum. In support, Wang *et al.* (2024) inferred that teachers' guidance, support, and provided opportunities can effectively urge Chinese students to engage in these activities and promote a culture of physical fitness and well-being. Also, students are more like to be involved and put in more effort in certain activities when they receive adequate support and motivation from teachers (Pan & Yao, 2023).

Additionally, all indicators such as the encouragement from the family (3.25); expectations from important people (3.23); classmate's positive valuation towards such activities (3.18); way of fitting in with the social group (3.17); social media posts and discussion of peers (3.12); opinions of influential individuals in social network (3.05); and peer pressure (2.89) were also verbally interpreted as 'great extent'. This underscores the significance of a social environment composed of family, peers, social groups, and influential individuals, in promoting extracurricular physical activities among students. As per the University of Arkansas (2020), the family environment and parental expectations can effectively shape student's interest, values, and behaviors, including their participation in the mentioned exercises. Also, Dhiman (2023) stressed that beyond family, the broader social environment including school, community, and cultural factors can also shape individuals' physical activity behavior, and further boost their engagement.

Table 5: Extent of Extra Curricular Physical Exercise Behavior in terms of Perceived Behavioral Control

Statements	Mean	Interpretation
I know that I have the necessary skills to engage in extracurricular physical exercises effectively.	3.23	Great Extent

I have the essential resources, equipment, and facilities to engage in extracurricular physical exercises.	3.15	Great Extent
I possess enough knowledge and crucial information about the benefits and effects of engaging in extracurricular physical exercises.	3.20	Great Extent
I am confident in my ability to overcome obstacles that may prevent me from engaging in extracurricular physical exercises.	3.21	Great Extent
I believe I have control over my time to include extracurricular physical exercises regularly.	3.18	Great Extent
I have previous positive experience participating in extracurricular physical exercises.	3.18	Great Extent
I feel comfortable with the environment where extracurricular physical exercises take place.	3.19	Great Extent
I believe I can successfully attain my objectives in engaging extracurricular physical exercises.	3.20	Great Extent
Grand Mean	**3.19**	**Great Extent**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very Great Extent, 2.50 – 3.49 for Great Extent, 1.50 – 2.49 for Low Extent, and 1.00 – 1.49 for Very Low Extent

Obtaining a grand mean of 3.19, the results presented in Table 5 reveals that there is a great extent of extracurricular physical exercises in terms of perceived behavioral control. This implies that students perceive a high level of control over their capabilities to perform and participate in extracurricular physical activities. However, in a study of Zhang *et al.* (2022), cited that the Chinese college students' levels of control over their ability to engage in such activities may vary based on factors such as institutional support, individual motivation, social influences, and personal circumstances.

Specifically, all of the indicators gained a verbal interpretation of 'great extent'. The statement citing the possession of necessary skills needed for extracurricular physical exercises earned the highest mean of 3.23. Likewise, Pan *et al.* (2022) reported that Chinese college students commonly engage in moderately intense activities such as jogging, running, or ball games, which requires skills including coordination, endurance, and agility, which they have developed.

In addition, statements including the confidence to overcome obstacles (3.21); possession of enough knowledge and crucial information, as well as successful attainment of the objectives (3.20); comfortability with the environment (3.19); and control over time, and previous positive experience (3.18) also gained a verbal interpretation of 'great extent'. This infers that their high confidence to persist, sense of competence, and high level of comfort significantly contributes to their willingness to engage in such activities. On the contrary, Deng *et al.* (2023) inferred that Chinese students still have insufficient awareness regarding the importance of such activities due to various factors including the lack of professional exercise guidance, and lack of time due to academic pressures.

Furthermore, the indicator stating the presence of essential resources, equipment, and facilities earned the lowest mean of 3.15, which is still equivalent to 'great extent'. This implies that there might be a relatively more room for improvement in the mentioned area, which can further bolster the students' perceived behavioral control and overall engagement. In line with this, Zhang (2021) noted the importance of investing for the improvement of sports facilities, providing essential equipment, and creating a supportive environment for the mentioned activities.

