

Exploring University Students' Perceptions Of Online Physical Education Class As Participants: A Qualitative Case Study

Zhao Jia^{1**}, Dandan Tang², Borhannudin Bin Abdullah³, Roxana Dev Omar Dev⁴, Shamsulariffin bin Samsudin⁵

jiazhao1988@126.com^{1**}, donna0173516698@gmail.com²; borhannudin@upm.edu.my³,

rdod@upm.edu.my⁴, shamariffin@upm.edu.my

^{1,3,4,5} Faculty of Education, Universiti Putra Malaysia (UPM) Malaysia

² Faculty of Education, University of Malaya (UM), Malaysia

Corresponding Authors^{**}: Zhao Jia (jiazhao1988@126.com)

ABSTRACT

Compare face to face learning, the implication of online courses has been discussed for several years in higher education. However, in 2020 the rise of the global COVID-19 pandemic has created obvious shifts in university students' life. In order to ensure the "suspension of classes", university students took part more in online classes compare to physical education (PE) classes in China. It is significant to explore students' views on PE online learning that is benefit for teachers to provide students with high quality of online PE courses, which will be better to guide students to take PE lessons and also improve students' health. This study investigated the issues of students' perceptions toward online physical education courses in Tianjin University of Technology in China based on a case study. The findings of this study indicate that some students don't like taking online PE courses due to there were some disadvantages of online PE lesson. Some students enjoy taking online PE courses because of the interesting sports videos. This study also explored teachers' view on how to motivate college students to engage in physical education classes and recommends specific strategies for teachers to motivate college

students to take online PE courses.

Keywords: COVID-19, Physical Education, Online teaching and Learning, Teachers and student motivation, University Students, China

*Tob Regul Sci.*TM 2021;7(5-1): 3559-3575

DOI: doi.org/10.18001/TRS.7.5.1.133

INTRODUCTION

College students who actively participate in regular physical activity have lower risk of obesity than the students lack exercise (Wang, 2019). Effective physical education programs educate students to participate in physical activities and have the ability to establish lifelong healthy habits that translate to longer life (Burner et al., 2019). In spite of the benefits of regular physical activities, it is estimated that over 69% of college students do not engage in the recommended 60 minutes of physical exercise per day (China Youth News, 2020). College students' attitude to physical exercise was highly correlated with their physical exercise behavior (Zhang, 2019). Moreover, there is a strong positive correlation between students' motivation to engage in physical activity and their actual physical exercise level (Yli-Piipari et al, 2013). Motivation level of physical activities can be measured and increased by the self-determination Theory. Moreover, health related fitness knowledge can influence students' physical exercise behavior because of knowledge encouraging students to engage in physical activities

(Keating et al, 2009). Although physical education (PE) teachers integrate technology in classes, students have less online PE classes in colleges (Vernadakis et al., 2012). There is also limited research on the online PE classes in China. However, due to the sudden emergence of the new coronavirus epidemic, most of the college students have online PE classes. This qualitative case study sought to investigate college students' perceptions on online PE classes in an effort to explore themes that lead to strategies to encourage college's students to do regular physical activity to support their life-long physical exercise. World Health Organization (WHO) has declared emergency in the last week of February 2020 worldwide. The overnight declaration of emergency in pandemic has blocked the students from running freely on the playground and happily exercising in campuses. At this time, school, parents, and society still have attached importance to sports. President Xi Jinping calls for physical fitness enhancement in youth. An individual need to have a noble spirit and a 'savage' body. To have a 'savage' body, physical fitness is essential (Ministry of education, 2020).

Regular physical activities increase the health benefits and quality of life improved among the public reduce the risk against many diseases. Chinese government has established national guidelines and standards for educating physical educators and for offering the fitness needs of students (China Ministry of Education 1995; 2002; 2003; China State Council, 1995). During the lockdown time, school, parents, and society still have attached importance to sports. Taking physical education at home has become the best solution to the problem. Students who have motivation to engage in physical activities would like to take part in actual physical activities rather than online classes. After all, in the special period of the family home, it is the most critical task for them to exercise and keep their emotions comfortable. The Ministry of Education in China issued the "Guiding Opinions on Doing a Good Job in the Online Teaching Organization and Management of Regular Institutions of Higher Learning during the Epidemic Prevention and Control Period" (Ministry of education, 2020). Moreover, the normal school open and classroom teaching were affected during the lockdown time.

