

The Role of Athletic Psychology, Athlete Engagement in Athletic Performance and Athletes Sports Success in China: Does Coaching Behavior Moderates?

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Abstract

Athletes' sports success is the driving element for the continued success of the sports centers globally and for this reason, has piqued the interest and attention of contemporary scholars and regulators. Thus, the present study investigates into the impact of athletic psychology and athlete engagement on athletic performance and athletic performance impacts on the athletes' sports success of the sports center in China. This study also examines the mediating impact of athletic performance among the nexus of athletic psychology, athlete engagement and athletes' sports success and also explores the moderating role of coaching behavior among the nexus of athletic performance and athletes' sports success. Questionnaires are used to gather the data, and smart-PLS has been used to test the relations among variables. The results have shown that athletic psychology and athlete engagement have a positive association with athletic performance and athletic performance has a positive association with athletes' sports success of the sports centers in China. The results also indicate that athletic performance significantly mediates among the nexus of athletic psychology, athlete engagement and athletes' sports success while coaching behavior significantly moderates among the nexus of athletic performance and athlete's sports success.

Keywords: athletic psychology, athlete engagement, athletic performance, athletes' sports success, a sports center in China.

Introduction

Sports are extremely important for any country. Sports are played on a variety of levels, including institutional (school), regional, national, and international levels. Sports have value on different levels including socially, economically, physically etc. Sports have emerged as a crucial source of impetus for a country's socio-economic development. Active engagement in sports increases the health of the population and productivity while also lowering stress levels among individuals. Active participation inculcates determination, discipline, and endurance in character which foster leadership qualities and increases social integration (Thomas, Gastin, Abbott, & Main, 2021; Zou, 2021). Regular sports activities are helpful in overcoming prolonged diseases, maintaining a healthy cardiovascular system, strengthens muscles and bones and brings about an improvement in lung functions. Sports activities help manage diabetes, weight loss, increase blood circulation, and management of stress levels. Sports have come to represent an enormous business, both on a national and international level with an impact on economic, political, and cultural aspects of countries around the world. Sports, especially in politics, have the ability to create soft channels of diplomacy. Athletic psychology and athlete engagement are the two major elements that determine the athlete's sports level of success and progress sports (Hansen et al., 2021; Kim, Oja, Kim, & Chin, 2020). Sports psychology, in other words, the knowledge and awareness of all the economic, developmental, and social aspects of sports, determine

the performance of athletes and the progress of the sport. The athletes' engagement in sports activities enhances the knowledge and abilities in athletes and thus, improves their performance and leads them towards success (Chiu, Hui, Won, & Bae, 2020; Newman, 2020).

Incorporating sports activities and physical education in schools and universities can produce healthy, fit, and motivated students who are a source of earnings both for local and government entities. In addition to its health benefits at an individual level, sports are a source of recognition for countries and provide international and regional forums for cultural exchange. Therefore, a country must promote its sports at the domestic, regional, and international levels. The sports are promoted at an institutional level domestically due to its significance. Athletic psychology and athletes' engagement help improve athletes' performance and athletes' sports progress (Zhou, Chlebosz, Tower, and Morris (2020)). Hence, it is necessary that researchers and scholars pay attention to the role of factors like athletic psychology and athletes' engagement in improving athletes' performance and athletes' sports progress. Thus, our study is aimed at examining the influences of athletic psychology and athletes' engagement on athletes' performance and athletes' sports progress. Another objective of the study is to analyze the impact of coaching behavior on athletes' performance and athletes' sports progress as well as to gauge the influence of coaching behaviors on the association between athletes' performance and athletes' sports progress (Chen, J., & Talha, M. 2021).

