

Relationship between Physical Fitness, Athlete Leadership Related to Athletic Performance, Athletic Psychology and Sport Athletic Satisfaction in China

Du Chenglin¹

Abstract

The current study aims to analyze the relations between physical fitness, athlete leadership, athletic performance, athletic psychology and athletic satisfaction of sports center in China. This study also examines the mediating role of athletic performance and athletic psychology among the nexus of physical fitness, athlete leadership and athletic satisfaction of sports center in China. This study has used the questionnaires adopted from past studies to collect the data from the respondents. This study also used the smart-PLS to test the reliability and validity and also to test the hypotheses of the study. The results have exposed that physical fitness and athlete leadership have significant positive relations with athletic performance and athletic psychology while athletic performance and athletic psychology also have significant positive relations with athletic satisfaction of sports center in China. The results also indicated that athletic performance significantly mediates among the relation of physical fitness, athlete leadership, and athletic satisfaction while athletic psychology significantly mediates among the relation of athlete leadership and athletic satisfaction.

Keywords: Physical fitness, athlete leadership, athletic performance, athletic psychology, athletic satisfaction

Introduction and Background of the Study

Sports in a country are of great importance. Sports are being played at different levels: institutional level (school level), regional level, national or international level. At different levels, sports have different significances. Sports emerges as a significant source of socio-economic development of a country. Active participation in sports improves society health and productivity, reduces medical expenses, inculcate discipline, determination, and endurance in character, generates great leaders, and increases social cohesion (M. Kim, Do Kim, & Lee, 2020; Zou, 2021). Sports at the national and international level are considered big business along with their influence on the political, economic, and other cultural aspects of the countries across the world. Particularly with politics, sports, sports can influence countries, their identities, and as a result, the whole world. Physical fitness and athletic leadership are the two major factors of sports that determine the progress in sports (Hansen et al., 2021). Regular physical fitness activities in sports can overcome chronic disease, help develop a healthy heart, strong bones, improved ling functions. These activities help control diabetes, manage weight, enhance blood circulation and manage the level of stress. While athletic leadership enhances the sports capabilities in the athletes and improves their performance both during practice, test and final match. It is effective athletic leadership that prepares the athletes from inward for sports challenges and enable them to take the opportunities (M. Kim, Oja, Kim, & Chin, 2020; Newman, 2020).

The present study intends to analyze the impact of physical

fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction in China. China is a developing upper-middle-income country. China is one of the oldest world cultures, and they've been practicing forms of sports in one way or another for a long. There have been played swordplay, archery, along with a form of soccer for a long ago. Now, Chinese athletes are famous for their martial arts (Lovett, Bloyce, & Smith, 2020). But the Chinese culture, which has passed a long time keeping itself away from the rest of the world, now have begun to move towards western sports like basketball to snooker. Physical fitness is a significant portion of Chinese tradition. That is why there are a large number of commercial gyms and fitness clubs in China. There are a large number of cyclists in China, for there are 470 million bicycles in China in 2012. But basketball is a most respectful game for the young generation as mostly the NBA are native Chinese or have Chinese blood in their veins. Athletes like Yoa Ming and Jeremy Lin are quite revered in China. They have played most of the Olympics Games, including winter and summer games, since 1932. They have also been hosts in the 2008 summer Olympics in Beijing, where they achieved about fifty-one gold medals, the most that any other state had achieved (Fransen, McEwan, & Sarkar, 2020; Zhang, Zhou, & Ryall, 2020).

That year they had a total of one hundred medals, the highest number of medals they had ever achieved in any Olympic game since their first joining in 1932. It is expected that China will also host Winter Olympics in Beijing in 2022. The most popular sports of China are basketball, football (soccer), table tennis, badminton, swimming, and volleyball. Besides these regional sports are jianzi, cuju, pinball, Zuo Quan, wushu, sanda/sanshou,

¹ Department of Education. Northeastern University, Liaoning, Shenyang 110000)
Corresponding email: dc2233@163.com

and beikou tarkbei. The well-known athletes from China are Yao Ming (basketball), Zhang Lian-Wei (Golf), Deng Yaping (table tennis), Liu Xiang (hurdles, track & field), Li Na (tennis) (Liu, Zhang, & Desbordes, 2017). China has great popularity in the world for its sports. The study has chosen China's sports sector for the analysis of influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction because of its broad scope and fame. China government is still paying attention to the progress in its games as these games are also a significant source of revenues for both

public and private entities (Xu, Fan, & Brown, 2021). This study is an appropriate guideline for this sports organization and different sports teams on how they could improve athletic performance, athletic psychology, and athletic satisfaction with effective and efficient athletic leadership and physical fitness programs. The performance of sports centers also improves the sports industry within the country. Figure 1 given below highlighted the growth in the sports industry due to the high level of performance of sports center in China.