Table 6: Level of motivation in the Extracurricular Physical Exercise in terms of Stress Control

Statements	**Mean**	**Interpretation**
Actively engaging in extracurricular physical exercises helps me relieve stress.	3.25	High Level
I find that engaging in extracurricular physical exercises elevates my mood effectively.	3.25	High Level
I feel more confident and empowered after engaging in physical activities.	3.24	High Level
Extracurricular physical activities serve as a form of relaxation for me.	3.24	High Level
Engaging in extracurricular physical exercises helps me maintain a balanced lifestyle, which positively impacts my mental health.	3.26	High Level
Grand Mean	**3.25**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

Table 6 displays the level of motivation in the extracurricular physical exercise in terms of stress control. Based on the results, the grand mean of 3.25 can be verbally interpreted as 'high level'. This means that Chinese college student perceive such activities as a highly effective way to manage their stress, and ensure their positive mental wellbeing. But also infers that there can be more room for improvement on such area in order to maximize the students' motivation level. In support, Wang *et al.* (2023) stressed that engaging in a higher frequency

of the mentioned activities were proven to be effective in boosting the mental health of college students. However, this factor is not yet the primary motivation for most Chinese students (Guanren *et al.*, 2023).

All of the indicators gained a verbal interpretation of 'high level' but the statement stressing how the engagement in such activity helps in maintaining balanced lifestyle and positive mental health obtained the highest mean of 3.26. In a study of Liu *et al.* (2021), it was concluded that students attain life satisfaction when engaging in various physical activities as it can positively impact their overall self-worth, self-confidence, and belief in their abilities. Also, participating in such activities outside a regular classroom setting helps them develop lifelong habits of remaining active and maintaining a healthy lifestyle (Pan *et al.*, 2022).

In addition, indicators including the relieving of stress, as well as effectively elevating mood (3.25); and acquire more confidence and empowerment, and relaxation (3.24) also gained an interpretation of 'high level'. Likewise, Weng *et al.* (2024) cited that exercising can help students to brighten their mood as it will allow them to release endorphins or 'feel-good' hormones. Also, the author inferred how the engagement in such activities can serve as a form of escape and relaxation from academic pressures and daily stresses.

Table 7: Level of motivation in the Extracurricular Physical Exercise in terms of Health

Statements	Mean	Interpretation
I believe that engaging in extracurricular physical exercise improves my overall physical health.	3.27	High Level
Extracurricular physical exercises are essential for maintaining a healthy lifestyle.	3.27	High Level
I seldom experience health problems whenever I actively engage in extracurricular physical exercises.	3.21	High Level
Actively engaging in extracurricular physical exercises regularly helps me sleep better at night.	3.25	High Level
I believe that extracurricular physical exercises have significant contribution to my personal fitness goal.	3.23	High Level
Grand Mean	**3.25**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

Attaining a grand mean of 3.25, the Table 7 reveals that there is a high level of motivation in the extracurricular physical exercise in term of health. In specific, all of the five indicators obtained a verbal interpretation of 'high level', which means that participants have a positive attitude and have a good awareness of the health benefits associated with the engagement in extracurricular physical exercises. In a study of Pan *et al.* (2022), the main motivation for Chinese college students to participate in such activities is to strengthen their bodies and ensure their positive well-being.

Indicator stating the improvement of the overall physical health, as well as the maintenance of a healthy lifestyle both garnered the highest mean of 3.27. As per the study of Pan *et al.* (2022), it was stressed how such activity can effectively help students to improve their overall health by enhancing their cardiovascular fitness, strengthening their muscles and bones, and reduces the risk of chronic diseases.