According to guideline of the Ministry of Education and the requirements of the school's epidemic

ic prevention and control work as well as to achieve "No suspension of teaching and no suspension of classes", all universities and colleges have the online physical education classes to ensure the progress and quality of physical education during epidemic prevention and control period. The online teaching arrangements for physical education were announced by different universities. Studies show that college students' attitude to physical activity was correlated with their behavior of doing physical activity (Zhang, 2019; Yli-Piipari et al., 2013). Moreover, students who achieve more health related fitness knowledge can be encouraged to have motivation to participant in physical activity. Online PE classes could be an effective way to increase college students' health related fitness knowledge and motivate them to do physical exercise in daily life. Because of the limited research of online PE classes (McNamara et al., 2008; Vernadakis et al., 2012) the results of this study will add significant insight to the topic and address the existing gap in the literature due to lack studies. Taking effective measures to promote physical exercise for college students not only helps to enhance the physical and mental health of college students but also improves the quality of national talent training (Arizona, 2016; Wang, 2020). Due to the emergence of COVID-19, China Ministry of Education issued national guidelines to support

college students to take online PE courses. PE curriculum plays an important role of physical activities for college students and can cultivate their concept of independent health management (Ennis, 2011; Feng et al., 2017; Wang, 2020). College students can benefit a lot from traditional and online physical education courses that cultivate their self-determined motivation, emotional intelligence, persistence attitudes, and persistence behaviors and influence their academic progression (Watts-Martinez 2015, 8). Students' attitude in physical education plays an important role in the teaching-learning process (Silverman & Subramaniam, 1999; Arizona, 2016). Moreover, Yin, Wang, Ji and Sun (2016) described that 1. students who take part in the massive online open courses in physical education had more interest in 2. sport. It can enrich the body of knowledge in sport pedagogy. According to Wang, (2020), the quality of online teaching has a significant impact on college students' participation in online learning. However, Feng et al., (2017) stated that the development of online courses in China has not achieved the desired results, especially whether college students really benefit from online learning is worrying. Little attention has been given to the college students' perceptions and attitude of PE online courses that increase students' motivation of doing

physical activity (Keating et al. 2009; Ennis 2011).

This study investigated college students' perceptions toward online PE class to overcome the existing gap in order to explore the strategies for teacher to motivate college's students to do regular physical activity.

The aim of the research is to explore college students' perceptions toward online physical education courses. This research is guided by the central research question:

What are students' perceptions toward online physical education courses? To central research question, the following questions will be addressed in order in this study.

1. What are the advantage and disadvantage of online PE courses from university students' perspectives?

2. What can motivate college students to engage in online physical education class?

LITERATURE REVIEW

This study is influenced from the Constructivism Theory, Theory of Reasoned Action and Self-determination Theory-that together provide a picture of the study to explore university students' perceptions toward online physical education courses. Constructivism theory is an approach to learning which stated that learner developed knowledge by experiencing the subject which is reflected among the learner (Elliott et al. 2000. 256). Keengwe, Onchwari, & Agamba (2014)

stated that constructivism is a pedagogical theory where individuals cultivate their own construction of understanding through experiential teaching and learning and interaction of prior knowledge and new events. It is important for university students to build their construction of learning through the experience in the classes. Theory of Reasoned Action was proposed to comprehend the relationships between attitudes, intentions, and behavior's (Fishbein 1967). Theory of reasoned action is mainly use to determine the individual attitudes and behavioral intentions (Fishbein, & Ajzen 1975). According to Theory of Reasoned Action, students' perceptions towards online PE courses will influence their behavior's. Moreover, Self-Determination Theory includes people's inherent growth tendencies and innate psychological needs. It is concerned with the motivation behind decision people make and focuses on the degree to which an individual's behavior is self-motivated and self-determined (Ryan, & Deci 2000; 2012; 2017; Standage, Duda & Ntoumanis, 2005). Therefore, learning motivation and self-determined of university student's influence their behavior. It is necessary to explore students' perceptions of learning in order to cultivate and improve their behavior of study.