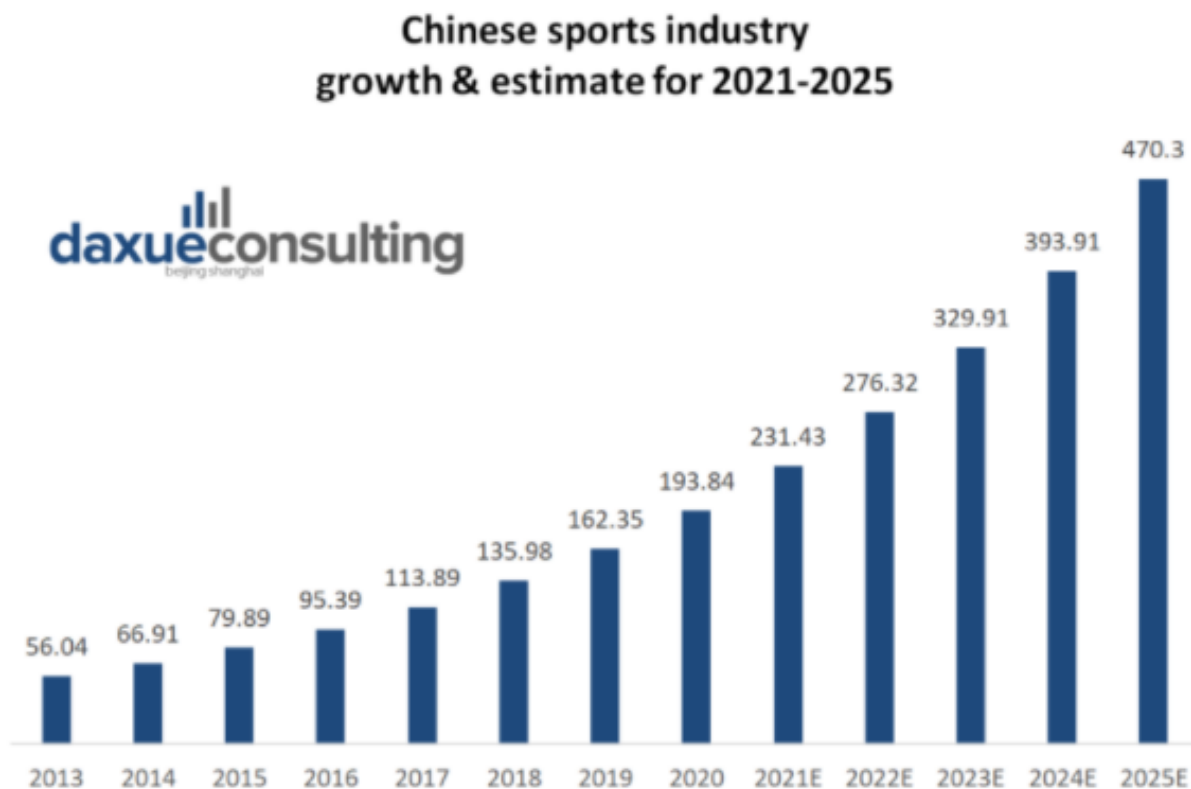


Figure 1. Chinese sports industry growth

Sports are the source of providing healthy, fit, and active students, nation-building, and private and national earning. Especially sports at international level must be promoted as they could bring fame on international platform and foreign exchange. The importance of sports in a nation at all schooling, social, national, and economic levels requires there must be found ways to promote the sports (Ruan & Liu, 2021; Zhou, Chlebosz, Tower, & Morris, 2020). Physical fitness and athletic leadership improve athletic performance, athletic psychology, and, thereby, athletic satisfaction. Thus, there is a need to explore the contribution of physical fitness and athletic leadership in improving athletic performance, athletic psychology, and athletic satisfaction. The aim of our study is to explore the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction. One of the aims of our study is also to check the mediating influences of athletic performance and athletic psychology between physical

fitness, athletic leadership and athletic satisfaction.

Many authors have explored the relationship between physical fitness and athletic leadership and athletic performance, athletic psychology, and athletic satisfaction. But a single study has addressed either influence of physical fitness or athletic leadership on athletic performance, athletic psychology, and athletic satisfaction. And only a few studies have addressed the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction in a single whole. Thus, the current study is a great contribution to the literature as it analyzes the impacts of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction in a single whole. Moreover, in the past, the studies have introduced any one of athletic performance and athletic psychology as a mediator between physical fitness and athletic leadership and athletic satisfaction. Thus, our study achieves an exceptional place in the literary world as

it initiates to introduce dual mediators like athletic performance and athletic psychology, between the physical fitness and athletic leadership on and athletic satisfaction. The second portion of the study analyzes the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction in light of the arguments of different authors from past studies. The third portion clears away how the author collects the quantitative data sports world of China. Thus, the fourth section describes the findings of the study. In the last portion, the study results are compared with and supported by the past studies.

Literature Review and Hypotheses Development

The current study aim is to analyze the relations between physical fitness, athlete leadership, athletic performance, athletic psychology and athletic satisfaction of sports center in China. This study also examines the mediating role of athletic performance and athletic psychology among the nexus of physical fitness (De Backer et al., 2021), athlete leadership and athletic satisfaction of sports center in China. In any country, sports play a key role in building an efficient nation, achieving fame, and a stronger position in the international plate-form. The progress in sport not only serve the culture and nation-building, but sports are a big source of earnings both for players and the government (in the form of foreign exchange win from foreigners). Several factors like economic conditions, government sanctions, physical fitness programs, and coaching styles affect the players' physical and mental performance in the games (Huang, Lee, Lo, Chen, & Hsu, 2021; Xiufang Li & Feng, 2021). Our study analyzes the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction. The nexus between physical fitness and athletic leadership and athletic performance, athletic psychology, and athletic satisfaction has a dominant place in the past literature. Different authors have different views about the relationship between physical fitness and athletic leadership and athletic performance, athletic psychology, and athletic satisfaction. Our study cites many such studies below to present an association between physical fitness and athletic leadership and athletic performance, athletic psychology, and athletic satisfaction.

According to the views of Rad, Hosseini, and Shirvani (2020), about athletics, the tendency of maintaining physical fitness of the athletes improve their athletic performance. Physical fitness is the state of health and well-being; it is the ability of the body to perform specific activities efficiently. Physical can be sustained through training, exercise, and diet management. In almost all sports schools or organizations, proper arrangements are made to enhance physical fitness, or in other words, we can say, physical fitness programs are carried on. Physical fitness keeps the body healthy by controlling the use of

oxygen in the body and improving the stamina of the body stick to one condition and bear hurdles, sufferings, and fatigue. Under physical fitness programs, cardiorespiratory fitness, the athletes have the ability to properly utilize oxygen, control their heartbeat. In this way, the heart, muscles, and bones of the body remain strong; there is a strong immune system that saves the athletes from diseases (Towlson, Cobley, Parkin, & Lovell, 2018). Having good health, the athlete has complete focus on their target, they can fight against fatigues, and bear change in the environment, and can better perform their sports functions. It is physical fitness that promotes strength, endurance, power, and speed in the athletes. They become able to meet challenges and show high performance in playground.

The literary article of Wood, Clow, Hucklebridge, Law, and Smyth (2018), which has been written to analyze the determinants of athletic performance, posits that physical fitness affects athletic psychology. Athletic psychology is the proficiency to use psychological knowledge and skills to address optimal performance and well-being of athletes, developmental and social aspects of sports participation, systemic issues associated with sports settings and organizations. Physically fit athletes feel energetic, pay focus on their surroundings, get the awareness of the necessities of playing successfully, and can develop cognitive athletic capabilities. Physical fitness gives athletes a chance to develop dynamic sport capabilities, which could help them to sense the risks, problems, and threats to the development of the sport, make decisions to overcome them. Thus, physical fitness serves athletic psychology. The study conducted by Ahmed et al. (2017), to investigate the drivers of sports progress, has analyzed and compared the athletes having a different level of physical fitness. The study found that the athletes who are given proper periodical physical fitness training and exercises have sound minds, better cognitive skills like sense, discipline, determination, time management, positive thinking, better decision making and problem-solving skills. These all-cognitive skills are needed to survive and perform in sports. While on the other hand, the athletes who are given poor fitness training or periodical exercises, or who low lack interest in the physical fitness programs, are physically weak, have overweight, uncontrolled breathing or heartbeat. Their weak fitness adversely affects their mental health, divert their attention, and becomes a barrier to the development of cognitive capabilities (Gill, Reifsteck, & Madrigal, 2021). Hence, we can say:

