



Physical Activities in PE and Mental Health: Basis for Enhanced Countermeasures to Physical Activities and Mental Health

Zhijia Chen

¹Shenzhen No.7 Senior High School, Shenzhen, Guangdong, China.

²Graduate School, Adamson University, Ermita, Manila, Philippines.

How to cite this paper: Zhijia Chen. (2023) Physical Activities in PE and Mental Health: Basis for Enhanced Countermeasures to Physical Activities and Mental Health. *Journal of Humanities, Arts and Social Science*, 7(12), 2608-2613. DOI: 10.26855/jhass.2023.12.039

Received: November 25, 2023

Accepted: December 21, 2023

Published: January 17, 2024

***Corresponding author:** Zhijia Chen, Shenzhen No.7 Senior High School, Shenzhen, Guangdong, China; Graduate School, Adamson University, Ermita, Manila, Philippines.

Abstract

The purpose of this study is to study the relationship between physical activity and mental health and to explore the basis of strengthening physical activity and mental health. Based on the conclusions of this study, the following suggestions are made: To consider that most respondents are male, it is recommended to add physical activities wherein females will be attracted to participate so as to enhance their physical as well as mental health like aerobics dancing, yoga, and cheerleading dance. A physically active lifestyle due to the individual sports activity to accomplish, which was closely followed by identifying physical activities like running, jumping, or breathing that provide opportunities for health enhancement and enjoyment must be maintained or regularly done. The component of mental and physical health promotion should always be monitored by data evaluation like before and after evaluation forms to be filled up by the coach/teacher. The lowest mean score was evident by feeling anxious and experiencing shortness of breath. It is recommended to check the vitals of every student who engages in PE since cardiovascular and other common health problems encountered by young people should be addressed and treated before they become fatal.

Keywords

Physical Activities in PE, Physical Activities, Mental Health

1. Introduction

As an important concept of health, mental health is closely related to human life, society, economy, and culture. People's in-depth understanding of the concept of mental health prompted people to have a new understanding of the function of physical exercise, trying to conduct in-depth research on the function of physical exercise (Chen, 2016). Mental health means that individuals can adapt to the development of the environment and respond to cognitive emotions. The behavior is put in a positive state, and normal adjustment ability is maintained.

For senior high school students, physical health education and mental health education are equally important, so in physical education, we should not only focus on physical fitness exercise but also, through physical exercise, take appropriate ways to strengthen the mental health education of young college students, to deeply tap the intrinsic value of physical education (A. Morel et al., 2019).

In China, the college entrance examination is very important for every student. Due to the high pressure of study, high school students often have little time to do sports. Most of the time, students sit in front of their desks and have little time for exercise, which not only affects their physical condition but also has a bad impact on their psychological development. Many students have anxiety before the exam, the relationship between classmates does not get along

well and other problems, serious times will also appear insomnia, depression, and other problems.

A 2009 survey found that 50.4% of high school students suffered from school weariness in China, which education experts blamed on existing education methods, notably the cramming method of teaching and the intense focus on exam scores. Hence, the education sector as well as the government has to help alleviate the situation.

This issue necessitates that the school foster lifelong learning and support children in learning how to learn. The dilemma for teachers is how to provide learning experiences that help children develop the skills they will need in their adulthood for a world that is in the future. Schools and universities now have to increasingly expect their students to utilize active learning approaches where the student is encouraged to engage, research, and analyze ideas and to develop them collaboratively with others.

2. Propose the Problems

2.1 Theoretical Framework

Self-determination theory is a macro theory about human motivation and personality, and it is also a theory about the evolution trend of human beings and their psychological needs.

In the 1970s, the theory of self-determination was officially published and accepted as a reliable, experimentally proven theory. Over the past decade, self-determination theory has been increasingly applied to various fields of social psychology.

The study of intrinsic motivation (e.g. Deci, 1971) directly led to the emergence of self-determination theory. Intrinsic motivation refers to the inner motivation to do something because it is interesting or fulfills some personal desire, rather than to meet external expectations (extrinsic motivation).