Similarly, the results shows that there is a high level of motivation in engaging to the mentioned activities in order to attain better sleep (3.25); contribution to personal fitness goals (3.23); and to seldom experience health problems (3.21). In support, Li and Guo (2023) proved that involvement in extracurricular physical activities directly associated with improved sleep quality– increase slow-wave sleep and reduce the occurrence of sleep disorders, especially among college students, which is essential in ensuring health and overall wellbeing.

Table 8: Level of motivation in the Extracurricular Physical Exercise in terms of Sociability

Statements	Mean	Interpretation
My social interaction skills significantly improve through my active participation in extracurricular physical activities.	3.20	High Level
Engaging in extracurricular physical activities outside of class helps me connect with my peers, especially outside regular classroom.	3.23	High Level
I feel more comfortable interacting with others when I'm involved in extracurricular sports or exercises.	3.19	High Level
Being part of a sports team or exercise group enhances my sense of belonging in college.	3.21	High Level
I feel a sense of camaraderie and unity when participating in extracurricular physical exercises, specifically team sports or group workouts.	3.22	High Level
Grand Mean	**3.21**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

Table 8 indicates the level of motivation in the extracurricular physical exercise in terms of sociability. Based on the results, the grand mean of 3.21 is equivalent to a verbal interpretation of 'high level'. This implies that social interactions within the exercise context serves a significant role in encouraging the engagement of the participants in such activities. In similar, Deng *et al.* (2023) also emphasized that social environment, including the school atmosphere and support from peers, can effectively contribute to the motivation of students to engage in the mentioned exercises.

Particularly, all of the five indicators gained an interpretation of 'high level', but the statement stressing how engaging in extracurricular physical activities can enable the building of connection among peers, especially outside the classroom gained the highest mean of 3.23. Following this, statements indicating the attainment of a sense of camaraderie and unity (3.22); sense of belonging (3.21); improvement of social interaction skills (3.20); and comfortability in interacting with others (3.19). In accord to this, Zhang *et al.* (2022) stressed that students can effectively build social connections with their friends and classmates when participating in such activities, which can further enhance their sense of belonging, and derive enjoyment from their shared experiences.

Table 9: Level of motivation in the Extracurricular Physical Exercise in terms of Competitiveness

Statements	Mean	Interpretation
I engage in extracurricular physical exercises because I desire to outperform my peers.	3.10	High Level
I feel a strong desire to win when participating in physical activities outside of class.	3.11	High Level
I enjoy challenging myself to see the extent of my capabilities in extracurricular physical activities.	3.20	High Level
I feel a sense of pride and accomplishment when I perform better than others in physical activities.	3.18	High Level
I am driven to achieve personal bests in physical exercises because I want to be the best version of myself.	3.24	High Level
Grand Mean	**3.17**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

According to the results on Table 9, there is a high level of motivation in the extracurricular physical exercises terms of competitiveness after gaining a grand mean of 3.17. Specifically, all of the five indicators were verbally interpreted as 'high level'. This implies that Chinese college students are highly motivated by challenges and opportunities to excel in such activities. In relation, Koons (2021) concluded that some Chinese college students participate in the mentioned activities to test their abilities, build resilience, and continuously develop a competitive spirit.

The indicator stating the desire to achieve personal bests in physical exercises obtained the highest mean of 3.24. Following this are the statements that emphasizing the enjoyment of challenging own's capabilities (3.20); feeling a sense of pride and accomplishment (3.18); and strong desire to win (3.11). These imply that most of the participants are driven by their personal satisfaction and growth. Likewise, Zhang *et al.* (2022) stressed that engaging in the mentioned exercises are proven to be effective in pushing students into their limits, setting goals, striving for personal growth.

Furthermore, while it is verbally interpreted as 'high level', indicator stressing the desire to outperform peers earned the lowest mean of 3.10. This may infer that participants prioritize self-improvement over competing against others. Meanwhile, Niu *et al.* (2023) noted that the motivation of Chinese college students in participating with extracurricular physical exercises may vary– some may prioritize personal wellbeing and growth, some may indeed prioritize outperforming their peers.