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The efforts of the current study towards exploring the influence of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress is an excellent contribution to the existing body of literature. Several studies have already dealt with the influences of athletic psychology and athletes' engagement on athletes' performance and athletes' sports progress. However, there is a difference; most of these studies have addressed either the influence of athletic psychology or the influence of athletes' engagement on athletes' performance and athletes' sports progress. A limited number of studies have addressed the contribution of both athletic psychology and athletes' engagement in improving the athletes' performance and athletes' sports progress. Thus, our study is an extension to existing literature as it throws light on the role of athletic psychology and athletes' engagement in bringing improvement in the athletes' performance and athletes' sports progress simultaneously. Moreover, our study seeks to introduce both, a mediator like athletes' performance between athletic psychology, athletes' engagement and athletes' sports progress, and a moderator like coaching behavior between athletes' performance and the athletes' sports progress. This study is pioneer effort of its kind to explore the role and impact of both, athletes' performance as mediator and coaching behavior as a moderator has been used here. Thus, our study represents a distinct contribution to the existing body of knowledge.

The primary aim of the study is to examine the influences of athletic psychology and athletic engagement on athletes' performance and athletes' sports progress in China. China is an emerging global superpower and an upper-middle-income country/economy. China is home to one of the world's oldest cultures, and the Chinese people have long practiced athletics in some form or another. Swordplay, archery, and a local version of soccer have all been traditionally practiced in China. Chinese athletes are now well-known for their martial art skills (Lovett, Bloyce, & Smith, 2020). However, after a long period of isolation from the rest of the world, the Chinese culture has begun to open to the rest of the globe. They have moved from basketball to snooker. Physical fitness is traditionally considered important in Chinese culture. Currently in China, there are many fitness clubs and commercial gyms in operation. This health and fitness-related awareness is also reflected in the number of cyclists in China is enormous; as of 2012, there are more than 470 million bicycles in use in China. The long survey by Zhang, Zhou, and Ryall (2020) proves that basketball is the most desirable game for the youth in China. The majority of the NBA's belong to China's native or have Chinese blood in their veins. Jeremy Lin and Yao Ming are the most revered athletes in China. They have participated in several Olympics Games, along with winter and summer games, from the period after 1932. Yao Ming and Jeremy Lin have been the

hosts for the summer Olympics in Beijing in 2008, where they got fifty-one gold medals, the greatest number of medals that hardly any other country had been awarded.

In the same year of 2008, Yao Ming and Jeremy Lin won a total of one hundred medals, the largest number of medals they had ever taken in history in any Olympic game since 1932 when they joined the game for the first time. Winter Olympics are expected to be played in Beijing in China in 2022. In China, the most popular sports are football (soccer), basketball, table tennis, swimming, badminton, Wushu, and volleyball. Besides this, the popular regional sports in China are cuju, jianzi, pinball, Quan, Zuo, wushu, sanda/sanshou, and beikou tarkbei. Well-known athletes from China include Yao Ming (basketball), Zhang Lian-Wei (Golf), Liu Xiang (hurdles, track & field), Deng Yaping (table tennis), and Li Na (tennis) (D. Liu, Zhang, & Desbordes, 2017). China's sports sector or field is well-known around the world. Because of its global fame, the study chose China's sports sector to investigate the effects of athletic psychology and athlete engagement on athletic engagement and athletes' sports success. Despite the high progress and expansion of the sports sector, China's government is still attentive to development in its games, for these games are also a big source of revenue for both, public and private entities (Xu, Fan, & Brown, 2021). In this situation, our study would be a guideline for sports teams and sports management as it can help them enhance the athletes' performance and athletes sports progress with efficient athletic psychology, influential athletes' engagement, and suitable coaching behavior.

In the next portion, the study throws light on the arguments made by leading scholars regarding the influences of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress and the impact of coaching on the mutual association between athletes' performance and athletes' sports progress in sports programs in China. Then, the third portion elaborates the methodology applied to bring together the quantitative data related to athletic psychology, athletes' engagement, the athletes' performance, coaching behavior, and athletes' sports progress from among athletes associated with the field of sports in China. In the fourth portion, the results of the study are stated and described. At last, through an appropriate discussion and implications, the study results are approved, and research design and scope limitations are identified for the benefit of future scholars and practioners.

