

Motivations and Constraints of Participation in Physical Activity of the International Students at Shanghai Universities

Naif S. Al-barha ^{1,2,*}, Abeer Essam Noman ³, Khalid Saad Aljaloud ⁴, Saeed Ibrahim Alghamdi ⁴, Ghareeb O. Alshuwaier ⁴, Abdulrahman I. Alaqil ⁵, and Shu ShengFang (舒盛芳) ¹

¹School of Physical Education and Sport Training, Shanghai University of Sport, Shanghai, China.

²Department of Physical Activity, Faculty of Education and Science, Rada'a, Albaydha University, Albaydha, Yemen.

³Department of Food Science and Technology, Faculty of Agriculture, Sana'a University, Alwehdah Street, P. O. Box 19509, Sana'a, Yemen.

⁴Department of Exercise Physiology, College of Sport Sciences and Physical Activity, King Saud University, Riyadh, Saudi Arabia

⁵Department of Physical Education, College of Education, King Faisal University, Al-Ahsa P.O. BOX 31982 ZIP 400, Saudi Arabia

*Correspondence: albrahnaif@gmail.com

Abstract

Many young people do not adhere to the WHO's recommendations for physical activity, in spite of the promotion of participation in physical activity has become an international priority for public health. Hence, it is important to increase our understanding of how to improve participation in physical activity and maintenance it, and that is through identifying the motives and constraints of participation in PA. To date, this is the first study that investigated the motivations and constraints of participation in physical activity of international students in Shanghai Universities. A total of 673 international students (381 male and 291 female) from nineteen universities in Shanghai, China completed an online questionnaire through the WeChat app. The results of this study indicated that a lack of time and busy academic schedule constraints were the main factors preventing students' participation in physical activity on campus for both sexes. Furthermore, the participants indicated that their motives for participation in physical activity are the pleasure of the activity/fun (28.7%), sweating flow after physical exercise (24.7%), successful experience in physical exercise (22.1%), skills development (19 %), and other (5.5%) which included fitness, losing weight, socialization, physical wellness and health. In general, the findings of the present study can contribute to developing the sports policy of universities in Shanghai province which, in turn, can lead to strategies that tackle the physical inactivity crisis among international students.

Keywords: International students; physical activity; motives, constraints

المخلص

الخلفية: العديد من الشباب لا يلبون التوصية بممارسة النشاط البدني، على الرغم من أن تشجيع المشاركة في النشاط البدني أصبح أولوية دولية للصحة العامة، وبالتالي من المهم زيادة فهمنا لكيفية تحسين المشاركة في النشاط البدني والحفاظ عليه، وذلك من خلال تحديد الدوافع والقيود المؤثرة على المشاركة في النشاط البدني، وبالتالي هدفت الدراسة الحالية إلى تقييم الدوافع والقيود المؤثرة على المشاركة في النشاط البدني بين الطلاب الدوليين في جامعات شنغهاي.

الطريقة: تم جمع عينة مكونة من 673 طالبًا دوليًا (381 ذكرًا و 291 أنثى) بعمر 18 عامًا وما فوق من 19 جامعة في شنغهاي، الصين. تم استخدام استبيان أونلاين عبر تطبيق الويشات تم تقييمه؛ ليكون مناسبًا لتقييم دوافع المشاركين وعوائق ممارسة النشاط البدني، تم استخدام البيانات الوصفية واختبار مربع كاي لتحليل النتائج.

النتائج: قلة الوقت وقيود الجدول الأكاديمي المزدهم اعتبرت من أهم العوامل الرئيسية التي حالت دون مشاركة الطلاب في النشاط البدني في الحرم الجامعي لكلا الجنسين، علاوة على ذلك أوضح المشاركون أن دوافعهم للمشاركة في النشاط البدني هي المتعة/المرح (28.7%)، وتدفق التعرق بعد التمرين البدني (24.7%)، والتجربة الناجحة في ممارسة التمرين الرياضي (22.1%)، وتنمية المهارات (19%) وغيرها (5.5%) والتي تشمل اللياقة البدنية، وفقدان الوزن، والتنشئة الاجتماعية، والصحة البدنية، والصحة العامة.