Table 10: Level of motivation in the Extracurricular Physical Exercise in terms of Aesthetic

Statements	Mean	Interpretation
I actively participate in extracurricular physical exercises because I want to improve my physical appearance.	3.12	High Level
Achieving a desirable body image is a primary goal for my involvement in extracurricular sports.	3.16	High Level
I feel more confident about my body when I am actively involved in extracurricular physical exercises.	3.21	High Level
I believe that participating in extracurricular physical activities enhances my overall attractiveness.	3.20	High Level
I feel pressured by societal beauty standards to engage in extracurricular physical exercises.	3.04	High Level
Grand Mean	**3.15**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

Table 10 manifests the level of motivation in the extracurricular physical exercise in terms of aesthetic. Based on the gathered data, the grand mean of 3.15 can be verbally interpreted as 'high level'. Given this, the implication of this emphasized the pressure of societal beauty standards and other aesthetic reasons are strong motivational drivers for participants to engage in the mentioned exercises. In a study of Zhang *et al.* (2023), it was cited that improving physical appearance and attractiveness is one of the motivating factors for Chinese students to be involved in the mentioned activities, given that many young adults are now placing a great importance on their appearance and strive to enhance it.

All of the five indicators gained a verbal interpretation of 'high level', wherein the statement emphasizing the attainment of more confidence in own's body gained the highest mean of 3.21, followed by the enhancement of overall attractiveness (3.20); achievement of desirable body image (3.16); and improve physical appearance (3.12). In relation to this, Shang *et al.* (2021) supported these motivation factors by concluding that engaging in such activities can positively influence body image and self-esteem, which significantly contribute to subjective well-being. Similarly, Liu *et al.* (2021) also cited how the active engagement in various physical activities can help students develop a better perception of their physical appearance, body shape, and overall physical fitness.

Meanwhile, despite gaining a 'high level' remark, indicator stating the pressure from social beauty standard obtained the lowest mean of 3.04. This infers that norms and expectations from the society are less influential factor compared to personal goals. As per Pan *et al.* (2022), it was emphasized that the motivation of Chinese college students for the said activities is not primary and solely driven by societal beauty standards.

Table 11: Level of motivation in the Extracurricular Physical Exercise in terms of Pleasure

Statements	Mean	Interpretation
I participate in extracurricular physical exercises because it brings me joy and pleasure.	3.23	High Level
Engagement in extracurricular physical exercises allows me to pursue personal interests and hobbies outside of academics.	3.21	High Level
The sense of freedom and liberation I feel during physical activities pushes me to participate.	3.24	High Level
My engagement in extracurricular physical activities outside of classes adds excitement to my college life.	3.23	High Level
I feel a sense of fulfillment when I participate in physical activities outside of regular class hours.	3.23	High Level
Grand Mean	**3.23**	**High Level**

Note: For interpretation, the following remarks apply to the mean interval: 3.50 – 4.00 for Very High Level, 2.50 – 3.49 for High Level, 1.50 – 2.49 for Low Level, and 1.00 – 1.49 for Very low Level

The level of motivation in the extracurricular physical exercise in terms of pleasure were presented in Table 11. Based on the results, the grand mean of 3.23 can be verbally interpreted as 'high level'. This implies that emotional benefits, specifically joy and pleasure, are strong motivator of the participation of learners in such activities. In a study of Jin *et al.* (2023), it was cited that such exercises are ere effective ways to ensure that students can experience sense of accomplishment, satisfaction and enjoyment, while taking a break from their academic responsibilities and focusing on their physical wellbeing.

In particular, indicator stating the attainment of sense of freedom and liberation garnered the highest mean of 3.24, followed by achieving joy and pleasure; excitement; and sense of fulfillment (3.23); as well as pursuit of personal hobbies and interests (3.21), which are all interpreted as 'high level'. This indicates that students aspiring to experience the sense of freedom and happiness outside the academic pressure are more likely to engage in the mentioned activities. Also, Zhang *et al.* (2022) stressed that it is vital for students to find a healthy equilibrium between academic pursuits and pleasure to maintain overall well-being and success in college.