Review of the Literature

Sports play a crucial role in developing a country at institutional, social, economic, political, and national levels. Sports are helpful in building a talented nation, achieving fame, and gaining a better position among the countries across the world. Growth of the sports sector not only benefits culture and nation-building,

but it also provides a significant source of revenue for both athletes and governments as it is a source of foreign exchange. Several elements influence the players' physical and mental performance in sports, including government sanctions, economic conditions, athletic psychology and participation in athletic activities X. Li and Feng (2021). Our study examines the influences of athletic psychology and athletes' engagement on athletes' performance and athletes' sports progress and the influence of coaching on the mutual association between athletes' performance and athletes' sports progress. There are several studies that have addressed the influences of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress and the coaching's influence on athletes' performance and athletes' sports progress. Different authors have presented different views about the relationship among athletic psychology, athletes' engagement, athletes' performance, athletes' sports progress, and coaching behavior. Some of these literary arguments are cited below:

The literary work of Moore and Bonagura (2017) throws light on some of the main drivers of sports success, elaborating that good athletic psychology affects the players' decision, their physical abilities, and their actions during training and matches. Thus, good athletic psychology is a helpful tool in improving the overall performance of the athlete on the playground. Athletic psychology is the awareness of the requirements of the sport, including the technical, developmental, economic, health-related, and social aspects of sports. Athletic psychology is the knowledge of sports and the skills to use that knowledge to decide which steps should be taken to play the game efficiently and successfully. Athletic psychology holds relevance for athletes, team leaders, or some special person serving as a professional athletic psychologist. Athletes' individual thinking, their sports-related knowledge and awareness about the game's standards, requirements, success opportunities and its social and developmental aspects prove to be a guideline for them while making any decision about their movement, action, and attention, both, during practice when they are learning and during the match to gain competitive advantage (Purcell, Gwyther, & Rice, 2019). The leaders' athletic psyche is particularly influential during the training of players and during practice matches. Learning through training and practice is critical to game success as this learning affects the athletes' thinking, their decision making, and their actions while performing in an actual match. Therefore, if the leaders have a positive athletic psyche, they can better guide and teach the followers and can have extract performance results from them. Similarly, the study conducted by Schinke, Stambulova, Si, and Moore (2018), about the progress of sports, posits that hiring the services of a professional athletic psychologist proves to contribute to the performance of athletes in

the match, for the professional athletic psychologist has comprehensive sports-related knowledge including knowledge of all risks and opportunities, and for this reason, he can understand the psyche of the athletes and can guide them accordingly. Based on the above discussion, this study proposes the following:

H1: Athletic psychology has a positive association with athletes' performance.

In case there is positive athletes' engagement, there is a good communication network among the athletes, proper understanding, and commitment. An effective communication network among team players gives rise to novel playing and effective ideas and improves the decision making on the part of each player, both, at the time of practice and during matches in the playground. Sound decision making on the part of athletes at the right time has a positive impact on the performance of individual athletes in the playground, and this decision making is shown to be the ultimate result of positive engagement Halson (2019). When the players are positively engaged in athletic activities, they have positive interaction with one other, and in this way, there develops a strong social bond among the players. In this favorable social environment, they feel easy to learn as they may have assistance from partner players out of their experience and intelligence. This assistance during training and practice positively contributes to the particular players' knowledge and skillset; thus, assistance under positive athletic engagement improves the players' performance (Fawver et al., 2020). When the players show consistent and positive engagement in athletic activities, and follow the instruction provided by the team leader, there develops a trustful and cooperative relationship between the leader and the players (Shan, J., & Talha, M. 2021). In this situation, the leader has an emotional attachment with followers. Thus, he or she tries to the best of their knowledge and abilities to guide and train the players effectively so that they are well equipped to face the rival team during the match. The consistent support from their leaders improves the abilities of athletes and is a source of psychological and emotional support to players. Thus, they are better able to focus on the target and struggle in the right way to achieve these targets. Hence, the effective engagement of players in athletic activities ultimately improves athletes' performance in the playground, both, during training and matches (Soulliard, Kauffman, Fitterman-Harris, Perry, & Ross, 2019). Based on the above arguments, the study proposes the following hypothesis:

H2: Athletes' engagement has a positive association with athletes' performance.