Physical Education (PE) is getting more attention

n among the scholars. The "2020 Chinese University Student Health Survey Report" jointly released by the China Youth News, Chinese Youth School Media and Dr. Dingxiang shows that the current general health status of Chinese college students is good, but some lifestyles need to be improved. Students in universities and colleges have gradually developed health awareness. Students have paid more attention to the healthy lifestyles (China Youth News 2020). The research sample covers 12,117 college students in more than 40 colleges and universities across the country. It uses online questionnaires and group interviews to investigate the current health attitudes and lifestyles of college students, and comprehensively analyzes the physical and mental health of college students. The results of the research show that with the increase of grades, college students' evaluation of their health gradually decreases. According to the survey, freshman to junior, the higher the grade, the higher the proportion of health problems. Among senior students, emotional distress accounted for up to 47%; half of masters and doctoral students did not get enough sleep (China Youth News 2020).

Regular physical activities are important for college students so that it can contribute to improve their physical and emotional health and decrease the risk of developing chronic diseases. According to

Huang and Hsu (2019) physical education plays a crucial role in students' physical activities lays the foundation for a lifelong movement. Liu and Wang (2018) did the research which focus on the sports culture education and found that the development of culture education evolves with the times in China and it is necessary to help students to participate in sports culture education.

Active physical activities attitude plays an important role for college students' physical and mental health. Gillison et al., (2019) conducted a systematic review and meta-analysis of the techniques used to promote psychological need satisfaction and motivation. Individual's behavior will influenced based on self-determination theory. Vasconcellos et al., (2019) investigated the evidence regarding self-determination theory within the school physical education context. They found that teachers and students more greatly impact classroom experiences of autonomy and competence. At the same time, relatedness in physical education is associated with both peer and teacher influences. Moreover, college students who take part in physical activity are able to form a correct physical self-concept of sport, and college students' physical exercise attitudes are related to the physical participation behavior (Liu 2019). According to Kooiman et al (2016), students are available

to take part in the competitive or cooperative physical activity in a traditional PE lesson. Students who take online physical education at home lack of opportunities to do the competitive and cooperative physical activities.

However, active video games (exergames) can provide students with engaging, and entertaining physical activity. Students can interact with each other through active video games. Mozelius, Elggren, Clysén and Wiklund (2014) investigated students' perception on exergames and found out that 59% of respondents were positive to using computer games to aid physical education, while 40% respondents claimed that active video games would not affect their attitude towards physical activities.

Liang, Lu and Richard (2005) claimed there was a key aspect of China's educational reform which is transition from teacher-centered to student-centered teaching. The physical fitness of college students continues declining and physical exercise is lacking, and effective measures should be taken to promote the physical exercise behavior of college students (Feng, 2017). Although most college students recognize the positive effects of physical exercise on health, they did not consciously and actively participate in physical exercise (Zhang, 2011; Liu, 2019). Moreover, the enforcing compliance of the government guidelines

and standards has been problematic in implementation. Traditional PE classes, most universities provide physical education at least two times a week, few campuses have an indoor gym, and even school in urban areas commonly lack a practice-field because of low funding levels. On the other hand, Parents hold the opinion that physical education was less important than academic achievement (Liang, Lu and Richard, 2005). In online PE courses, there is not much research has done or publishes on the student attitude toward PE classes in universities (Arizona, 2016; Zhang, 2019).

MATERIALS AND METHODOLOGY

Research Design

The purpose of this study is to investigate students' perceptions toward online physical education to find out the students' interests, motivations to engage in physical activities. Qualitative study method is used in this study to explore the viewpoints of participants. Qualitative research is "An umbrella term covering an array of interpretive techniques which seek to describe, decode, translate, and otherwise come to terms with the meaning, not the frequency of, certain more or less naturally occurring phenomena in the social world" (Van Maanen, 1979. 520-526). The features of constructivist paradigm are including producing qualit

ive data, using small samples, data is rich and subjective (Winlow et al. 2013). Due to the students' perceptions are complicated, the researcher used case study to provide the insight of contextual of activities and practices for participants to develop a comparative understanding of phenomena as experienced by participants. It is not appropriate to use quantitative design in this study as the human qualities that are inherent in the field of students must be considered.

Sampling

The sample included a total of 20 volunteers as random sampling was college students who are already enrolled in Tianjin University of Technology and have online PE classes.