The success of sports teams is largely dependent on the performance of sports team leaders or coaches and, thus, on their leadership style. The athletic leadership style is the way the athletic leaders apply to interact with team members while giving them training for the final match. The athletic leaders may adopt different leadership styles like autocratic leadership, democratic leadership, Laissez-Faire leadership, which would be suitable to achieve good results from the team members. The athletic leadership

style ultimately affects the athletes' performance during practice and final match (Rockhill, Howe, & Agyemang, 2021; Ruan & Liu, 2021). Under the autocratic leadership style, the athletic leader makes a choice based on his own ideas, knowledge, and judgments regarding the stadium, playground, behaviors of rival team members, and the conduct of the team members, rules, and regulations. He hardly accepts any opinion from the followers. On the basis of his experience knowledge, he makes better decisions to improve the performance of athletes in the playground. If the athlete leader feels that his followers are efficient and have some experience, he allows them to take part in the opinions. When they themselves take to participate, they follow the rules and standards and perform better in the playgrounds (S. Kim, Hong, Magnusen, & Rhee, 2020; Y. H. Lee, 2019). Based on the above discussion, it can be hypothesized:

M. Kim, Y. Do Kim, et al. (2020), in his literary investigation on sports performance, defines athletic leadership as the manner adopted by the sports team leader for passing instructions to the team members, implementing plans, and motivating followers to perform efficiently during matches in the playground. According to the views of M. Kim, Y. Do Kim, et al. (2020), athletic leaders adopt different leadership styles, which help improve the athletic psychology on the part of both the coaches and the players under leadership. The coaches may adopt different leadership styles like transformational leadership, persuasive leadership style, autocratic leadership, democratic leadership, or Laissez-Fair leadership. Under the persuasive leadership style, the athletic leader has a strong influence on the thinking and actions of the followers. Under this sort of leadership, the leader can enhance the knowledge and sports awareness in the team members, and he can develop an ability in the followers to sense the changes or problems and act accordingly (Miller, Slater, & Turner, 2020). Similarly, under transformational leadership, the leader himself participates with followers and inspire them to think positively and new ideas to hit the target. This leadership style helps bring innovation to the athletic psyche of the players. Under autocratic leadership, the athletic leader uses his own knowledge, experience, and talents to make decisions about how to train the team members for the final match. As the leader has a good athlete psyche, they inculcate this psyche in the sport team members also. Thus, we can hypothesize:

The thinking, behaviors, and actions of the players during practice or match in the playground determine the degree of players' satisfaction. The performance of the players has a deep impact on their mentality, their emotions, and sense of contentment. The research investigation by Crawford, Tripp, Gierc, and Scott (2021), about different aspects of athletics, presents that when players understand the sensitivity and requirements of the concerned sports and take positive actions to achieve the goals of their participation in the game, there is a positive impact on their mentality. The good and positive performance

provides some sort of relief to the players' minds, and this relief results in the mental satisfaction of the players. Similarly, polite and positive behaviors or athletes develop a good social relationship among the players of the same team. This provides social support, which leads to high social and emotional satisfaction in the players. The research on sports performance has been conducted by Zid, Amiruddin, Auzair, and Janor (2021), which analyzes the three teams of players of tennis, cricket, and basketball. This study analyzes their performance and, through questioning, learns about their level of satisfaction. The players who have good sport performance have a high level of satisfaction and vice versa. That is why we can say:

According to the arguments of M. Kim, Y. Do Kim, et al. (2020), athletic psychology has a deep impact on athletic satisfaction. Athletic psychology is the proficiency to use psychological knowledge and skills to bring optimal performance and well-being of athletes, address developmental and social aspects of sports participation, systemic issues associated with sports settings and organizations. The psyche of the athletes, in other words, their knowledge and awareness about the particular games, the importance of the games, the steps, the rules, standards of the games, and their ability to use their knowledge and skills, gives them a sense of satisfaction. The study conducted by Tamminen, Sabiston, and Crocker (2019) posits that after having a short talk to different athletes, it has been found that the psyche of the athlete's knowledge and awareness about the developmental and social aspects of the game, their proficiency in using that knowledge to show higher performance gives a sense of peacefulness to the athletes. This knowledge, awareness, and ability to use that knowledge and awareness in order to get the desired goals keeps the athletes satisfied about their performance and success in the game. Thus, it can be hypothesized:

Physical fitness leads to higher performance of the athletes in the playground. When the players are physically fit, they are active in their work and have higher motivation to perform efficiently during practice and match in the playground. The performance of the players influences their mentality, their feelings, and their sense of contentment. When players understand the sensitivity and needs of the particular game and take positive actions to achieve the goals of their participation in the game, there is a positive impact on their mentality. The good performance provides some sort of mind peacefulness to the players, and this peacefulness leads to mental satisfaction of the players (Nuzzo, 2020). Similarly, the physical fitness of the players keeps them healthy and strong and enable them to focus on their surroundings, get awareness and knowledge about the developmental and social aspects of the games. Moreover, it is physical fitness that motivates the athletes to develop an ability to use their athletic knowledge, awareness, and cognitive skills to achieve the goals of the game in a proficient manner. The sense, the awareness, knowledge, and the cross on the cognitive capabilities enhance the sense of satisfaction in the players. The players having complete knowledge about

all the aspects of the game, awareness of the game requirements, and tricks to win the game, and the talents to show a good performance gives mind peacefulness and constitute a high level of satisfaction (Clark, Lambert, & Hunter, 2018). Based on the author's arguments, it can be hypothesized:

The leadership style which the sports team leaders adopt to interact with the team members, pass instructions, guide them, and motivate them to be active in their actions affect the performance of the athletes greatly both during practice and match. The choice of a good leadership style under which the leader has a strong influence on the followers through social as well as professional bond, the follower is devoted to following instructions and put extra effort to them train them for the test and final match. This improves the players' performance. The performance of the athletes affects the thinking and feelings of the players. When the players have the capabilities to perform efficiently in the playground, they are not much worried about the results of the match. The performance of the players influences their mentality, their feelings, and their sense of contentment. When players understand the sensitivity and needs of the particular game and take positive actions to achieve the goals of their participation in the game, there is a positive impact on their mentality. Their ability to perform better gives them a sense of satisfaction (Mead, Gilson, & Henning, 2017). Similarly, the leadership style of the athletic leader has effects on the psyche of athletes. An effective leadership style enhances the knowledge and awareness of the players and also create good performance capabilities in the players. When the players have high knowledge and awareness of the game and cognitive capabilities, they feel satisfied with the sports.

Based on the above discussion, following hypotheses are formulated:

H1: Physical fitness has a positive relationship with athletic performance.

H2: Physical fitness has a positive relationship with athletic psychology.

H3: Athletic leadership has a positive relationship with athletic performance.

H4: Athletic leadership has a positive relationship with athletic psychology.

H5: Athletic performance has a positive relationship with athletic satisfaction.

H6: Athletic psychology has a positive association with athletic satisfaction.

H7: Athletic performance is a mediator between physical fitness and athletic satisfaction.

H8: Athletic psychology is a mediator between physical fitness and athletic satisfaction.

H9: Athletic performance is a mediator between athletic leadership and athletic satisfaction.

H10: Athletic psychology is a mediator between athletic leadership and athletic satisfaction.