According to the literary work of Patatas, De Bosscher, Derom, and De Rycke (2020), it is the athletes' performance during training classes, practices and matches, as played out in different time periods at different platforms that will determine their progress

in the sports. For the athletes' sports progress, good performance on the part of athletes' and consistency in this performance over time is required. The athletes' thinking, their abilities and skills, their effective decision making, and their actions determine their performance during practice and matches. Consistency in this performance leads to consistent progress in sports. The study by Boccia et al. (2019) analyses the indicators of sports progress and makes a comparison of a number of athletes who are associated with different types of sports. This study provides an in-depth look at their struggle in their professional athletic life and thus, analyzes their performance. After making comparisons and further analysis of the data, the study concludes that some athletes have been showing efficient performance consistently during different practices, tests, and final matches over a period. These athletes have proved themselves at different platforms and have been making rapid progress in their game. According to this analysis, some athletes at the start of their profession kept on struggling. They also kept on delivering high quality performances. Based on this effective performance, they won fame and made progress to some extent. However, at some point in their profession, they began to give up on their struggle and lost their drive for innovation in terms of their decisions and actions, resulting in them delivering low quality or weak performances. Consequently, they moved backwards in the way of sports progress. The renowned scholar Den Hartigh, Niessen, Frencken, and Meijer (2018), in a well-known academic article, argues that after making a long observation, he has come to the conclusion that athletes who show efficient performance and ensure that it is consistent enjoy high and consistent sports progress. Whereas athletes who are inconsistent in their athletic performance do not make sustainable sports progress and are soon exposed to failure. Hence, we can postulate the following:

H3: Athletes' performance has a positive association with athletes' sports success.

Athletic psychology is the knowledge & awareness of all economic, developmental, and social aspects of sports. Athletic psychology is also the ability to use sports-related knowledge, awareness, and cognitive skills to understand the requirements and characteristics of the games. A positive athletic psychology on the part of athletes, sports leaders, or professional athletic psychologists enhances the athletes' performance during the training sessions, practice, and match at different platforms over a specific period. Enhanced and consistent performance of athletes over time enables them to achieve higher levels of progress and brings sustainability in performance. Kim, Do Kim, and Lee (2020), argue that if athletes show positive thinking about the sports, have sufficient knowledge, and acquire proper skills to

use that knowledge while attending the training sessions and games, they can improve their performance and achieve their goals. In this way, they can keep their performance sustainable over time and achieve a high degree of sustainable sports progress. According to the views of Vink and Raudsepp (2018), athletes' engagement in sports activities in the playground at the time of training and matches affects their thinking, knowledge, decisions, and actions. Thus, effective athletes' engagement leads to higher athletic performance and helps the athletes to reach higher levels of performance and rate of sports progress, while develop a certain level of sustainability in the athletes' individual progress trajectory. Effective athletes' engagement leads to an effective communication network among the athletes, proper understanding, and commitment. An effective communication network brings innovation and novelty in terms of the tips and tricks of the sport; understanding leads to social and emotional support, while commitment brings a sense of honesty, sense of responsibility, and work devotion among the athletes. This leads to an improvement in the athletes' performance and enables them to set a high level of sports progress Balk, de Jonge, Geurts, and Oerlemans (2019). Based on the above literary arguments, it can be deduced:

H4: Athletes' performance plays a mediating role between athletic psychology and athletes' sports success.

H5: Athletes' performance plays a mediating role between the athletes' engagement and athletes' sports success.