الخلاصة: قد تساهم الدراسة الحالية في تطوير السياسة الرياضية للجامعات في مقاطعة شنغهاي والتي بدورها يمكن أن تؤدي إلى استراتيجيات تعالج أزمة الخمول البدني بين الطلاب الدوليين

الكلمات المفتاحية: الطلاب الدوليين؛ النشاط البدني؛ الدوافع؛ القيود؛ الحواجز

1. Introduction

Physical activity (PA) could be defined as any body movement generated through the skeletal muscles' contraction which increases the expenditure of energy. Many studies described the association between PA and health benefits such as reducing the risk of chronic diseases and other age-related diseases, lowering the rate of obesity, improving mental health, and preventing cancers (de Hollander and Proper 2018, Reiner *et al.* 2013). The World Health Organization (WHO) has recommended that physical activity (PA) is important for all age categories, including infants, the elderly, pregnant women, and people with chronic diseases and/or disabilities (Nuzum *et al.* 2020, Warburton and Bredin 2017). Nevertheless, approximately 25% of the population adults do not adhere to the WHO's recommendations for PA, as a result of this around five million people die every year (Mbabazi *et al.* 2022). This displays that PA has become an important global health priority.

There are several factors have been identified to affect the sport participation of individuals and gain sustained development benefits. Numerous studies mentioned some of these factors which included, low confidence, lack of motivation for PA, lack of time and financial resources, motivation, and disinterest in competitive sports (Liangruenrom *et al.* 2019, Mbabazi *et al.* 2022, Roychowdhury 2012). Generally, these factors could be classified into three main factors: self-efficacy, attitude, and motivation which is the most crucial factor that stimulates and maintains participation in PA (Kiyani *et al.* 2021, Withall *et al.* 2011). Motivation is defined as a psychological concept that contributes to the encouragement of individuals toward achieving their goals and is considered a psychological force that includes the intention and direction to engage in a specific behavior (Ball *et al.* 2014). Motivation plays an important role in every

aspect of life, as it is regarded as a fundamental factor that shapes our behaviors. Accordingly, it is a significant issue to understand this factor that contributes to increasing the encouragement of individuals in physical activity (Çetin 2013, Othman *et al.* 2022). In the same context, a study by Duncan *et al.* (2010), showed that motivation is the most crucial factor for individuals to involve in physical activity, and understanding the different types of participation motivation is an initial stepping stone to improving and sustaining it, and contributes to positive exercise behavior (Duncan *et al.* 2010).

Studies on participation motivation indicated that there are significant differences between participation motives and demographic variables such as gender, the preference of individuals against team sports and the level of participation in PA (Bayyat 2020). Regarding university sports, the experience of sports looks attractive to university students due to some reasons as the following: fun, being with friends, winning, maintaining health, enhancing skills, learning, success and enjoyment (Sindik *et al.* 2013). Over the last decades, several studies had been conducted on sport participation and physical activity among university international students in different countries. However, this is the first study that investigated the motivations and constraints of participation in physical activity of international students at Shanghai Universities.

2. Materials and Methods

2.1 Participants and Sample Size

To select the sample in this study, a simple random sampling method was performed. The sample size was calculated assuming a population proportion that would yield the maximum possible sample size required with a proportion of 0.50 and a confidence level of 95%. The selected sample was in proportion to the total number of international students

attending universities in Shanghai, China. Eventually, the total number of randomly selected international students in this study was 673 international students which consist of 381 males and 291 females from nineteen universities in Shanghai, China during the 2021-2022 educational year.