Four PE teachers participated the interviews after they had online classes with the students. In a qualitative research, the researcher identifies the participants and sites on purposeful sampling based on places and people that can best help the researcher to understand the central phenomenon (Creswell 2014. 229). There are 12 thousand students who are freshmen and sophomores and have online PE classes once a week in Tianjin University of Technology. Therefore, to add credibility to sample, 20 colleges students with 10 boys and 10 girls were chosen at random for this study. This included 10 freshmen and 10

sophomores. Moreover, one PE teacher took basic online physical courses with the respondents to ensure same content of classes.

Data Collection

Before the data collection, the researcher sought institutional review board approval. Permission letter was obtained from Tianjin University of Technology. individual interview was used to do the collection of data. The data was collected over an eight-week period. Due to the lockdown, the participants cannot come to a central location for an interview. In this situation, the research conducted telephone interview. The telephone interviews followed a structured interview protocol. In the process of gathering telephone interview, the researcher used the telephone adaptor. When the interview was conducted, the researcher followed a predetermined set of six interview questions. The interview questions between teachers and students are different. Moreover, the researcher asked the same set of questions to all the respondents of students. This method was able to ensure all the participants stayed on the topic and covered the central points of this case study. On the other hand, it supports the process of coding and theming in review the data.

ANALYSIS

Successful data analysis of a case study should have a

comprehensive plan related to analytic strategies for reviewing the particular data (Glesne 2011). In this case study, the data analysis included analyses of multiple telephone interviews of college students to create a comprehensive narrative. In-depth information of college students' perceptions toward PE online classes compare traditional PE classes was analyzed to gain more understanding of the research questions. Telephone interview data was recorded by phone's adaptor. At the same time, field notes from the interviews were written down by the researcher. Four PE teacher was interviewed after the classes. After the interviews, the data were transcribed and entered into a file in computer. NVivo.10 was used as the research database for this case study, to support identification data, and initial classification of raw data, as well as the processes pf coding and theming. In analysis of the interview, the student's name was replaced with a digital number. 20 students were labeled as the number from 001 to 020. Four teachers are labeled as AA, BB, CC, DD. It protects the privacy of the students and teachers and makes the study consider ethics.

RESULTS AND DISCUSSIONS

Research Question 1: What are the advantage and disadvantage of online PE courses from university students' perspectives?

According to the interviews, students' perceptions on PE online courses were different compare to traditional PE lessons. Some students having the negative attitude and others said some good reasons to have PE online classes. The researcher concluded the themes based on the coding and derived the table presented in Table 1. Two main categories of students' perceptions were identified: disadvantages and advantages.

Table 1: Students' perceptions on online PE courses

| Disadvantages | Source | Advantages | Source |
|---|--------|---|--------|
| Lack place and facility | 12 | Benefit for learning PE knowledge of sports | 13 |
| Influence family members at home | 5 | Teaching audio and video is attractive | 14 |
| Network speed and other hardware problems | 4 | Easy and not tired in the class | 5 |
| Teacher feedback not fast | 11 | No need to interact with the teachers | 4 |
| Lack interaction with teachers | 12 | | |
| Learning efficiency is not high | 9 | | |
| Mentally unmotivated | 7 | | |

Some students hold the idea that there are some disadvantages of online PE course. First of all, university students believed that the playground and sports facilities were necessary when they have PE classes. However, online PE courses lack of place and fitness facilities. Twelve students expressed that online PE class was formal and there was not enough space for them to run and jump when

they have online PE lessons.

“There is no training equipment at home. I can only do push-up. Moreover, it was noisy for my family members that would influence their life...” (002)

“...Online Physical education classes is different from other courses. There is no venue, no equipment, no classmates, I feel that the class is formal.” (006)

“My home does not have enough space for me to run and jump; Secondly, the tile floor is very smooth, and my hands are sweating and it is easy to fall directly. Falling to the ground (especially when pushing up) do I still have to buy a special mat?” (010, 013)

“My physical education class is about basketball, and I can't learn at home.”(017)

Five students said that having online PE lesson influence family members at home. Four students said that network speed and other hardware problems will affect their study when they have online PE course. For example, one student said that due to lost power, he missed one PE online class. Especially, student who lives in rural area cannot take part in PE course.