The behavior of the coach towards team members, the standards of sports, change in the standards of the sport, and the actions of players from rival teams influences the athletes' performance (thinking, conduct, decisions, and actions) in the playground at different platforms in different time periods as well as the progress of the sport on the part of individual athletes. The coaching behavior in sports determines the degree of influence of athletes' performance on driving the athletes' sports progress. When the coach adopts a positive behavior (behavior which is influential, supportive and friendly) towards the team member while guiding or instructing them, he can help shape the intentions, decisions, and actions of the athletes according to his own will (Wasend & LaVoi, 2019). A coach who himself participates in athletic activities along with simple instructions or gives importance to the needs of athletes could influence the decisions and actions of athletes and thus, has the power to improve the athletes' performance. Coach's behavior is connected with his knowledge, skills, and personality characteristics; thus, when the coach interacts with, guides or instructs the followers or players, he contributes to athletes' knowledge, experience, and quality of performance (Forlenza,

Pierce, Vealey, & Mackersie, 2018). The athletes' performance which is determined by their thinking, knowledge, skills, and choices, determines the level of athletes' sports progress. If the players keep on struggling consistently, they are able to deliver a high level of performance which is affected by the coach's positive behavior and helps develops sustainability in their performance, resulting in sports progress (Eastabrook & Collins, 2020). Thus, it can be hypothesized:

H6: Coaching behavior plays moderating role between athletes' performance and athletes' sports success.

Research Methods

This research investigates the impact of athletic psychology and athlete engagement on athletic performance and athletic performance impact on athletes' sports success. In addition, this research also examines the mediating impact of athletic performance among the nexus of athletic psychology, athlete engagement and athletes' sports success as well as the moderating role of coaching behavior among the nexus of athletic performance and athletes' sports success. The questionnaires were used to gather the data, and these questionnaires are adapted from the previous studies, for instance, the eight items scale of athletic psychology (APSY) was adopted from the study of Hemmings and Povey (2002) while sixteen items scale for athlete engagement (AE) has been adopted from Hodge, Lonsdale, and Jackson (2009). In addition, five

items scale of athlete performance (AP) has been taken from BaniAsadi and hamid Salehian (2021), while seven items scale of coaching behavior (CB) has been taken from Allen and Howe (1998) and twelve items scale of athletes' sports success (ASS) has been adopted from the study of Kajbafnezhad, Ahadi, Heidarie, Askari, and Enayati (2011).

These questionnaires were sent to individual respondents that are selected from the sports center of China. This study has collected data from the top 20 sports centers according to their strengths and facilities. Approximately 1100 total population were estimated in these sports centers because only registered candidate was selected using a simple random sampling technique. Thus, a total of 410 questionnaires were administered through personal visit and only 290 questionnaires were received which represents a 70.73 per cent response rate. This study has used the smart-PLS to test the relations among variables as well as to test the validity of the items and constructs. The smart-PLS is an effective statistical tool that provides the best estimation in the case of the complex model (Sarstedt & Cheah, 2019) used by the current study. This research has taken two predictors i.e. athletic psychology (APSY) and athlete engagement (AE), while athletes' sports success (ASS) has been used as a dependent variable. In addition, the present study has also taken athletic performance (AP) as the mediating variable while coaching behavior (CB) has been used as a moderating variable. These variables are diagrammatically represented in Figure 1.

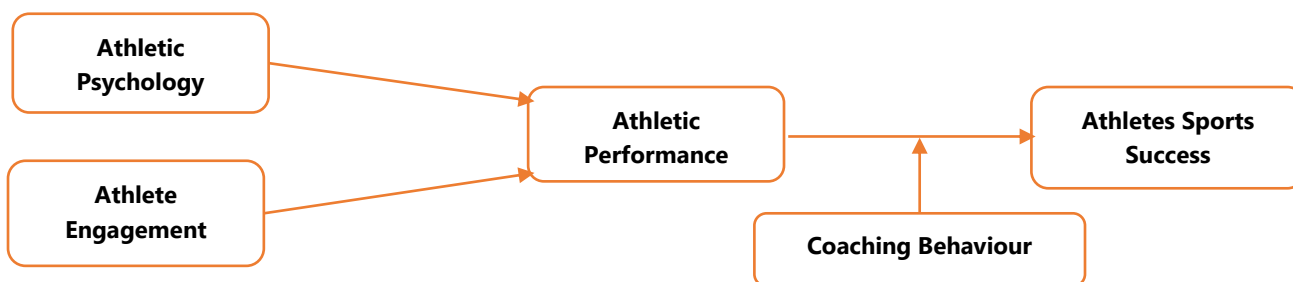


Figure 1: Theoretical framework

Study Findings

This study checked convergent validity to examine the correlation between the items of the variables. The results indicated that the values of loadings are not