Data and Research Methodology

The current analyze the relations between physical fitness, athlete leadership, athletic performance, athletic psychology and athletic satisfaction and also examine the mediating role of athletic performance and athletic psychology among the nexus of physical fitness, athlete leadership and athletic satisfaction of sports center in China. This study has used the questionnaires adopted from past studies to collect the data from the respondents. The present study has collected the data from the registered candidate of the well-reputed sports center in China with an approximate population around 15000. According to the Morgan table, the sample size of the study would be around 375. Thus, a total of 590 surveys were distributed among the selected respondents by personal visit to the sports centers. After fifteen days, only 374 valid questionnaires were received, which shows an approximately 63.39 per cent response rate.

This study also used the smart-PLS to test the reliability and validity and also to test the hypotheses of the study. The smart-PLS is the best estimation tool in the case of a complex model and a large sample size (Sarstedt & Cheah, 2019). In addition, the present study has taken two predictors, such as physical fitness (PF) with five items (De Moraes, Vilanova-Campelo, Torres-Leal, & Carvalho, 2019) and athletic leadership (AL) with fifteen items (Eys, Loughead, & Hardy, 2007). In addition, the current study has also been taken athletic performance (AP) and athletic psychology (APSY) as the mediating variables with five (BaniAsadi & hamid Salehian, 2021) and eight items (Hemmings & Povey, 2002), respectively. Finally, the present study has used athletic satisfaction (AS) as the dependent variable with eleven items (Jowett, Shanmugam, & Caccoulis, 2012). These variables with relations are shown in Figure 2.

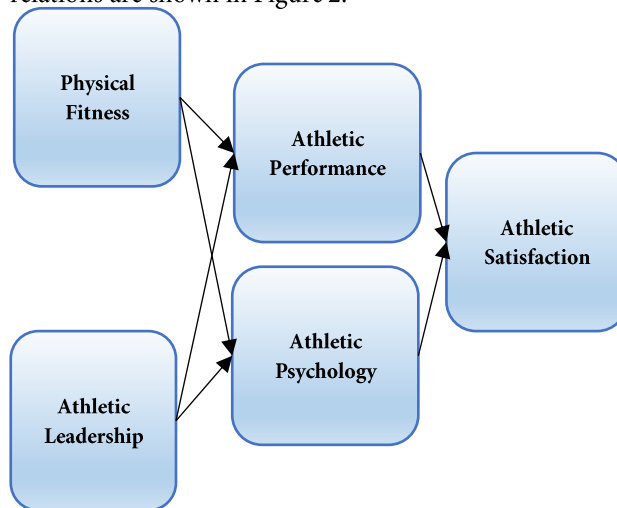


Figure 2. Conceptual Framework

Results and Discussion

Table 1 has been shown the item loadings that show the correlation among items, and the values of the loadings are more than 0.50. These values revealed that high correlation among the items and items used are valid.

Table 4.1*Items Loadings*

Constructs	Items	Loadings
Athletic Leadership	AL1	0.802
	AL10	0.766
	AL11	0.667
	AL12	0.659
	AL13	0.781
	AL14	0.798
	AL15	0.795
	AL2	0.724
	AL3	0.767
	AL4	0.685
	AL5	0.640
	AL6	0.714
	AL7	0.680
	AL8	0.660
	AL9	0.739
Athletic Performance	AP1	0.829
	AP2	0.822
	AP3	0.700
	AP4	0.770
	AP5	0.751
Athletic Psychology	APSY1	0.768
	APSY3	0.783
	APSY4	0.715
	APSY5	0.826
	APSY6	0.735
	APSY7	0.755
	APSY8	0.789
Athletic Satisfaction	AS1	0.780
	AS10	0.743
	AS11	0.758
	AS2	0.753
	AS3	0.709
	AS4	0.804
	AS5	0.794
	AS6	0.770
	AS7	0.679
AS9	0.671	
Physical Fitness	PF1	0.759
	PF2	0.812
	PF3	0.813
	PF4	0.897
	PF5	0.760

The results also show the convergent validity that also shows the correlation among the items and also exposed the reliability of the items. The values of composite reliability (CR) are larger than 0.70, while Alpha values are also higher than 0.7 and AVE values are not less than 0.50. These values indicated the high correlation among items and valid convergent validity. Table 2 has been shown these figures.

Table 4.2*Convergent Validity*

Constructs	Alpha	CR	AVE
Athletic Leadership	0.937	0.944	0.529
Athletic Performance	0.834	0.883	0.602
Athletic Psychology	0.885	0.909	0.590
Athletic Satisfaction	0.912	0.927	0.559
Physical Fitness	0.869	0.905	0.656

The results also show the discriminant validity that also shows the correlation among the variables and also exposed the reliability of the variables. The values of Heterotrait Monotrait (HTMT) ratios are less than 0.85. These values indicated the low correlation among variables and valid discriminant validity. Table 3 has been shown these figures.

Table 4.3*Discriminant Validity*

	AL	AP	APSY	AS	PF
AL					
AP	0.574				
APSY	0.753	0.570			
AS	0.780	0.664	0.744		
PF	0.570	0.417	0.500	0.677	

This study also examined the correlation among the variables using variance inflation factor (VIF), and the values of VIF are lower than five. These values have been revealed that no high correlation among the variables. Table 4 has been shown the values of VIF.