“The network in our home is not good, which caused me to get stuck when I was online, and sometimes I didn't know what the teacher said when my mom is cooking...” (018)

“The funny thing is that our home suddenly lost power, and I couldn't take the PE class at that time.” (017)

“We have a classmate who has returned to his hometown. It is a little more remote in the country...The facilities and conditions at home can be imagined, how do you let her to have online PE

lesson?” (002)

Twelve students pointed that they do not have too many chances to interact with their PE teacher when they have online PE lessons. On the other hand, eleven students pointed that teachers' feedback was not fast so that their learning efficiency was not high.

“Just watch the video and follow along. And teacher ask student to make our own practice process into a video. Having online PE lesson in the video, how do I know and how to do the standard for the new action? Do I have to look at the computer while looking at the mirror?... For a person like me, I have no physical intelligence talent, I did not do well. According to the video, teacher gave me feedback and said that I did not do it standardly. If I was not allowed to pass, the physical education teacher was relaxed, and I became a headless fly.” (007)

“In an hour and a half, the teacher asked us to use the Tencent meeting to open the camera and move with him...After class, taking selfies photo and uploading to the group. How to give the feedback in time?”(018)

Nine students reported that online physical education classes which were viewed as a task are only for dealing with teachers. There is no motivation to take physical education classes. The reason is that they feel lonely and bored without

classmates when they have online PE courses at home. Some students do not like PE homework. Seven students considered that they were unmotivated by online PE classes because of boring content.

“Obviously, PE should be a lesson to relax, entertain the body and mind, and exercise the muscles and bones. Now it has become a task that makes you feel tired. Completely lost its meaning...” (012)

“I think it is not good to take an online PE class at home, because I like to do sports with my classmates. If only me, I have no motivation. You know, it is so bored...” (019)

“We require recording sports videos at home. Every day must be at least 30 minutes. At the end of the period, we must write more than a thousand words. Formalism is disgusting.” (011)

However, some students like to have online PE lessons. Thirteen students explained the reason is that they can learn system health related sports knowledge. Moreover, teachers will provide them with some interesting sports videos. Fourteen students thought teaching audio and video was attractive. Some students like their teachers who can control the classes that need students' demands so that they like online PE lessons.

“...We can learn some professional knowle

dge in sports, such as muscle training, physical coordination training, rather than just running and playing as usual.” (001)

“The teacher will also give us some interesting sports videos to increase the fun of our classroom...” (004)

“When taking a sports online class, the teacher will put some sports stars, or some games, especially exciting...” (008)

“To be honest, at first I was afraid of taking online physical education classes, but when I learned more about physical education, I would search online about sports activities that interest me, such as dance and gymnastics in my spare time.”

“I like physical education teachers to like physical education. The teacher will choose the sports we can do according to local conditions...” (016)

Five students who do not like sports enjoy taking online PE class. They think that the content of online physical education classes is easy, and they were not tired when they take online PE classes. It is impossible to run and do hard actions. On the other hand, four students emphasized that they did not need to interact with teachers.

“A physical education class is very easy, and the homework is simple, just taking photos is over.” (005)

We almost have academic classes all day. So I like the physical education class. You know no need to use your brain, just follow the video and simply imitate. There are so many people in a class, the teacher will not notice me. (014)

Research Question 2: What can motivate college students to engage in online physical education class?

The factors that motivate university students engage in online PE classes, four teachers participated in telephone interviews of this study. Table 2 presents the themes regarding teachers' perceptions toward online PE courses.

Table 2: Teachers' perceptions regarding online PE courses

| Themes | Sources |
|---|---------|
| Not easy | 3 |
| change the traditional physical education model | 3 |
| Students' needs | 4 |
| high interesting | 3 |
| Practical skills and knowledge about sports | 4 |

Two questions were answered by the PE teacher who had online PE lessons with students. ‘Could you tell me your perceptions on online PE course?’ Three teacher pointed that it was not easy to have quality online PE lessons because of lacking facility, face-to-face supervision and guidance and it is difficult to find students' problems and provide precise guidance on time. Students simply learn superficially from online PE classes based on teachers' perception.

“I think it is challenged for me to have online PE lesson.

No facility and equipment. You can think about that I am 50 fifty years old. How to guide them online?” (AA)

“Due to the lack of face-to-face supervision and guidance, it may cause serious harm to students...