Table 12: Significant Difference in the Extent of Extracurricular Physical Exercise Behavior when Grouped According to Their Sex

Factors	Sex	Mean	Sd	t-value	p-value	Decision	Interpretation
Attitude	Female	3.19	0.22	-0.72	0.473	Failed to Reject Ho	Not Significant
	Male	3.21	0.19				
Subjective Norms	Female	3.13	0.48	-0.81	0.417	Failed to Reject Ho	Not Significant
	Male	3.18	0.46				
Perceived Behavioral Control	Female	3.18	0.54	-.053	0.598	Failed to Reject Ho	Not Significant
	Male	3.21	0.51				

Overall	Female	3.17	0.34	-0.81	0.418	Failed to Reject Ho	Not Significant
	Male	3.20	0.33				

*Note: ** - The test statistic (t–test) is significant at 0.05 level. * - The test statistic (t–test) is not significant at 0.05 level. For remarks, Not Significant indicates No Significant Difference and Significant indicates With Significant Difference*

Table 12 shows the significant difference in the extent of extracurricular physical exercise behavior when grouped according to their sex. Based on the results, the overall level of extent of the mentioned variable gained a p-value of 0.418, which fails to reject the null hypothesis. This implies that there is no significant difference on both males and female's engagement in such activities. Also, this may indicate that both group of participants experience inclusive approaches to offered exercise programs, leading to a level of parity in their behaviors. However, in a study of Chao *et al.* (2022), it was cited that there is still a variation in the level of physical exercise behavior between female and male college students in China despite the effort of the government to promote equal opportunities for extracurricular physical exercises for both genders.

In specific, behavioral factors including the attitude (p=0.473); subjective norms (p=0.417); and perceived behavioral control (p=0.598) also gained p-values that are greater than the level of confidence of 0.05; hence, can be verbally interpreted as 'not significant'. On the contrary, Jiang *et al.* (2021) inferred that there is a gap in the behavior of male and female students towards extracurricular physical activities, since the former achieved higher level of fulfillment and happiness in their engagement compared to latter. Also, Zhu (2022) emphasized that gender is one of the crucial factor in understanding the physical activity behavior and related outcomes among Chinese university students.

Table 13: Significant Difference in the Extent of Extracurricular Physical Exercise Behavior when Grouped According to Their Course

Factors	Sex	Mean	Sd	t-value	p-value	Decision	Interpretation
Attitude	Health Management	3.20	0.14	0.94	0.428	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.22	0.20				
	Digital Media Art Design	3.17	0.20				
	Big Data	3.19	0.20				
Subjective Norms	Health Management	2.96	0.39	1.86	0.149	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.22	0.51				
	Digital Media Art Design	3.08	0.48				
	Big Data	3.16	0.46				
Perceived behavioral Control Subjective Norms	Health Management	2.86	0.49	2.15	0.106	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.23	0.57				
	Digital Media Art Design	3.14	0.53				
	Big Data	3.22	0.51				
Overall	Health Management	3.01	0.28	2.35	0.084	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.22	0.36				
	Digital Media Art Design	3.13	0.33				
	Big Data	3.19	0.32				

*Note: ** - The test statistic (F–test) is significant at 0.05 level. * - The test statistic (F–test) is not significant at 0.05 level. For remarks, Not Significant indicates No Significant Difference and Significant indicates With Significant Difference*

Obtaining an overall p-value of 0.084, the results in Table 13 reveals that there is no significant difference in the extent of extracurricular physical exercise behavior when grouped according to their course. This implies that the participants' choice of academic discipline does not significantly affect their engagement in physical exercises outside their regular academic curriculum.