Table 4.4*Variance Inflation Factor*

	AS
AL	2.484
AP	1.452
APSY	2.206
PF	1.428

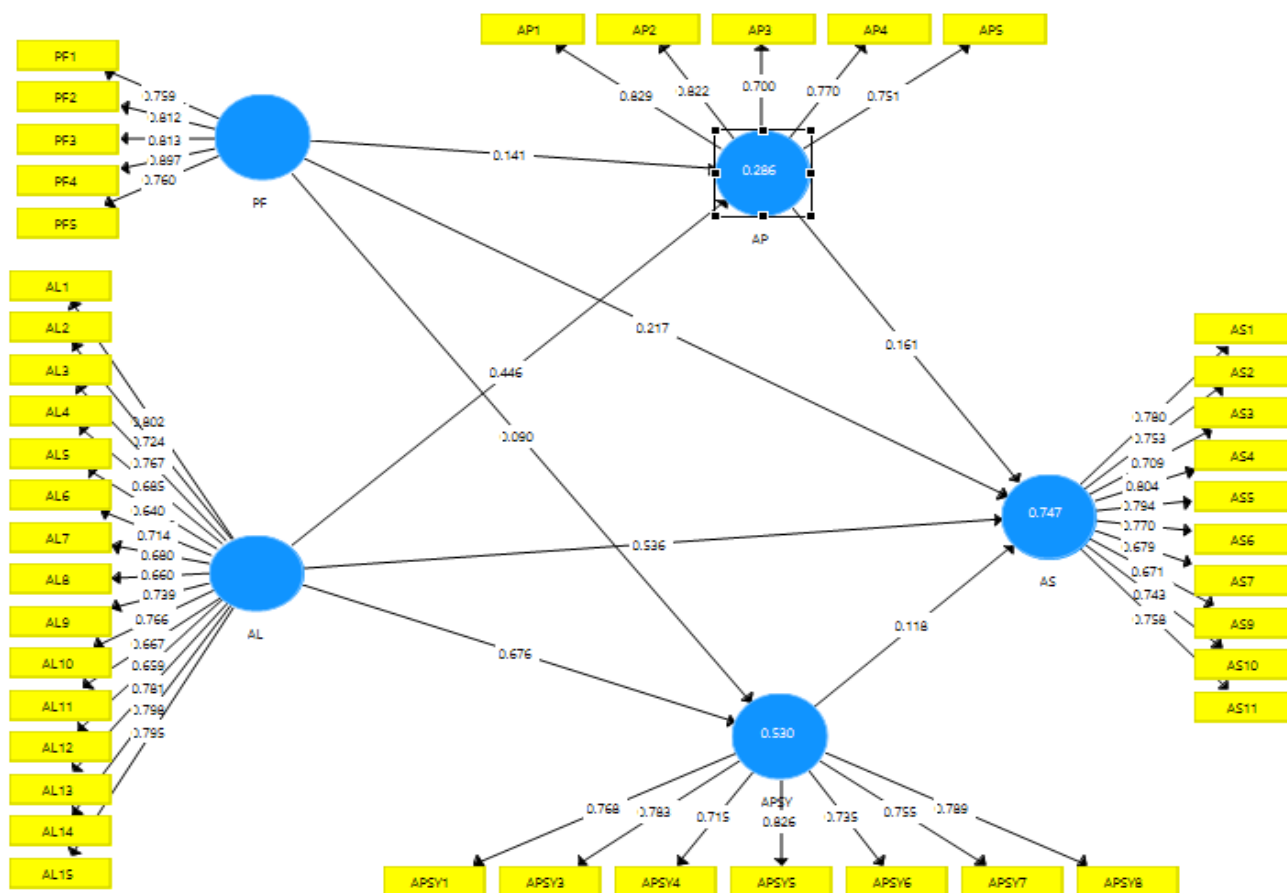


Figure 3. Measurement Model Assessment

The results have exposed that physical fitness and athlete leadership have significant positive relations with athletic performance and athletic psychology and accept H1, H2, H3 and H4. The results also indicated that athletic performance and athletic psychology also have significant positive relations with athletic satisfaction of sports center in China and accept H5 and H6. The results also indicated that athletic performance significantly mediates among the

relation of physical fitness, athlete leadership and athletic satisfaction and accept H7 and H8. The results also exposed that athletic psychology significantly mediates among the relation of athlete leadership and athletic satisfaction and accept H10. However, athletic psychology insignificantly mediates among the relation of physical fitness and athletic satisfaction and reject H9. These links are shown in Table 5.

Table 4.5

Path Analysis

	Beta	Standard Deviation	T Statistics	P Values	L.L.	U.L.
AL -> AP	0.446	0.059	7.515	0.000	0.326	0.560
AL -> APSY	0.676	0.037	18.092	0.000	0.602	0.748
AL -> AS	0.536	0.043	12.419	0.000	0.447	0.615
AP -> AS	0.161	0.037	4.400	0.000	0.095	0.234
APSY -> AS	0.118	0.050	2.373	0.018	0.027	0.206
PF -> AP	0.141	0.056	2.510	0.012	0.031	0.253
PF -> APSY	0.090	0.044	2.050	0.041	0.008	0.181
PF -> AS	0.217	0.037	5.913	0.000	0.146	0.293
AL -> APSY -> AS	0.080	0.035	2.263	0.024	0.017	0.147
PF -> APSY -> AS	0.011	0.007	1.565	0.118	0.000	0.026
PF -> AP -> AS	0.023	0.011	2.162	0.031	0.005	0.048
AL -> AP -> AS	0.072	0.020	3.569	0.000	0.035	0.115

The results of the current study have also shown the R square values that show 7.47 per cent variations in athlete satisfaction are due to all the predictors of the study. In addition, 53.0 per cent of variations in athlete psychology are due to the two selected predictors, such as physical fitness and athletic leadership. Finally, 28.6 per cent of variations in athletic performance are due to the two selected predictors such as physical fitness and athletic leadership. These values are mentioned in Table 6.