In addition, teachers cannot accurately and clearly observe the students' practice process, so they cannot give corresponding guidance, and the quality of teaching cannot be guaranteed.” (DD)

“Physical education classes are different from cultural classes like English and other courses. Students' physical movements are usually guided and corrected during class! Network teaching is

often affected by equipment, and it is difficult to find students' problems and provide precise guidance." (CC)

"In online teaching, the teacher is basically out of touching with the actual teaching. It is not easy to be able to effectively guide students through the Internet, and students simply learn superficially." (BB)

When the researcher asked the PE teacher 'do you think what can motivate college students to engage in online physical education class?' Four teachers expressed the importance of understanding students' need. Three teachers pointed that it is necessary to change the traditional physical education model in online teaching. Three teachers emphasized online PE classes should be high interesting to attract students' interests. Moreover, four teachers all believed that students enjoy learning practical skills and health related fitness knowledge in the field of sports.

"I need to learn and change my mind...I should know what university students like and try my best to attract their interest. I know they like sports video" (AA)

"Traditional physical education model cannot move to online physical classes. Online classes should be interesting and care about every student's needs

...I know some students like practical skills like yoga" (CC)

"To change the traditional physical education model in online teaching, we should choose courses that require less space, less movement, and high interest, to relax and be more practical! Such as yoga, sports movement analysis..." (BB)

"I found that sports skills and tactics analysis, sports hygiene, health care, first aid knowledge are popular among my students." (DD)

According to Zhang (2019) and Yli-Piipari et al., (2013) as well as theory of reasoned Action and self-determination theory, college students' attitude to physical activity was correlated with their behavior of doing physical activity. It is necessary to analyze students' perceptions toward online PE courses. Based on teachers' interviews, interesting sport video and practical skills and health related fitness knowledge can motivate college students to take part in physical activity through online physical education class. This is consistent with Keating's (2009) point of view that health related fitness knowledge can influence students' physical exercise behavior. Based on the view of Wang (2020), the quality of online teaching has a significant impact on college students' participation in online learning. The interesting sports video can attract university students' attention. Moreover, the

character of teacher is important in the process of online PE lessons based on students' perception and it can affect their motivation to participate the online PE lessons actively.

CONCLUSIONS AND RECOMMENDATION

In conclusion, college student's perception about the online physical education classes is more towards negative. The perception of college students about the challenge of online PE lessons is concluded as the physical activities place is facility, hardware problems such as the net and WIFI, teachers' role and students' motivations. The main advantage students has perceived about online PE lessons are the interesting sport videos, achieving health related fitness knowledge and the influence of teachers. Therefore, it is necessary to pay attention on improving the quality of online PE course where more students start to involve and do indoor physical activities especially in the pandemic era. Study recommended to the college sports teachers to to exaggerate the enthusiasm of students to participate in online learning through more vivid and rich classroom teaching. Contrary it is also important for the teachers to motivate the students which are as basic needs to achieve intrinsic motivation to learn sports and motivate students to acquire more sports knowledge about health. Additionally, PE teachers should provide college

students with physical activities that have relevance for the students, interactive activities; exercises differentiated according to the students' abilities and vary PE topics when they have online PE lessons so as to motivate university students to participate online PE classes actively. Implication of the study, during pandemic COVID-19 the investigation of college student's perception towards attending PE classes online will assist the students to involve in the indoor physical activities during the intense environment. A physical activity which was not allowed to perform outdoor was arranged online by the instructors and motivates the students to keep themselves fit while staying home or indoor for better healthy lifestyle. Moreover, this study contributes to existing information about the issues of PE online courses and achieves a deeper understanding of some challenges of using technology for college students to provide additional outcomes to confirm the results of prior researches. Additionally, teacher's student's behavior and attitude and skills can be improved. Lastly it will help policy makers, institutions to promote the policies or guidelines of providing college students with better physical education service.

Acknowledgment: There is no conflict of interest among the authors. Moreover, the data collected

Zhao Jia et al.

Exploring University Students' Perceptions Of Online Physical Education Class As Participants: A Qualitative Case Study

promises all ethical aspects. Furthermore, we acknowledge the support of academic leaders, who helped us during the research project.