Constructivism learning theory emphasizes that students should construct knowledge by themselves, that is, students should be encouraged to apply existing knowledge and experience and incorporate new knowledge into the existing knowledge system through the thinking process of criticism, questioning, and analysis. The social and cultural theory represented by Vygotsky (1978) believes that humans and society, language and culture are integrated and inseparable. Language is an important symbolic tool for human development.

Piaget (1983) showed through many studies that it is feasible to accelerate the transformation of various cognitive development stages through appropriate educational training. As long as the teaching method and content are appropriate, systematic teaching can play a role in accelerating cognitive development. The theory of cognitive development plays an important role in teaching.

The social and cultural theory represented by Vygotsky and Piaget represents the quantitative and qualitative changes in the cognitive development theories and philosophical theories. By organizing and systematizing students' learning process, they promote the integration of scattered information and form an orderly, stable, and developing organism.

To summarize the points above, the study has been founded on a theory about the evolution trend of human beings and their psychological needs. It focuses on the motivation behind the choices people make without interference from external factors, focusing on the extent to which a person's behavior is triggered by intrinsic motivation and self-determination. Thus, from the different physical activities related to mental health promotion given in relation to these domains, Physical competency, Benefits of movement, and Community of movement, and in the assessment of the respondents as regards their mental health promotion in terms of the following variables, anxiety control, self-esteem, emotional self-regulation, and interpersonal skills the researcher would base the program on PE that support mental health promotion.

2.2 Statement of the Problem

This study focuses on the impact of Physical Activities in PE and Mental Health. The result of the study will be the basis for enhanced countermeasures to physical activities and mental health of senior high school students in China.

Specifically, it seeks to answer the following questions:

A. What is the profile of the respondents in terms of:

- (1) Sex
- (2) Age
- (3) Senior high school: GR 1, GR 2, GR 3

B. What are the different physical activities related to mental health promotion given in relation to these domains

- (1) Physical competency
- (2) Benefits of movement
- (3) Community of movement

C. What is the assessment of the respondents as regards their mental health promotion in terms of the following variables:

- (1) anxiety control
- (2) self-esteem
- (3) emotional self-regulation
- (4) interpersonal skills

D. Is there a significant difference in the assessment of the respondents on the level of effectiveness of physical activities when their profiles are taken as factors?

E. Is there a significant relationship between the age of the respondents and the effectiveness of the physical activities?

F. What output can be proposed based on the results of the study?

2.3 Hypothesis

This study will propose the following null hypotheses:

(1) There is no significant difference in the assessment of the respondents in physical activities when the profiles are taken as test factors.

(2) There is no significant difference in the assessment of the effectiveness of physical activities in promoting mental health as to the age of the respondents.

2.4 Significance of the Study

This study will be significantly appreciated by the following valuable education players:

Students: Students who have good mental health are more likely to care about their education and apply effort to maximize their learning potential in PE and Sports.

PE Teachers: This study will guide and serve as a pool of ideas in promoting mental health in doing physical activities and at the same time, learning for their students to excel in PE classes.

Educational Leaders: The principals, vice principals, deans, program heads, coordinators, and any school decision-maker will be oriented on the essential features of physical activities and learning to encourage all learners to excel not just in major subjects but also those minor subjects, not to dismiss the essential target of this study, the promotion of mental health to college students in China.

School Community: This study will teach all school community members including its students how to make appropriate decisions in task management and how to stay motivated and focus for scholastic achievement.

Future Researchers: This study can be a reference for future research and augment the necessary data to solve broader gaps.

2.5 Scope and Delimitation of the Study

The study will be conducted at Shenzhen No. 7 Senior High School, a public high school directly under Shenzhen. The researcher will randomly select at least more than a hundred senior high school students who are currently enrolled in PE classes, regardless of gender.