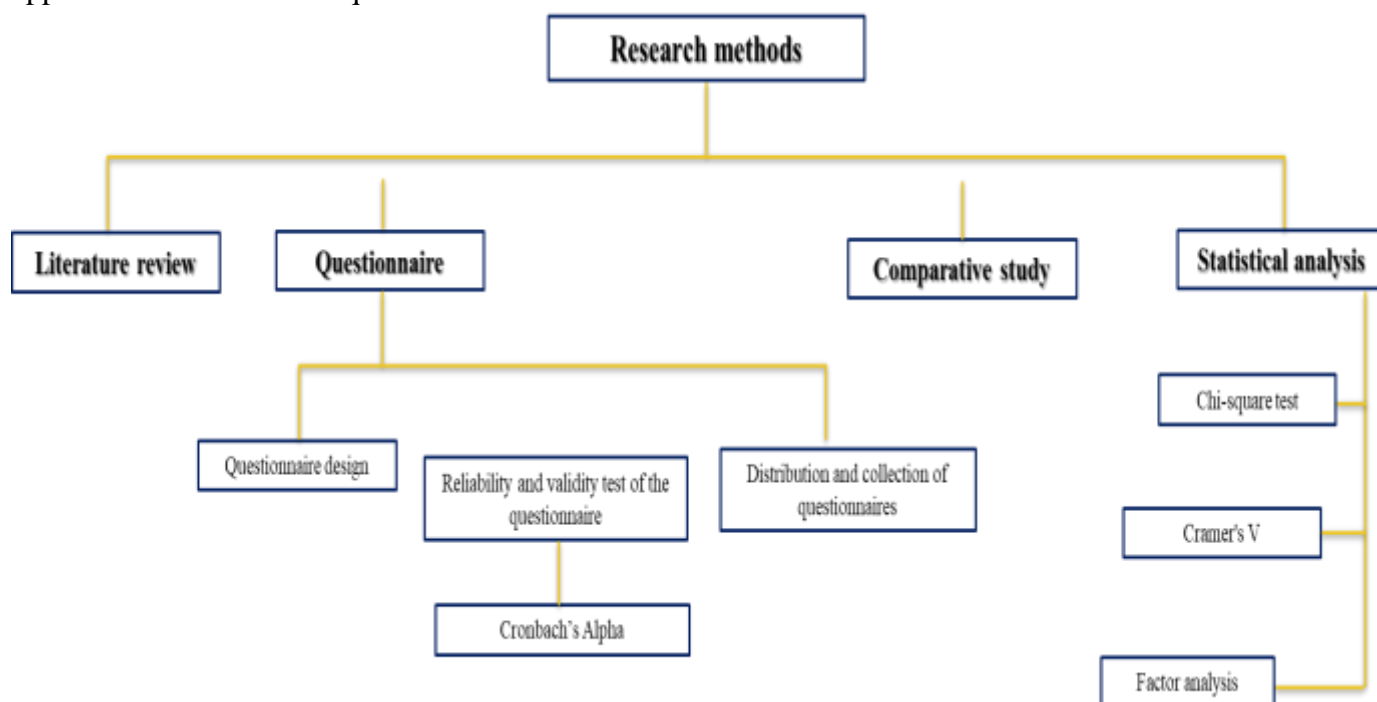
2.2 Assessment of Motivations and Constraints of Participation

Data collection for this study was through a questionnaire, which was adopted and adapted from the literature (Mchunu 2008, Mthethwa 2017b). Then, it was approved by a group of specialists interested in this type of study. After that, it was sent to participants by the WeChat app with instructions. A questionnaire used in

this study consisted of many parts. We have only used the collected data from three parts which include the information about the demographic characteristics of the participants, motives and constraints of sports participation which fulfils the aim of this study.

2.3 Data and Statistical Analysis

In the analysis of collected data within the scope of this study, IBM SPSS 23 statistical package software was used. The descriptive statistic was used to investigate the frequency and percentage distribution of the participants' demographic. Also, the Chi-Square test was used to calculate the frequency and proportion of selected variables.



3. Results

A total of 673 international students (381 male and 291 female) from nineteen universities in Shanghai, China completed an online questionnaire through the WeChat app. The results distributed by age groups indicate that a predominance of participants between 23 and 26 years 26.6% (n= 179), and 8.6% (n= 58) of the participants were over 35 years old. Concerning

the nationalities of the study sample, it emerged that the majority of participants in this study were from Asia at 42.6% (n=287), while the rest of the participants carried the following nationalities: Arabic 25.1% (n=169), Africa 20.4% (n=137), America 6.2% (n=42), Europe 4.5% (n=30), and Australia 0.7% (n=5). Table 1 displays descriptive statistics of study participants (See Table 1).