Table 4.6

Model Fitness Criteria

	R Square	R Square Adjusted
AP	0.286	0.282
APSY	0.530	0.528
AS	0.747	0.744

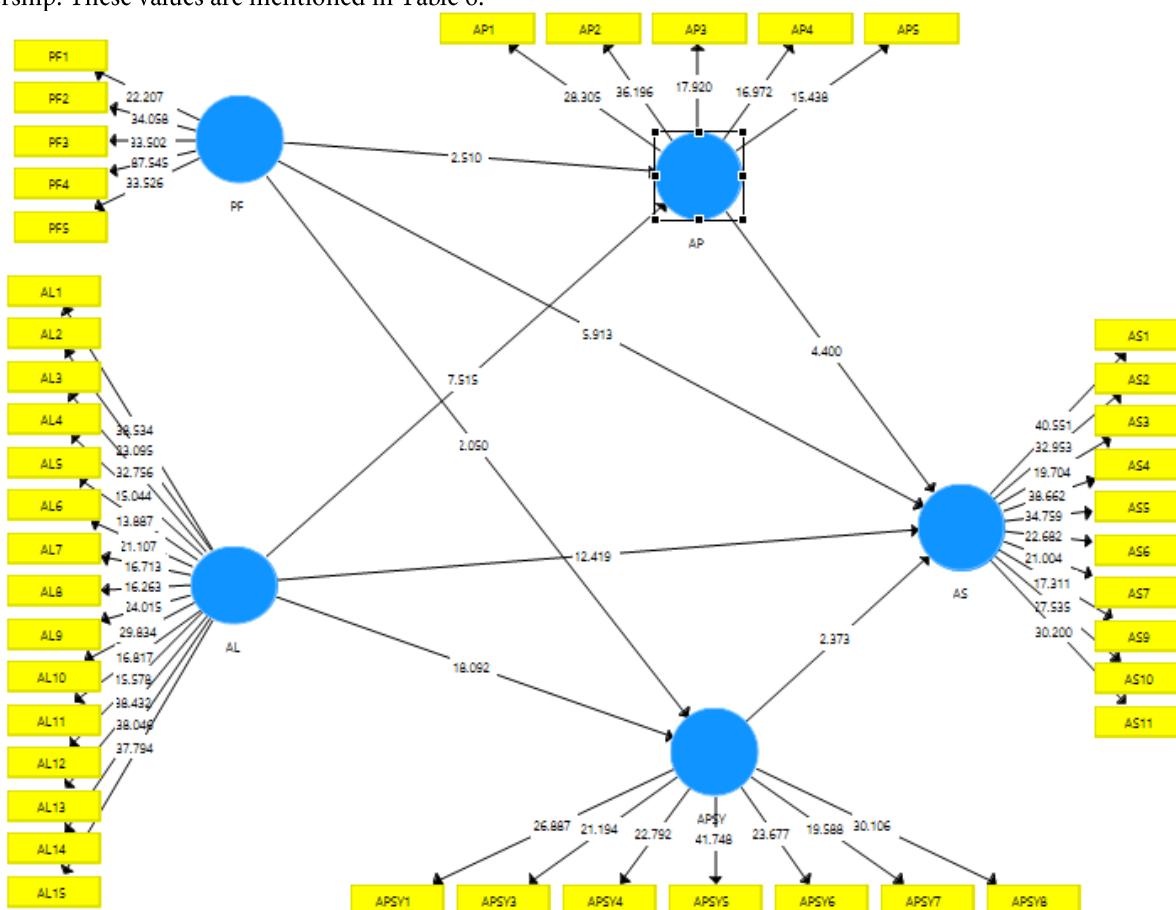


Figure 4. Structural Model Assessment

The current study aim is to analyze the relations between physical fitness, athlete leadership, athletic performance, athletic psychology and athletic satisfaction of sports center in China. This study also examines the mediating role of athletic performance and athletic psychology among the nexus of physical fitness, athlete leadership and athletic satisfaction of sports center in China. The study results have revealed that the physical fitness of the athletes has a positive association with athletic performance. The study suggests that the players who have a high level of physical fitness can perform their athletic duties well as they feel no fatigue after a short practice and thus, can take active participation. These results are in line with the previous study of Książek, Zagrodna, and Słowińska-Lisowska (2019). This study has been conducted to check the drivers of high athletic performance. It concludes that physical fitness has a positive impact on the physical and mental performance of athletes. Thus, they can better focus

on the game during practice or match on the playground. The study results have also indicated that physical fitness has a positive association with athletic psychology. These results are supported by the previous study of Hadiyan and Cosh (2019), which posits that the athletes who take great care of their physical fitness remain healthy, and a healthy body has a sound mind. Physical activeness improves motivation in the athletes to enhance their sports knowledge, get the awareness of the surroundings and necessities of sports a while practicing or playing games in the playground. Physical fitness creates cognitive skills and optimism in the players. Thus, physical fitness improves all aspects of athletes psyche. It has also been indicted by the study results that athletic leadership has a positive relationship with athletic performance. These results are approved by the past study of Shang and Ku (2018), which states that the conduct of athletic leaders has a significant influence on the behaviors and actions of sports team

members. With the adoption of a suitable leadership style, the coaches can create sports capabilities in the athletes and motivate them to focus on the target and perform efficiently in the playground.

The study results have indicated that athletic leadership is positively linked with athletic psychology. These results are in line with the previous study of Simien, Arinze, and McGarry (2019), which shows that when the sports leaders show serious concern towards the team objectives and adopt an effective leadership style to interact with the followers, they can influence their thinking and emotions and make them positive for the game. The results have also represented that athletic performance is linked with athletic satisfaction in a positive manner. These results are supported by the previous study of K. Lee, Kang, and Kim (2017), which implies that when the players perform efficiently in the playground keeping the goals of the game in mind, they feel satisfied. It has also been indicated by the study results that athletic psychology has a positive impact on athletic satisfaction. These results are supported by the past study of Gabana, Steinfeldt, Wong, Chung, and Svetina (2019), which reveals that the positive athletic psyche of the players leads to a high sense of contentment and satisfaction in the players. The results have also revealed that athletic performance plays a mediating role between physical fitness and athletic satisfaction. The literary workout of Xiao Li, Ooi, Zilfalil, and Yusoff (2017) supports these results. This study suggests that athletic performance, which is improved by the physical fitness programs and exercises, results in a high sense of satisfaction in the players. Moreover, the study results have indicated that athletic psychology is an insignificant mediator between physical fitness and athletic satisfaction. These results are approved by the previous study of Bouguezzi et al. (2019), according to which also shows that athletic psychology insignificantly mediates between physical fitness of players and athletic satisfaction. In addition, the study results have indicated that athletic performance is a perfect mediator between athletic leadership and athletic satisfaction. These results are approved by the previous work of Lopez, Dohrn, and Posig (2020), which suggests that under an effective leadership style, the coaches better guide the followers and prepare them to perform efficiently in the playground before and during the match. The efficient performance of the employees improves the level of satisfaction. The study results have also indicated that athletic psychology also plays a mediating role between athletic leadership and athletic satisfaction. These results are supported by the past study of Gomes, Almeida, and Resende (2020), which shows the mediating influences of athletic psychology on the nexus between athletic leadership and athletic satisfaction.

Theoretical and Practical Implications

The study carries theoretical as well as empirical implications. The study has a remarkable theoretical

significance because of its contribution to the literature on sports. This paper analyzed the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction. The nexus between physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction has a significant place in the existent literature. But either the influences of physical fitness or athletic leadership on athletic performance, athletic psychology, and athletic satisfaction have been addressed. Moreover, very few studies have analyzed athletic performance, athletic psychology, and athletic satisfaction at the same time. Thus, the current study is a great contribution to the sports literature as it addresses the role of physical fitness and athletic leadership in improving athletic performance, athletic psychology, and athletic satisfaction. Moreover, this study is a great distinction in the existent literature as it introduces two mediators between physical fitness and athletic leadership and athletic satisfaction at the same time, which are athletic performance, and athletic psychology. In addition, the study has a great empirical significance in an emerging country like China for guiding how to promote sports in the country. This study suggests that athletic performance, athletic psychology, and athletic satisfaction can be improved with good physical fitness and effective athletic leadership.

Conclusion and Limitations

The study was conducted with an aim to ensure the contribution of the physical fitness and athletic leadership in improving athletic performance, athletic psychology, and athletic satisfaction and its aim are also to check the mediating influences of athletic performance and athletic psychology between the physical fitness and athletic leadership and athletic satisfaction. In order to meet these objectives, the study analyzed the influences of physical fitness and athletic leadership on athletic performance, athletic psychology, and athletic satisfaction. It also checks the role of athletic performance and athletic psychology in sports in China. From China's sports, quantitative data for the study was collected. On the basis of this analysis, study results were extracted. These results showed that when the athletes are physically fit, they have improved athletic psychology, and they show good performance while practicing or playing the match in the playground, and thus, they can achieve their goals. The results indicated that when the athletic leaders adopt effective leadership help improve the athletic psychology, and thus, the athletes can show good performance while practicing or playing the match in the playground. When the athletes have a clear idea about the concerned sports steps, tricks, and problem solutions and have the ability to perform better at the spot game, they feel satisfied with their reputation, success, and economic security. When the players have sufficient knowledge and awareness of concern sports and related aspects and have the ability to use this knowledge and capabilities, they have mental satisfaction. The study

results have shown that athletic performance and athletic psychology is improved by physical fitness and effective athletic leadership, and these athletic performance and athletic psychology enhances athletic satisfaction.