Reference

1. Arizona, P., V. 2016. Student Perceptions of the Effect of High School Online Physical Education Class Participation on Fitness Knowledge and Motivation for Physical Activity: A Qualitative Case Study. Northcentral University.
2. Burner, A., Bopp, M., Papalia, Z., Weimer, A., & Bopp, C. M. 2019. Examining the relationship between high school physical education and fitness outcomes in college students. *Physical Educator*, 76(1), 285-300.
3. China Ministry of Education. 1995. China regulations of teacher qualifications: China Ministry of Education (Beijing)
4. China Ministry of Education. 2002. Educational statistics yearbook of China, 2002. Beijing: Author.
5. China Ministry of Education. 2003. China national higher education physical education teacher education program curriculum. Beijing: Author.
6. China State Council. 1995. China fitness guidelines for all the people. Beijing: Author.
7. China Youth News. 2020, Jan. 7. What is the health status of college students? Retrieved from:http://zqb.cyol.com/html/2020-01/07/nw.D110000zgqnb_20200107_6-01.htm
8. Creswell, J. W. 2014. Educational Research: Planning, Conducting and Evaluating Quantitative and Qualitative Research (Fourth). Britain: Pearson Education.
9. Elliott, S.N., Kratochwill, T.R., Littlefield Cook, J. & Travers, J. 2000. Educational psychology: Effective teaching, effective learning (3rd ed.). Boston, MA: McGraw-Hill College.
10. Ennis, C. D. 2011. Physical education curriculum priorities: Evidence for education and skillfulness. *Quest* (00336297), 63(1), 5-18.
11. Feng, Y. Q., Yu, Z. H., Meng, F., Bao, X. Y. 2017. Study on the Problems Existing in College Students' Online Courses and Countermeasures (in Chinese). *Shanxi Nong Jing Journal*. DOI: 10.16675/j.cnki.cn14-1065/f.2017.19.081
12. Fishbein, M. and Ajzen, I., 1975. Belief, attitude, intention, and behavior: An introduction to theory and research. Reading, MA: Addison-Wesley.
13. Fishbein, M., 1967. Readings in attitude theory and measurement. New York: Wiley.
14. Gillison, F. B., Rouse, P., Standage, M., Sebire, S. J., & Ryan, R. M. 2019. A meta-analysis of techniques to promote motivation for health behaviour change from a self-determination theory perspective. *Health psychology review*, 13(1), 110-130.
15. Glesne, C. 2011. Becoming qualitative researchers: An introduction (4th ed.). Boston: Pearson Education.
16. Huang, W., & Hsu, C. 2019. Research on the motivation and attitude of college students' physical education in taiwan. *Journal of Physical Education and Sport*, 19, 69-79.
17. Keating, X., Harrison, L., Li, C., Ping, X., Lambdin, D., Dauenhauer, B., & ... Piñero, J. 2009. An analysis of research on student health-related fitness knowledge in K- 16 physical education programs. *Journal of Teaching In Physical Education*, 28(3), 333-349.