Table 1. Anthropometric characteristics of the participating international students

Variables		N	%	P-value
Sex	Male	381	56.6	0.000
	Female	292	43.4	
Age	18-22	107	15.9	0.107
	23-26	179	26.6	
	27-30	171	25.4	
	31-34	158	23.5	
	Over 35	58	8.6	
Nationalities	Arabic	169	25.1	0.000
	Asia	287	42.6	
	Africa	137	20.4	
	Europe	30	4.5	
	America	42	6.2	
	Australia	5	0.7	
	None	3	0.4	
Education level	1st year	85	12.6	0.005
	2nd year	109	16.2	
	3rd year	93	13.8	
	4th year	88	13.1	
	5th year	29	4.3	
	MSc	125	18.6	
	PhD	144	21.4	
Major	Academy of Medical Sciences	151	22.4	0.000
	Humanities	127	18.9	
	Law and Management Research	149	22.1	
	Agriculture, Engineering and Science	246	36.6	
Locality of Residence	In school	381	56.6	0.322
	Outside school	292	43.4	

Figure 1 shows the participants' responses to questions related to the majority of participants were motivated to participate in physical activities for the pleasure of taking part in physical activity (28.7%), followed by sweat flow after physical activity (24.7%), successful experience in physical activity (22.1%), skill improvement in physical activity (19%), and others with the lowest percentage (5.5%).

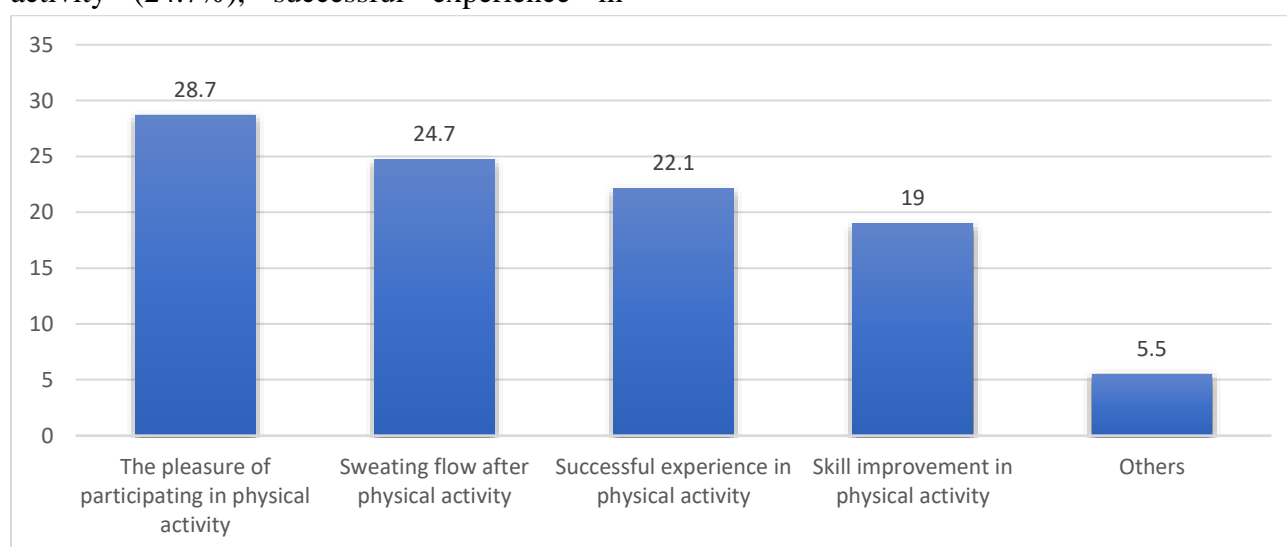


Figure 1. Students' motivations for participating in physical activity

whereas Table 2 displays the motivations of participants for participating in physical activities based on gender, where it became clear that there were statistically significant differences at the level of significance (0.000)

and the value of the Chi-Square test amounted to 29.329, and the value of the Cramer coefficient (0.209) at the significance level (0.000) confirmed the difference between the variables' relationship exists.

Table 2. Students' motivations for participating in physical activity relative to gender

Items	Gender					
	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
The pleasure of participating in physical activity	118	61.1%	75	38.9%	193	100.0%
Sweating flow after physical activity	114	68.7%	52	31.3%	166	100.0%
Successful experience in physical activity	74	49.7%	75	50.3%	149	100.0%
Skill improvement in physical activity	65	50.8%	63	49.2%	128	100.0%
Others	10	27.0%	27	73.0%	37	100.0%
Total	381	56.6%	292	43.4%	673	100.0%
Chi-Square =29.329					Sig. .000	
Cramer's V =0.209					Sig. .000	

The most important factors affecting participants' PA participation are presented in Figure 2. Time is the most important factor with 34.3%, followed by a heavy study schedule (too many studies) with 16.3%.