Though the study has made both theoretical and empirical implications, it has a certain number of limitations that must be removed in future literature. First, the current study addresses the role of two factors physical fitness, and athletic leadership, in improving athletic performance, athletic psychology, and athletic satisfaction. Many other economic, cultural, and administrative factors also affect athletic performance, athletic psychology, and athletic satisfaction, and they also need deep research. But this

study has not given even a little space to the analysis of influences of these factors on athletic performance, athletic psychology, and athletic satisfaction. In this way, the scope of this study is limited and must be expanded by the scholars in future. Moreover, the study conceptions are supported by the quantitative data collected from a single source like the issuance of questionnaires. The use of a single source to acquire data raises a question of the validity and reliability of the study. In order to remove this question, the researchers and authors who want to extend or replicate this study must apply multiple data collection sources.

References

- Ahmed, M. D., Ho, W. K. Y., Van Niekerk, R. L., Morris, T., Elayaraja, M., Lee, K.-C., & Randles, E. (2017). The self-esteem, goal orientation, and health-related physical fitness of active and inactive adolescent students. *Cogent Psychology*, 4(1), 133-147. doi: <https://doi.org/10.1080/23311908.2017.1331602>
- BaniAsadi, T., & hamid Salehian, M. (2021). The Effect of Psychological Well-being on Athletic Performance of Professional Athletes. *Journal of Applied Psychology & Behavioral Science*, 6(1), 1-20.
- Bouguezzi, R., Chaabene, H., Negra, Y., Moran, J., Sammoud, S., Ramirez-Campillo, R., . . . Hachana, Y. (2019). Effects of jump exercises with and without stretch-shortening cycle actions on components of physical fitness in prepubertal male soccer players. *Sport Sciences for Health*, 13, 1-8. doi: <https://doi.org/10.1007/s11332-019-00605-6>
- Clark, D. R., Lambert, M. I., & Hunter, A. M. (2018). Contemporary perspectives of core stability training for dynamic athletic performance: a survey of athletes, coaches, sports science and sports medicine practitioners. *Sports medicine-open*, 4(1), 1-10. doi: <https://doi.org/10.1186/s40798-018-0150-3>
- Crawford, A., Tripp, D. A., Gierc, M., & Scott, S. (2021). The influence of mental toughness and self-regulation on post-season perceptions in varsity athletes. *Journal of American College Health*, 13, 1-9. doi: <https://doi.org/10.1080/07448481.2021.1920596>
- De Backer, M., Boen, F., Van Puyenbroeck, S., Reynders, B., Van Meervelt, K., & Vande Broek, G. (2021). Should team coaches care about justice? Perceived justice mediates the relation between coaches' autonomy support and athletes' satisfaction and self-rated progression. *International Journal of Sports Science & Coaching*, 16(1), 27-43.
- De Moraes, A. C. F., Vilanova-Campelo, R. C., Torres-Leal, F. L., & Carvalho, H. B. (2019). Is self-reported physical fitness useful for estimating fitness levels in children and adolescents? A reliability and validity study. *Medicina*, 55(6), 1-14. doi: <https://doi.org/10.3390/medicina55060286>
- Eys, M. A., Loughhead, T. M., & Hardy, J. (2007). Athlete leadership dispersion and satisfaction in interactive sport teams. *Psychology of Sport and Exercise*, 8(3), 281-296. doi: <https://doi.org/10.1016/j.psychsport.2006.04.005>
- Fransen, K., McEwan, D., & Sarkar, M. (2020). The impact of identity leadership on team functioning and well-being in team sport: Is psychological safety the missing link? *Psychology of Sport and Exercise*, 51, 101-116.
- Gabana, N. T., Steinfeldt, J., Wong, Y. J., Chung, Y. B., & Svetina, D. (2019). Attitude of gratitude: Exploring the implementation of a gratitude intervention with college athletes. *Journal of Applied Sport Psychology*, 31(3), 273-284. doi: <https://doi.org/10.1080/10413200.2018.1498956>
- Gill, D. L., Reifsteck, E. J., & Madrigal, L. (2021). From Sport Psychology to Sport and Exercise Psychology: A 40-year Update. *Kinesiology Review*, 1, 1-7. doi: <https://doi.org/10.1123/kr.2021-0020>
- Gomes, A. R., Almeida, A., & Resende, R. (2020). Athletes' perception of leadership according to their perceptions of goal achievement and sport results. *Perceptual and motor skills*, 127(2), 415-431. doi: <https://doi.org/10.1177%2F0031512519892384>
- Hadiyan, H., & Cosh, S. (2019). Level of physical and motor fitness post retirement and maintenance of athletic identity within active retired athletes. *Journal of Loss and Trauma*, 24(1), 84-95. doi: <https://doi.org/10.1080/15325024.2018.1540206>
- Hansen, C. F., Jensen, J., Siersma, V., Brodersen, J., Comins, J. D., & Krogsgaard, M. R. (2021). A catalogue of PROMs in sports science: Quality assessment of PROM development and validation. *Scandinavian Journal of Medicine &*