In line with this, behavioral factors including attitude (p=0.428); subjective norms (p=0.149); and perceived behavioral control (p=0.106) failed to reject the null hypothesis, given that their p-values were more than the level of significance of 0.05. Particularly, attitude obtained the highest p-value, implying that this the least to be impacted by the course of the participants. However, in a study of Gong and Sheng (2022), students under technology-related courses prioritizes academic achievements and may perceive physical exercises as less important and beneficial to their field of study. On the other hand, Junli (2019) cited that students taking health-related academic majors have positive attitude towards such activities since they have deeper understanding about its benefits on overall health and well-being.

Table 14: Significant Difference in the Level of Motivation of Extracurricular Physical Exercise Behavior when Grouped According to Their Sex

Factors	Sex	Mean	Sd	t-value	p-value	Decision	Interpretation
Stress Control	Female	3.24	0.56	-0.49	0.625	Failed to Reject Ho	Not Significant
	Male	3.27	0.51				
Health	Female	3.24	0.53	-0.36	0.717	Failed to Reject Ho	Not Significant
	Male	3.26	0.49				
Sociability	Female	3.20	0.55	-0.23	0.817	Failed to Reject Ho	Not Significant
	Male	3.22	0.51				
Competitiveness	Female	3.15	0.55	-0.74	0.458	Failed to Reject Ho	Not Significant
	Male	3.19	0.52				
Aesthetic	Female	3.13	0.54	-0.66	0.508	Failed to Reject Ho	Not Significant
	Male	3.17	0.55				
Pleasure	Female	3.22	0.55	-0.30	0.765	Failed to Reject Ho	Not Significant
	Male	3.24	0.50				
Overall	Female	3.20	0.52	-0.49	0.626	Failed to Reject Ho	Not Significant
	Male	3.22	0.49				

*Note: ** - The test statistic (t–test) is significant at 0.05 level. * - The test statistic (t–test) is not significant at 0.05 level. For remarks, Not Significant indicates No Significant Difference and Significant indicates With Significant Difference*

According to Table 14, there is no significant difference in the level of motivation of extracurricular physical exercise behavior when grouped according to their sex. Specifically, the overall p-value of 0.626 is greater than the level of significance of 0.05, leading to the acceptance of the null hypothesis. This infers that gender does not significantly influence the motivational factors for Chinese college students to engage in the mentioned activities. However, Zhang *et al.* (2021) inferred that male and female students have varying level of motivation depending to factors and its relative importance for them. In line with this, factors including stress control (p=0.625); health (p=0.717); sociability (p=0.817); competitiveness (p=0.458); aesthetic (p=0.508); and pleasure (p=0.765) also failed to reject the null hypothesis. This means that the mentioned variable do not significantly impact the levels of the both gender's physical exercise behavior. But Zhang *et al.* (2021) emphasized that despite being both encouraged by health, females appear to be more motivated by their appearance and social factors, while male are more motivated by stress reduction. Moreover, Deng *et al.* (2023) concluded that male college students are more motivated by competition and challenges in physical exercises, while female students are usually boosted by their desire to communicate, expand social circle, and enjoy after-school life.

Table 15: Significant Difference in the Level of Motivation of Extracurricular Physical Exercise Behavior when Grouped According to Their Course

Factors	Sex	Mean	Sd	t-value	p-value	Decision	Interpretation
Stress Control	Health Management	2.93	0.45	2.01	0.124	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.24	0.57				
	Digital Media Art Design	3.25	0.53				
	Big Data	3.28	0.53				
Health	Health Management	2.90	0.49	2.27	0.093	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.30	0.55				
	Digital Media Art Design	3.22	0.51				
	Big Data	3.26	0.49				
Sociability	Health Management	2.88	0.48	2.11	0.112	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.24	0.56				
	Digital Media Art Design	3.17	0.54				
	Big Data	3.24	0.51				