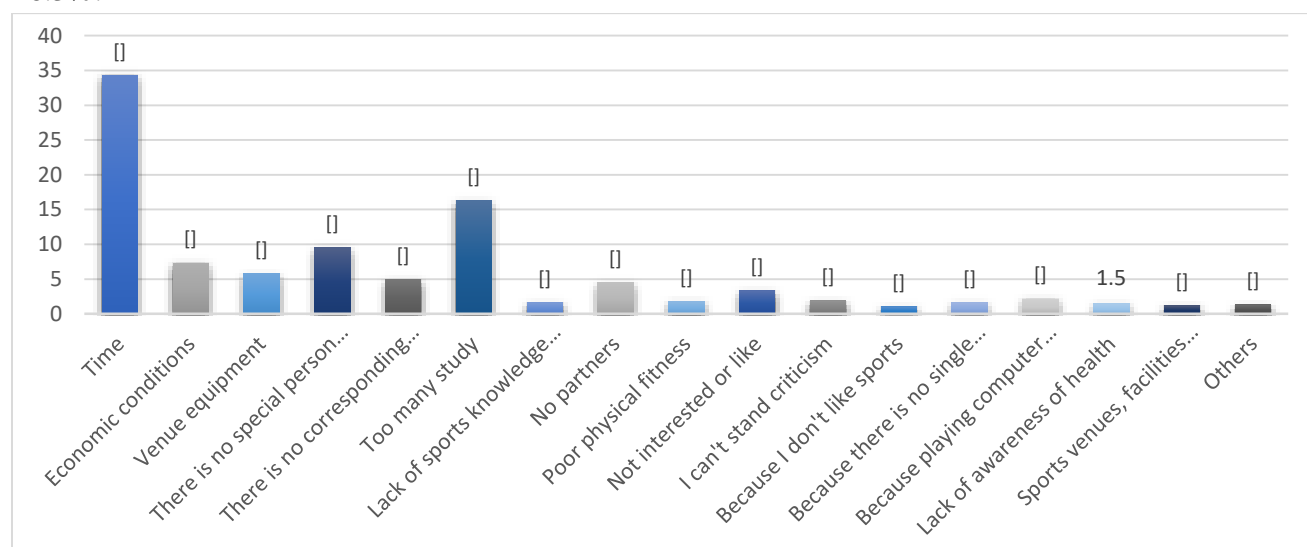


Figure 2. Factors affecting the participation in physical activity of the participating international students.

4. Discussion

The aim of this study was to investigate the motivations and constraints of sports participation of international students in Shanghai universities. It is widely acknowledged in the literature that sport participation motives play an essential role in

increasing physical activity levels among youth. In order to maintain a healthy lifestyle, good physical condition, better mental health, prevent sedentary lifestyle diseases and extend life expectancy, individuals must engage in a suitable amount of physical activity (Lipowski and Zaleski 2015, Malm *et al.* 2019, Pelliccia *et*

al. 2021). The level of motivation and personal motivations that an individual has for participating in physical activity determine how often that activity is performed.

In this study, the participants indicated that their motives for participation in physical activity are the pleasure of the activity/fun (28.7%), sweating flow after physical exercise (24.7%), successful experience in physical exercise (22.1%), skills development (19 %), and other (5.5%) which included fitness, losing weight, socialization, physical wellness and health.

Findings from the present study were consistent with some previous studies such as the study conducted by Peters *et al.* (2014), which showed that students at North-West University (Potchefstroom) participate in sports and physical activity for a variety of motives including, social interaction, recognition/achievement, energy/stress relief, challenge/enjoyment, health and physical wellness (Peters 2014). Another study carried out by Mthethwa (2017), reported that the main motives for participation in sport and recreation among the students at the University of KwaZulu-Natal were achievement/status, energy release and fun (Mthethwa 2017a). Ebben and Brudzynski (2008), also reported that the most common motives for sports participation were general health, maintaining fitness, stress reduction, enjoyment of pleasure, and feeling good/better (Ebben and Brudzynski 2008).

In this study, the male respondents have a high motivation level than the female respondents when involved in physical exercise. This is different from the previous study by Abdullah *et al.* (2019), which indicated females have more motivation to involve in physical exercise rather than males (Abdullah *et al.* 2019). However, the findings from this study were consistent with another study conducted by Wilson (2016), which reported that females have less

motivation to involve in physical exercise rather than males because females are less active than males in physical activity. Moreover, the finding results of this study showed that there is a statistically significant difference between the sports participation motives of male and female students, while there was no statistically significant difference in the sport participation motives according to the field of the study and locality of residence (Wilson 2016). The results of several studies which observed gender differences, showed that men and women have different motives for participating in sports activities (Legnani *et al.* 2011).