3. Methodology

This chapter presents the research design to be used, the respondents of the study, the research instrument, the data-gathering procedure, and the statistical data analysis that will be used.

3.1 Research Design

This is mainly a descriptive—comparative—correlational research. The methods of inquiry will be based on self-made questionnaires;

The gathered data from the questionnaires will be analyzed by quantitative survey tools, which guarantees that the study to assess the significant difference and significant relationship between the research variables. The process of validation and reliability will be observed.

3.2 Sampling Method

This study will be conducted using purposive sampling since the researcher relies on his or her judgment when choosing members of the population to participate in the study. The senior high school students who are enrolled or having their PE Classes will be selected as participants.

3.3 Research Instruments

A self-made survey questionnaire is crafted. The first part is the demographic profile and the second part of the survey is about the assessment of the different physical activities related to mental health promotion given in relation to these domains, physical competency, benefits of movement, and community of movement. The third part is on the assessment of the respondents as regards their mental health promotion in terms of the following variables: anxiety control.

4. Statistical Treatment of Data

In analyzing the data to be gathered, the following statistical treatments will be used in the study at 0.05 level of significance using Statistical Package for Social Sciences or SPSS software:

4.1 Frequency Count and Percentage

This was used by the researcher in its analysis of the profile of respondents in terms of sex, age, and years.

4.2 Weighted Mean

Firstly, this will be used by the researcher to analyze the demographic profile of the respondents. Secondly, the level of relationship and effectiveness of the variables will be taken into consideration.

4.3 T-test/ANOVA

The T-test and/or Analysis of Variance or F-test was used by the researcher to determine if there are significant differences in the member respondents as assessed by themselves when their profiles are taken as factors.

The results are interpreted as follows:

Table 1. Comparison Table

Weight	Scale/Range	Description/Interpretation
4	3.51-4.00	Strongly Agree/ Very Highly Evident
3	2.51-3.50	Agree/ Highly Evident
2	1.51-2.50	Disagree/ Not Quite Evident
1	1.00-1.50	Strongly Disagree/Not at All Evident

4.4 Pearson's r Correlation Analysis

The researcher used Pearson's r correlation analysis to determine the significant relationship among the variables.

4.5 Decision Criteria

The analysis of the hypotheses will be carried out using the 0.05 level of significance. The null hypothesis will be accepted when the computed significance value is greater than the set value at 0.05. Otherwise, it will be rejected.

5. Conclusions

Table 2. The Profile of the Respondents

Profiles	Indicators	Frequency	Percentage
Sex	Male	94	58.0
	Female	67	42.0
	Total	161	100.0
Age	16 y/o and below	67	42.0
	17 years old	54	34.0
	18 y/o and above	40	25.0
	Total	161	100.0
Senior High School	Grade 1	45	28.0
	Grade 2	52	32.0
	Grade 3	64	40.0
	Total	161	100.0

The profile of the respondents revealed that the majority of them were male. In terms of age, many of them belonged to 16 years old and below. Likewise, many of the respondents were in Senior High School Grade 3.

(1) The profile of the respondents revealed that the majority of them were male. In terms of age, many of them belonged to 16 years old and below. Likewise, many of the respondents were in Senior High School Grade 3.

(2) In terms of physical competency, the physical activities related to mental health promotion of the respondents yielded a composite mean score of 3.39 with a 0.63 corresponding standard deviation. This implied that the respondents commonly agreed with their perceptions regarding their physical competency. Of all the indicators, the highest mean score was apparent by the engagement of students in a physically active lifestyle due to the individual sports activity to accomplish, which was closely followed by identifying physical activities like running, jumping, or breathing that provide opportunities for health enhancement and enjoyment. Meanwhile, the lowest mean score was evident by how the student achieves and maintains a health-enhancing level of physical fitness because of sports' moderate-vigorous physical exercise.