- Science in Sports*, 31(5), 991-998. doi: <https://doi.org/10.1111/sms.13923>
- Hemmings, B., & Povey, L. (2002). Views of chartered physiotherapists on the psychological content of their practice: a preliminary study in the United Kingdom. *British journal of sports medicine*, 36(1), 61-64.
- Huang, H.-C., Lee, P.-Y., Lo, Y.-C., Chen, I., & Hsu, C.-H. (2021). A Study on the Perceived Positive Coaching Leadership, Sports Enthusiasm, and Happiness of Boxing Athletes. *Sustainability*, 13(13), 7199-7212.
- Jowett, S., Shanmugam, V., & Caccoulis, S. (2012). Collective efficacy as a mediator of the association between interpersonal relationships and athlete satisfaction in team sports. *International Journal of Sport and Exercise Psychology*, 10(1), 66-78. doi: <https://doi.org/10.1080/1612197X.2012.645127>
- Kim, M., Do Kim, Y., & Lee, H.-W. (2020). It is time to consider athletes' well-being and performance satisfaction: The roles of authentic leadership and psychological capital. *Sport Management Review*, 23(5), 964-977.
- Kim, M., Oja, B. D., Kim, H. S., & Chin, J.-H. (2020). Developing student-athlete school satisfaction and psychological well-being: The effects of academic psychological capital and engagement. *Journal of Sport Management*, 34(4), 378-390.
- Kim, S., Hong, S., Magnusen, M. J., & Rhee, Y. (2020). Hard knock coaching: A cross-cultural study of the effects of abusive leader behaviors on athlete satisfaction and commitment through interactional justice. *International Journal of Sports Science & Coaching*, 15(5-6), 597-609.
- Książek, A., Zagrodna, A., & Słowińska-Lisowska, M. (2019). Vitamin D, skeletal muscle function and athletic performance in athletes—a narrative review. *Nutrients*, 11(8), 180-196. doi: <https://doi.org/10.3390/nu11081800>
- Lee, K., Kang, S., & Kim, I. (2017). Relationships among stress, burnout, athletic identity, and athlete satisfaction in students at Korea's physical education high schools: Validating differences between pathways according to ego resilience. *Psychological reports*, 120(4), 585-608. doi: <https://doi.org/10.1177%2F0033294117698465>
- Lee, Y. H. (2019). Emotional intelligence, servant leadership, and development goal orientation in athletic directors. *Sport management review*, 22(3), 395-406. doi: <https://doi.org/10.1016/j.smr.2018.05.003>
- Li, X., & Feng, J. (2021). Nation branding through the lens of soccer: Using a sports nation branding framework to explore the case of China. *European Journal of Cultural Studies*, 18, 136-147. doi: <https://doi.org/10.1177%2F13675494211011179>
- Li, X., Ooi, F. K., Zilfalil, B. A., & Yusoff, S. (2017). The influence of angiotensin-converting enzyme gene ID polymorphism on human physical fitness performance in European and other populations. *Sport Sciences for Health*, 13(3), 495-506. doi: <https://doi.org/10.1007/s11332-016-0340-7>
- Liu, D., Zhang, J. J., & Desbordes, M. (2017). Sport business in China: Current state and prospect. *International journal of sports marketing and sponsorship*, 18(1), 2-10. doi: <https://doi.org/10.1108/IJSMS-12-2016-0086>
- Lopez, Y. P., Dohrn, S., & Posig, M. (2020). The effect of abusive leadership by coaches on Division I student-athletes' performance: The moderating role of core self-evaluations. *Sport management review*, 23(1), 130-141. doi: <https://doi.org/10.1016/j.smr.2019.07.001>
- Lovett, E., Bloyce, D., & Smith, A. (2020). Delivering a sports participation legacy from the London 2012 Olympic and Paralympic Games: evidence from sport development workers in Birmingham and their experiences of a double-bind. *Leisure Studies*, 39(5), 659-672. doi: <https://doi.org/10.1080/02614367.2020.1738534>
- Mead, J., Gilson, T. A., & Henning, M. B. (2017). An ethnographic person-centered study of leadership development in high school basketball team captains. *Journal for the Study of Sports and Athletes in Education*, 11(3), 216-241. doi: <https://doi.org/10.1080/19357397.2017.1347598>
- Miller, A. J., Slater, M. J., & Turner, M. J. (2020). Coach identity leadership behaviours are positively associated with athlete resource appraisals: The mediating roles of relational and group identification. *Psychology of Sport and Exercise*, 51, 10-24. doi: <https://doi.org/10.1016/j.psychsport.2020.101755>
- Newman, T. J. (2020). Life skill development and transfer: "They're not just meant for playing sports". *Research on Social Work Practice*, 30(6), 643-657. doi: <https://doi.org/10.1177%2F1049731520903427>
- Nuzzo, J. L. (2020). The case for retiring flexibility as a major component of physical fitness. *Sports Medicine*, 50(5), 853-870. doi: <https://doi.org/10.1007/s40279-019-01248-w>
- Rad, R. S., Hosseini, H. M., & Shirvani, H. (2020). Circadian rhythm effect on military physical fitness and field training: a narrative review. *Sport Sciences for Health*, 5, 1-14. doi: <https://doi.org/10.1007/s11332-020-00692-w>
- Rockhill, C. A., Howe, J. E., & Agyemang, K. J. (2021). Statements Versus Reality: How Multiple Stakeholders Perpetuate Racial Inequality in Intercollegiate Athletic Leadership. *International Journal of Sport Communication*, 1, 1-30.

- doi: <https://doi.org/10.1123/ijsc.2021-0003>
- Ruan, Z., & Liu, W. (2021). Coach authentic leadership connected with performance satisfaction and psychological well-being of team: The mediating role of team cohesion and psychological capital. *Revista de Psicología del Deporte (Journal of Sport Psychology)*, 30(1), 189-203.
- Sarstedt, M., & Cheah, J.-H. (2019). Partial least squares structural equation modeling using SmartPLS: a software review: Springer.
- Shang, I.-W., & Ku, G. C.-M. (2018). How youth athletes satisfy their team? Identifying significant predictors of perceived coach leadership and team cohesion, team commitment: A hierarchical regression analysis. *International Journal of Sports Science & Coaching*, 13(6), 883-890. doi: <https://doi.org/10.1177%2F1747954118801133>
- Simien, E. M., Arinze, N., & McGarry, J. (2019). A Portrait of Marginality in Sport and Education: Toward a Theory of Intersectionality and Raced-Gendered Experiences for Black Female College Athletes. *Journal of Women, Politics & Policy*, 40(3), 409-427. doi: <https://doi.org/10.1080/1554477X.2019.1614865>
- Tamminen, K. A., Sabiston, C. M., & Crocker, P. R. (2019). Perceived esteem support predicts competition appraisals and performance satisfaction among varsity athletes: a test of organizational stressors as moderators. *Journal of Applied Sport Psychology*, 31(1), 27-46. doi: <https://doi.org/10.1080/10413200.2018.1468363>
- Towilson, C., Cobley, S., Parkin, G., & Lovell, R. (2018). When does the influence of maturation on anthropometric and physical fitness characteristics increase and subside? *Scandinavian Journal of Medicine & Science in Sports*, 28(8), 1946-1955. doi: <https://doi.org/10.1111/sms.13198>
- Wood, C. J., Clow, A., Hucklebridge, F., Law, R., & Smyth, N. (2018). Physical fitness and prior physical activity are both associated with less cortisol secretion during psychosocial stress. *Anxiety, Stress, & Coping*, 31(2), 135-145. doi: <https://doi.org/10.1080/10615806.2017.1390083>
- Xu, Q., Fan, M., & Brown, K. A. (2021). Men's sports or women's sports?: Gender norms, sports participation, and media consumption as predictors of sports gender typing in China. *Communication & Sport*, 9(2), 264-286. doi: <https://doi.org/10.1177%2F2167479519860209>
- Zhang, X., Zhou, A., & Ryall, E. (2020). Philosophy of sports in China: an overview of its history and academic research. *Sport, Ethics and Philosophy*, 5, 1-16. doi: <https://doi.org/10.1080/17511321.2020.1801821>
- Zhou, L., Chlebosz, K., Tower, J., & Morris, T. (2020). An exploratory study of motives for participation in extreme sports and physical activity. *Journal of Leisure Research*, 51(1), 56-76. doi: <https://doi.org/10.1080/00222216.2019.1627175>
- Zid, A., Amiruddin, R., Auzair, S. M., & Janor, H. (2021). Comprehensive performance measurement system (CPMS) and satisfaction of Malaysian football players. *Current Psychology*, 7, 1-11. doi: <https://doi.org/10.1007/s12144-021-02004-y>
- Zou, H. (2021). Data Mining and Web Technology-Based Sports Development Strategy Analysis. *Arabian Journal for Science and Engineering*, 6, 1-13. doi: <https://doi.org/10.1007/s13369-021-05892-1>