In the present study, the dominant male students' sport participation motives are the sweating flow after physical exercise (68.7%), while female students mainly participate in sports activities because of their fitness, losing weight, socialization, physical wellness and health (73%). This finding is consistent with the previous two studies by Molanorouzi *et al.* (2014), and Ennis (2012), which reported that women are more often motivated to participate in sports exercise because of their appearance and to become thinner (Ennis 2012, Molanorouzi *et al.* 2014). Another study also showed that males tend to prefer activities at a competitive level and females tend to pursue sports because of their health, and fitness (Soares *et al.* 2013).

It is generally agreed upon in the literature that over the past decade, sedentary behavior has grown and participation in physical activity has decreased. Based on previous research, there are three primary factors why young people are prevented from participating in sports and physical activity. These constraints start at the personal (intrapersonal) level and progress to social functioning (interpersonal) and the environment's (structural) aspects, which are factors over which an individual has no control (Alahmad 2016, Crawford *et al.* 1991). In the

present study, lack of time (34.3%) and heavy academic schedule (16.3%) constraints were reported as the leading factors preventing students' participation in sport on campus. The majority of students mentioned that their time is already full with the assignments, projects, seminars, trips, research and so on, and if they have free time, they use it for rest, sleep, hanging out with friends and shopping. Most of the students thought that if they exercise there a lot of time required and they are not enjoying by doing that. The finding of this study corroborates some previous studies mentioned that time constraint considered as a major barrier to exercise and are more likely to decrease the likelihood of engaging in sport participation and physical activity among youth (Al-Hazzaa *et al.* 2014, Awotidebe *et al.* 2014, Casper *et al.* 2011).

The findings of the current study support the previous study conducted by Jung-Woong *et al.* (2009), which used a random sample of 1,109 Korean youth to evaluate the relationship between motives, constraints and level of physical activity. The results showed that lack of time was the most barrier to participation in physical activity, and indicated that this might be due to Korean youths mostly spending more time studying mathematics and English than participating in physical activities (Jung-Woong *et al.* 2009).

Flood & Parker (2014), sought to uncover barriers and motives to sport involvement in a survey of 193 college students using the hierarchical leisure constraints theory. Lack of time was generally cited as the main constraint (Flood and Parker 2014). At the same content, a separate study was carried out by Al-Hazzaa *et al.* (2014), to explore Saudi adolescent physical activity patterns and factors that influence them. The obtained results of this study indicated that time constraints were the main cause of inactivity in both sexes (Al-Hazzaa *et al.* 2014).

At the University of Venda in South Africa, structural constraints were also reported by Mugwedi and Mulibana (2014) to be the main constraint on why participants didn't take part in physical activities (Mugwedi and Mulibana 2014).

Our findings agree with Blake *et al.* (2017), who similarly noted that academic pressures such as homework, and class schedule were negatively related to the participation in physical activities in the university. With the increase in course loads and academic commitments, students are less likely to spend their free time participating in physical activities (Blake *et al.* 2017).

5. Conclusion

The present study can be a valuable addition to the literature on the participation of international students in physical activity on campus especially those studying at Shanghai universities, China. It's noteworthy to notice that although participants have too much academic work, most of them find time to participate in physical activities despite their busy academic schedules.

Author Contributions: For research articles with several authors, a short paragraph specifying their individual contributions must be provided. The following statements should be used "Conceptualization, N.S.A and S.S.F; methodology, N.S.A; validation, K.S.A, S.I.A, and G.O.A; formal analysis, N.S.A, A.E.N, A.I.A; investigation, N.S.A; writing—original draft preparation, N.S.A.; writing—review and editing, N.S.A, A.E.N, S.S.F; supervision, S.S.F. All authors have read and agreed to the published version of the manuscript.

Corresponding author

Correspondence to **Naif S. Al-barha.**

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Data Availability Statement: The data set used is locked and stored in the School of Physical Education and Sport Training at Shanghai University of Sport, and can be obtained from the principal investigator on reasonable request.

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Competing Interest: The authors declare no conflict of interest.

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