lower than 0.40 while AVE values are more than 0.50. In addition, the results also show that the values of composite reliability (CR) and Alpha are more than 0.70. These values show a high correlation between items. Table 1 depicts these values.

Table 1

Convergent Validity

Constructs	Items	Loadings	Alpha	CR	AVE
Athlete Engagement	AE1	0.489	0.945	0.946	0.555
	AE10	0.884			
	AE11	0.474			
	AE12	0.561			
	AE13	0.889			
	AE14	0.906			
	AE16	0.884			
AE2	0.567				

	AE3	0.461			
	AE4	0.888			
	AE5	0.902			
	AE6	0.561			
	AE7	0.892			
	AE8	0.904			
	AE9	0.560			
Athletic Performance	AP1	0.982	0.965	0.974	0.884
	AP2	0.754			
	AP3	0.981			
	AP4	0.981			
Athletic Psychology	AP5	0.982			
	APSY1	0.792	0.905	0.923	0.599
	APSY2	0.816			
	APSY3	0.751			
	APSY4	0.767			
	APSY5	0.819			
	APSY6	0.753			
	APSY7	0.715			
Athletes Sports Success	APSY8	0.776			
	ASS1	0.568	0.920	0.934	0.588
	ASS10	0.817			
	ASS11	0.804			
	ASS12	0.790			
	ASS2	0.769			
	ASS4	0.840			
	ASS5	0.644			
	ASS6	0.807			
	ASS8	0.801			
Coaching Behavior	ASS9	0.784			
	CB1	0.832	0.938	0.950	0.730
	CB2	0.861			
	CB3	0.856			
	CB4	0.821			
	CB5	0.874			
	CB6	0.874			
	CB7	0.862			

This study check discriminant validity to examine the correlation between the variables. Firstly, cross-loadings and Fornell Larcker are used, and the results indicate that values that show the nexus with the **Table 2**

variable itself are larger than the values that show the nexus with other variables. These values show a low correlation between variables. Table 2 and Table 3 depict these values.

Fornell Larcker

	AE	AP	APSY	ASS	CB
AE	0.745				
AP	0.481	0.940			
APSY	-0.141	0.027	0.774		
ASS	0.455	0.488	-0.154	0.767	
CB	0.579	0.381	-0.113	0.415	0.854

Table 3

Cross-loadings

	AE	AP	APSY	ASS	CB
AE1	0.789	0.209	-0.048	0.173	0.619
AE10	0.884	0.464	-0.081	0.455	0.375
AE11	0.774	0.195	-0.075	0.150	0.622
AE12	0.761	0.176	-0.099	0.183	0.667
AE13	0.889	0.459	-0.154	0.420	0.392
AE14	0.906	0.446	-0.110	0.432	0.420
AE16	0.884	0.460	-0.084	0.453	0.375