18. Keengwe, J., Onchwari, G. & Agamba, J. 2014. Promoting effective e-learning practices through the constructivist pedagogy. *Education and Information Technologies*. 19(4) pgs. 887-898.
19. Kooiman, B. J., Sheehan, D. P., Wesolek, M., & Reategui, E. 2016. Exergaming for physical activity in online physical education. *International Journal of Distance Education Technologies*, 14(2), 1-16. doi: 10.4018/IJDET.2016040101
20. Liang, G., Richard, W.T., & Lu, C. 2005. Standards and practice in asian physical education: Standards and practice for physical education in china. *Journal of Physical Education, Recreation & Dance*, 76(6), 15-19. Retrieved from <https://elib.segi.edu.my:2125/docview/215764521?accountid=50955>
21. Liu, Y. 2019. Research college students' physical exercise attitude and sports participation behavior and physical self-relationship. Nei Menggu Normal University (Doctoral dissertation).
22. Liu, Y., & Wang, X. 2018. Analysis of spatial-temporal distribution, focus trends and evolution of sports culture education research in china. *Kuram Ve Uygulamada Egitim Bilimleri*, 18(5), 2195-2205. <https://doi.org/10.12738/estp.2018.5.119>
23. McNamara, J., Swalm, R., Stearne, D., & Covassin, T. 2008. Online weight training. *Journal of Strength and Conditioning Research / National Strength & Conditioning Association*, 22(4), 1164-1168.
24. Ministry of education. 2020. Guiding Opinions on Doing a Good Job in the Online Teaching Organization and Management of Regular Institutions of Higher Learning During the Epidemic Prevention and Control Period". Retrieved from <http://en.moe.gov.cn/>
25. Ministry of education. 2020, April 24. President Xi calls for physical fitness enhancement in youth. Retrieved from http://en.moe.gov.cn/news/press_releases/202004/t20200427_447141.html
26. Mozelius, P., Elggren, O., Clysén, J., & Wiklund, M. 2014. Exergames in secondary school physical education: Attitudes amongst swedish students. *European Conference on e-Learning*, Kidmore End: 347-353.
27. Ryan, R. M. & Deci, E. L. 2012. Motivation, personality, and development within embedded social contexts: An overview of self-determination theory. In R. M. Ryan (Ed.), *Oxford handbook of human motivation* (pp. 85-107). Oxford, UK: Oxford University Press.
28. Ryan, R. M. & Deci, E. L. 2017. *Self-determination theory: Basic psychological needs in motivation, development, and wellness*. New York: Guilford Publishing.
29. Ryan, R. M.; Deci, E. L. 2000. "Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being". *American Psychologist*. 55 (1): 68-78. doi:10.1037/0003-066X.55.1.68. PMID 11392867
30. Silverman, S., & Subramaniam, P. R. 1999. Student attitude toward physical education and physical activity: A review of measurement issues and outcomes. *Journal of teaching in physical education*, 19(1), 97-125.
31. Standage, M., Duda, J. L., & Ntoumanis, N. 2005. A test of self-determination theory in school physical education. *British Journal of Educational Psychology*, 75(3), 411-433. <https://doi.org/10.1348/000709904X22359>

Zhao Jia et al.

Exploring University Students' Perceptions Of Online Physical Education Class As Participants: A Qualitative Case Study

32. Van Maanen, J. 1979. Preface, *Administrative Science Quarterly*, Vol. 24, 520-526.
33. Vasconcellos, D., Parker, P. D., Hilland, T., Cinelli, R., Owen, K. B., Kapsal, N., & Lonsdale, C. 2019. Self-determination theory applied to physical education: A systematic review and meta-analysis. *Journal of Educational Psychology*.
34. Vernadakis, N., Giannousi, M., Tsitskari, E., Antoniou, P., & Kioumourtzoglou, E. 2012. A comparison of student satisfaction between traditional and blended technology course offerings in physical education. *Turkish Online Journal Of Distance Education (TOJDE)*, 13(1), 137-147.
35. Wang, J., L. 2019. The association between physical fitness and physical activity among Chinese college students. *Journal of American College Health*, 67(6), 602-609. DOI:10.1080/07448481.2018.1515747
36. Wang, L. 2020. Research on the Influencing Factors of College Students' Participation in Online Course Learning During the New Coronavirus (in Chinese). *Journal of Changsha Social Work College*, 27(01).
37. Watts-Martinez, E. 2015. Students' self-determined motivation, emotional intelligence and academic persistence: An examination of second year students at a public and a private historically black university (Order No. 10031722). Available from Education Database. (1772411066).
38. Winlow, H., Simm, D., Marvell, A., & Schaaf, R. 2013. Using focus group research to support teaching and learning. *Journal of Geography in Higher Education*, 37(2), 292. doi:10.1080/03098265.2012.696595
39. Yin, Z., Wang, X., Ji, L., & Sun, M. 2016. MOOCs in higher education: A novel physical education experience. *Research Quarterly for Exercise and Sport*, 87, A119-A120.
40. Yli-Piipari, S., Barkoukis, V., Jaakkola, T., & Liukkonen, J. 2013. The effect of physical education goal orientations and enjoyment in adolescent physical activity: A parallel process latent growth analysis. *Sport, Exercise, And Performance Psychology*, 2(1), 15-31. doi:10.1037/a0029806
41. Zhang, G. 2011. Research on the promotion of physical exercise for college students. Beijing Sport University (Doctoral dissertation).
42. Zhang, Q., Y. 2019. Relationship between college students' attitude to physical exercise and exercise behavior. *Hubei Sports Science*, Vol.38 (05).