Competitiveness	Health Management	2.83	0.52	2.53	0.068	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.20	0.56				
	Digital Media Art Design	3.08	0.54				
	Big Data	3.21	0.52				
Aesthetic	Health Management	2.87	0.50	2.26	0.093	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.19	0.57				
	Digital Media Art Design	3.05	0.57				
	Big Data	3.19	0.52				
Pleasure	Health Management	2.88	0.49	2.24	0.096	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.27	0.54				
	Digital Media Art Design	3.20	0.54				
	Big Data	3.25	0.52				
Overall	Health Management	2.88	0.47	2.24	0.095	Failed to Reject Ho	Not Significant
	Artificial Intelligence	3.24	0.54				
	Digital Media Art Design	3.16	0.50				
	Big Data	3.24	0.49				

*Note: ** - The test statistic (F–test) is significant at 0.05 level. * - The test statistic (F–test) is not significant at 0.05 level. For remarks, Not Significant indicates No Significant Difference and Significant indicates With Significant Difference*

Table 15 displays the level of motivation of extracurricular physical exercise behavior when grouped according to their course. In particular, the overall p-value of 0.095 is greater than the level of significance of 0.05; hence, this failed to reject the null hypothesis. Provided this, it can be concluded that regardless of the chosen academic major, there is no significant gap in the level of motivation of students for their behavior in the mentioned activities. However, Deng *et al.* (2023) stressed that the motivational factors and its level of importance may differ depending on students' chosen academic discipline, specifically in terms of their personal goals, interests, and priorities. Also, Brownman *et al.* (2024) stressed that there is no on-size-fits-all approach to understanding and engaging in physical exercises among Chinese college students; hence, there is a diversity in their motivational factors and its level.

In specific, all of the motivational factors including stress control (p=0.124); health (p=0.093); sociability (p=0.112); competitiveness (p=0.068); aesthetic (p=0.093); and pleasure (p=0.096) accepted the null hypothesis. This means that regardless of their courses, Chinese college students were boosted by these factors to engage in extracurricular physical exercises in a similar manner. Conversely, Zhang *et al.* (2023) inferred that students' motivational factors differ between technology-related and health-related courses. Particularly, the former is commonly motivated to engage in extracurricular physical exercises to attain stress relief, improve cognitive function, and maintain healthy life balance; while the latter participate in such activities to model healthy behaviors, given their deeper understanding of its health benefits.

Proposed Action Plan for Extracurricular Physical Exercise Behavior of Chinese College Students

This action plan primarily aims to maximize and sustain the high level of extracurricular physical exercise behavior among Chinese college students through leveraging attitudes, strong subjective norms, and high perceived behavioral control. Along with this, this also intends to cater the motivations of students, ensuring inclusivity across all gender and academic disciplines.

Table 16:

Key Factors	Objective/s	Strategies/s	Expected Outcomes
Attitude	1. To improve student's perception about the health benefits of extracurricular physical exercises including the management of stress, and enhancement of emotional well-being.	1. Conduct regular workshops and seminars with health professionals and fitness experts to discuss the benefits of extracurricular physical exercises, focusing on mental health, physical wellness, and overall health.	1. Students gain increased awareness and understanding about the health improvement and stress reduction they can get from such activities, leading them to actively engage with it.