AE2	0.767	0.187	-0.097	0.187	0.669
AE3	0.761	0.156	-0.115	0.160	0.589
AE4	0.888	0.455	-0.162	0.413	0.399
AE5	0.902	0.438	-0.110	0.410	0.428
AE6	0.761	0.168	-0.101	0.166	0.660
AE7	0.892	0.464	-0.155	0.421	0.394
AE8	0.904	0.450	-0.105	0.436	0.417
AE9	0.560	0.174	-0.105	0.176	0.671
AP1	0.450	0.982	0.029	0.455	0.345
AP2	0.450	0.754	0.012	0.472	0.393
AP3	0.449	0.981	0.028	0.459	0.348
AP4	0.454	0.981	0.027	0.447	0.349
AP5	0.447	0.982	0.029	0.448	0.345
APSY1	-0.127	0.012	0.792	-0.167	-0.118
APSY2	-0.078	0.047	0.816	-0.090	-0.066
APSY3	-0.095	0.002	0.751	-0.118	-0.127
APSY4	-0.113	0.026	0.767	-0.092	-0.074
APSY5	-0.085	0.052	0.819	-0.096	-0.074
APSY6	-0.166	-0.010	0.753	-0.131	-0.127
APSY7	-0.048	0.044	0.715	-0.073	-0.049
APSY8	-0.119	0.016	0.776	-0.134	-0.038
ASS1	0.316	0.264	-0.102	0.568	0.194
ASS10	0.341	0.392	-0.157	0.817	0.344
ASS11	0.292	0.365	-0.118	0.804	0.314
ASS12	0.385	0.489	-0.080	0.790	0.334
ASS2	0.419	0.437	-0.155	0.769	0.372
ASS4	0.349	0.388	-0.105	0.840	0.353
ASS5	0.319	0.240	-0.102	0.644	0.238
ASS6	0.403	0.366	-0.155	0.807	0.330
ASS8	0.313	0.382	-0.064	0.801	0.303
ASS9	0.330	0.345	-0.132	0.784	0.350
CB1	0.480	0.275	-0.100	0.345	0.832
CB2	0.501	0.326	-0.101	0.348	0.861
CB3	0.474	0.290	-0.121	0.332	0.856
CB4	0.514	0.336	-0.063	0.304	0.821
CB5	0.508	0.337	-0.104	0.320	0.874
CB6	0.501	0.348	-0.100	0.382	0.874
CB7	0.491	0.357	-0.086	0.424	0.862

Secondly, Heterotrait Monotrait (HTMT) ratios are used to test discriminant validity, and the results indicate that the values of HTMT ratios are lower than