(3) The respondents usually agreed on their assessments as indicated by the small value of standard deviation. Of all the indicators the highest mean score was evident by doing physical exercises to reduce stress while the lowest mean score was evident by feeling anxious and experiencing shortness of breath. This implied that the respondents usually agreed on their assessments as indicated by the small value of standard deviation. Particularly, the highest mean score was evident by doing things as well as most other people do while the lowest mean score was evident by the feeling of not having much to be proud of. In terms of emotional self-regulation, the assessment of respondents on their mental health promotion obtained a composite mean score of 3.18 with a 0.61 corresponding standard deviation. This implied that the respondents typically agreed on their assessments as indicated by the small value of standard deviation.

(4) Male and female respondents had different assessments on the level of effectiveness of physical activities in terms of physical competency, benefits of movement, and building a community of movement. The null hypothesis was rejected at a 5% level of significance.

(5) Using a Product Moment Correlation Coefficient, the effectiveness of physical activities revealed significant correlations across all ages of the respondents. This implied a moderate to high degree of correlations found in the respective age of the respondents when a split process of data was employed. Furthermore, the relationships were apparent between the following to wit: (1) physical competency and benefits of movement; (2) physical competency and building a community of movement and; (3) benefits of movement and building a community of movement. This further dictates that each pair of variables either moderately or highly influenced one another.

6. Recommendations

Considering that most respondents are male, it is recommended to add physical activities wherein females will be attracted to participate so as to enhance their physical as well as mental health like aerobics dancing, yoga, and cheerleading dance.

A physically active lifestyle due to the individual sports activity to accomplish, which was closely followed by identifying physical activities like running, jumping, or breathing that provide opportunities for health enhancement and enjoyment must be maintained or regularly done. The component of mental and physical health promotion should always be monitored by data evaluation like before and after evaluation forms to be filled up by the coach/teacher.

The lowest mean score was evident by feeling anxious and experiencing shortness of breath. It is recommended to check the vitals of every student who engages in PE since cardiovascular and other common health problems encountered by young people should be addressed and treated before they became fatal.

7. General Objectives

This study focuses on the impact of Physical Activities in PE and Mental Health. The result of the study will be the basis for enhanced countermeasures to physical activities and mental health of senior high school students in China.

Table 3. Strengthening physical activity and mental health of Chinese high school students provides countermeasures

Key Areas	Objectives	Strategies and Activities	Lead Person	Timescale	Budget
Anxiety control	To improve physical activities that will address anxiety control issue	Make checklist of identifiable information that address the issue; list exercise activities that improve relaxation like yoga, or deep breathing	Pe teacher/coach and students	All year round	RMB 25000
Self-esteem	To help improve decision making process and emotional health of the students	Build support network by organization; guidance counsellors can set up “talking therapy” with the students through the help of PE teachers/coaches	Pe teacher/coach and students	All year round	RMB 15000
Journal writing	To help process the recording of personal thoughts/reflections and questions	Teachers could ask students to make diary of their personal issues and concerns; Teach how to make writing routine by giving templates and prompts.	Pe teacher/coach and students	All year round	RMB 1500

References

- A. Moran, M. Campbell, & J. Toner. (2019). Exploring the cognitive mechanisms of expertise in sport. *Psychology of Sport and Exercise*, Vol. 42, pp. 8-15, 2019.
- Bennell K L, Hinman R S. (2011). A review of the clinical evidence for exercise in osteoarthritis of the hip and knee. *J Sci Med Sport*, 14(1): 4-9.
- Blum-Kulka, S, & Dvir-Gvirsman, S. (2011). Peer interaction and learning. *Social and Emotional Aspects of Learning*, 156.
- Bortz W M, Angwin P, Mefford I N, et al. (1981). Catecholamines, dopamine, and endorphin levels during extreme exercise. *N Engl J Med*, 305(8): 466-467.
- H. Chen, (2016). Research on interactive factors of adolescent physical exercise and mental health promotion. *Contemporary Sports Science and Technology*, Vol. 006, no. 025, pp. 147-148, 2016.