	2. To foster the sense of achievement and mastery of student in such activities	2. Establish a recognition system that provides various incentives such as medals or certificates to learners who achieve significant fitness milestones, or who show consistent improvement in such exercises.	2. Increased motivation of students due to their enhanced sense of accomplishment and pride.
	3. To boost the self-esteem and confidence of students in participating in physical activities outside regular classes	3. Provide consistent positive feedback and recognition during extracurricular physical exercises.	3. Students attained higher confidence and self-esteem in engaging to various exercises.
	4. To encourage students to engage by highlighting the pleasure and enjoyment they can attain	4. Organize extracurricular physical activities that focus on the joy of movement and its intrinsic pleasure to enhance their overall exercise experience.	4. Increased student engagement since they experience happiness and fulfillment in these activities.
Subjective Norms	To strengthen the support and guidance from educators to enhance students' motivation and engagement levels	Develop and implement professional development opportunities focusing on the motivational techniques, and strategies they can use to encourage student participation.	Teacher have increase involvement and enthusiasm in promoting and supporting the engagement in extracurricular physical exercises.
	To enable families to be involved in creating a more supportive and encouraging environment.	Conduct programs and events where students and their families can participate and experience such activities together.	Students become more motivated in engaging to such activities due to increased family support and involvement.
	To leverage the peer influence and classmate support on student's decisions to engaging in extracurricular physical exercises.	Help students to build groups and buddy systems where peers and/or classmates motivate each other to engage in such activities	Improved social connections and enthusiasm for physical activities.
	To utilize social media and online platform to encourage students to actively participate in such activities	Collaborate with influential fitness influencers in social media that can promote extracurricular physical exercises and its benefits.	More students are encouraged to adopt healthy and active lifestyle influenced by online fitness personalities.
Perceived Behavioral Control	1. To develop and further improve their physical skills and competence in extracurricular physical activities.	Offer trainings and workshops that focus on enhancing specific physical skills essential to various extracurricular physical exercises and fitness activities.	Students attain improved proficiency in specific physical skills, which can boost their confidence to participate in such activities.
	2. To boost students' mental resilience and confidence to conquer occurring challenges.	Conduct regular assessments to track learners' skill improvement and provide constructive feedback.	Students, as well as educators, will be more motivated due to measurable improvements.
	3. To create a comfortable and supportive environment essential to such exercises	Introduce mentorship programs where experienced individuals can guide students in overcoming challenges.	Establish a strong support network and relationships that can guide and lead students to sustained participation.
		Improve the quality and accessibility of modern equipment, provide comfortable and necessary facilities, as well as convenient scheduling.	Students can experience physical comfort and satisfaction, which can further enhance their overall experience during exercises sessions.

CONCLUSIONS

According to the findings of the study, the following conclusions were obtained:

- Chinese college students participating in extracurricular physical exercises are mostly female, and are taking up technology-related academic disciplines, such as Big Data.
- Based on the assessment, it was revealed that Chinese college students have a positive perception on the benefits and outcomes of such activities (attitude); perceive a supportive social environment (subjective norms); and believe on their own ability to engage in it (perceived behavioral control), leading them to their positive behavior.
- Participants have high motivation level across various factors, including the management of stress, physical health, social interactions, competitiveness, aesthetics, and pleasure.
- There is no significant difference between the extent of extracurricular physical exercise behavior in terms of both sex and course, implying that the engagement of participants is consistent regardless of demographic profile.
- There is no significant difference in the level of motivation for extracurricular physical exercise behaviors when grouped according to sex and course, inferring that the given driving force are equally shared among students.
- The proposed action must be adopted to ensure the enhanced extracurricular physical exercise behavior of Chinese college students.

Based on the foregoing findings and conclusions, the following recommendations were suggested:

- Educational institutions should develop and promote a diverse range of physical activities outside the regular PE curriculum that would cater varying interests and motivations of college students.
- School administrators must foster an environment that promote positive attitude, social environment, and provide empowerment among students to ensure consistent positive physical exercise behavior.
- Chinese MOE can develop relevant policies that support diversity in extracurricular physical exercises, as well as promote its benefits among students¬– impact on their holistic well-being.
- PE teachers must engage in continuous professional development to ensure relevant updates on best practice in ensuring positive exercise behavior and student motivation.
- Students must provide regular feedback to educational institutions, administrators, and teachers on the extracurricular physical activity programs offered, advocating for enhancement where necessary.
- Future researchers can conduct qualitative research regarding the current topic in a wider range of participants in order to obtain deeper insights from the participants. Specifically, in-depth interviews can gather more detailed personal experiences and perspective, especially from the underrepresented groups.
- The suggested action plan may be implemented in schools. Also, the effectiveness of the proposed strategies must be evaluated and examined regularly.

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