0.85. These values show a low correlation between variables. Table 4 illustrates these values.

Table 4

Heterotrait Monotrait ratio

	AE	AP	APSY	ASS	CB
AE					
AP	0.455				
APSY	0.147	0.040			
ASS	0.440	0.510	0.161		
CB	0.728	0.398	0.118	0.437	

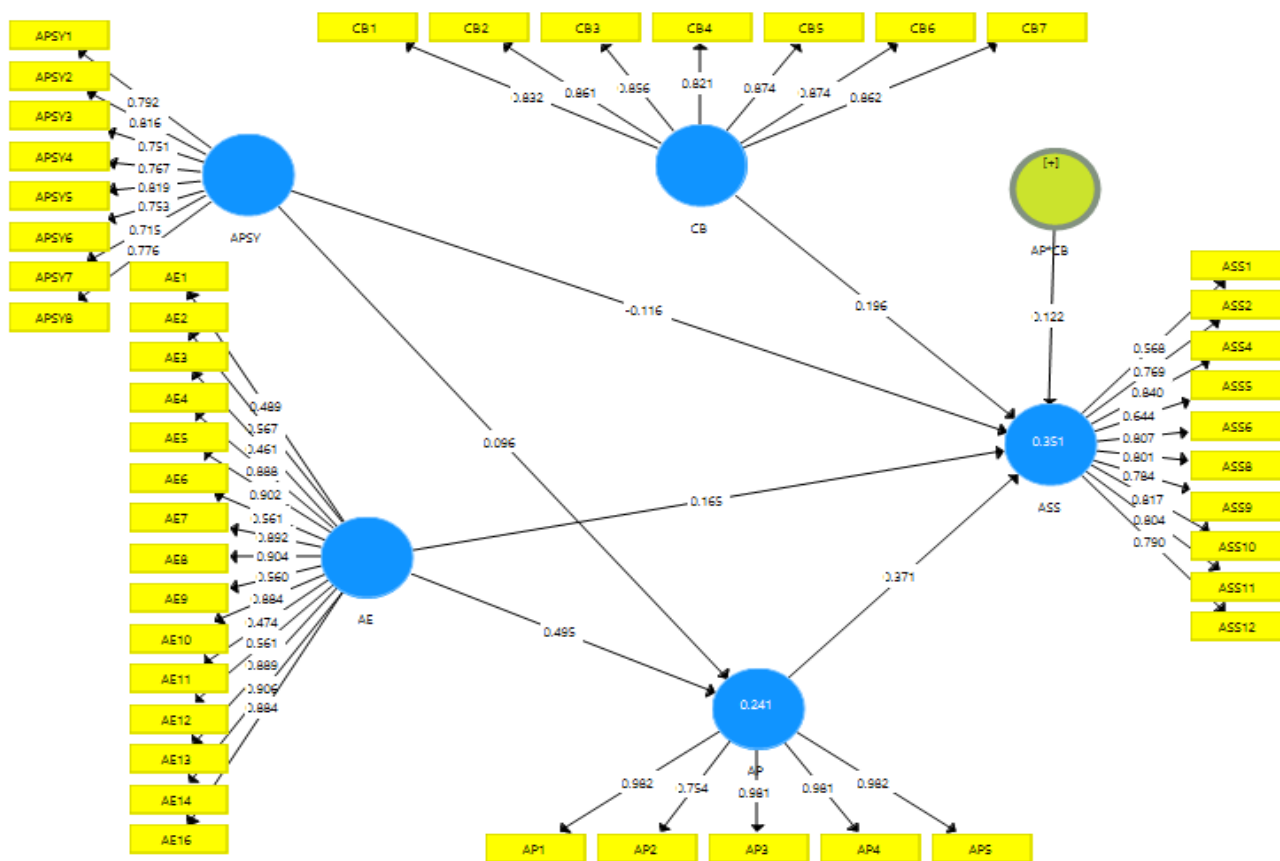


Figure 2: Measurement model assessment

The results of path analysis indicate the nexus among the constructs, and the results have shown that athletic psychology and athlete engagement have a positive association with athletic performance and therefore, the

study accept H1 and H2. At the same time, the athletic performance also has a positive association with athletes' sports success of the sports center in China and therefore, the study accepts H3. These values are presented in Table 5.

Table 5

Direct relationships

Relationships	Beta	S.D.	T. Statistics	P Values	L.L.	U.L.
AE -> AP	0.495	0.048	10.274	0.000	0.409	0.561
AE -> ASS	0.165	0.079	2.087	0.020	0.036	0.282
AP -> ASS	0.371	0.057	6.458	0.000	0.252	0.449
APSY -> AP	0.096	0.056	1.711	0.045	0.007	0.183
APSY -> ASS	-0.116	0.058	2.009	0.024	-0.225	-0.030
CB -> ASS	0.196	0.080	2.441	0.008	0.041	0.329

The results also indicate that athletic performance significantly mediates among the nexus of athletic psychology, athlete engagement and athletes' sports success and therefore lead us to accept H4 and H5. In addition, the results also reveal that coaching behavior

significantly moderates among the nexus of athletic performance and athlete's sports success and therefore, the study accepts H6. These values are shown in Table 6.

Table 6

Indirect relationships

Relationships	Beta	S.D.	T. Statistics	P Values	L.L.	U.L.
AE -> AP -> ASS	0.183	0.034	5.397	0.000	0.124	0.236

APSY -> AP -> ASS	0.036	0.021	1.706	0.046	0.002	0.071
AP*CB -> ASS	0.122	0.056	2.169	0.016	0.014	0.207

The results of the R square value indicate that there are 24.1 per cent variations in athlete performance due to athletic psychology and athlete engagement. In addition, the R square values have also indicated that

there are 35.1 per cent variations in athletes' sports success due to all the predictors of the study. These values are shown in Table 7.

Table 7

R Square

	R Square	R Square Adjusted
AP	0.241	0.235
ASS	0.351	0.340

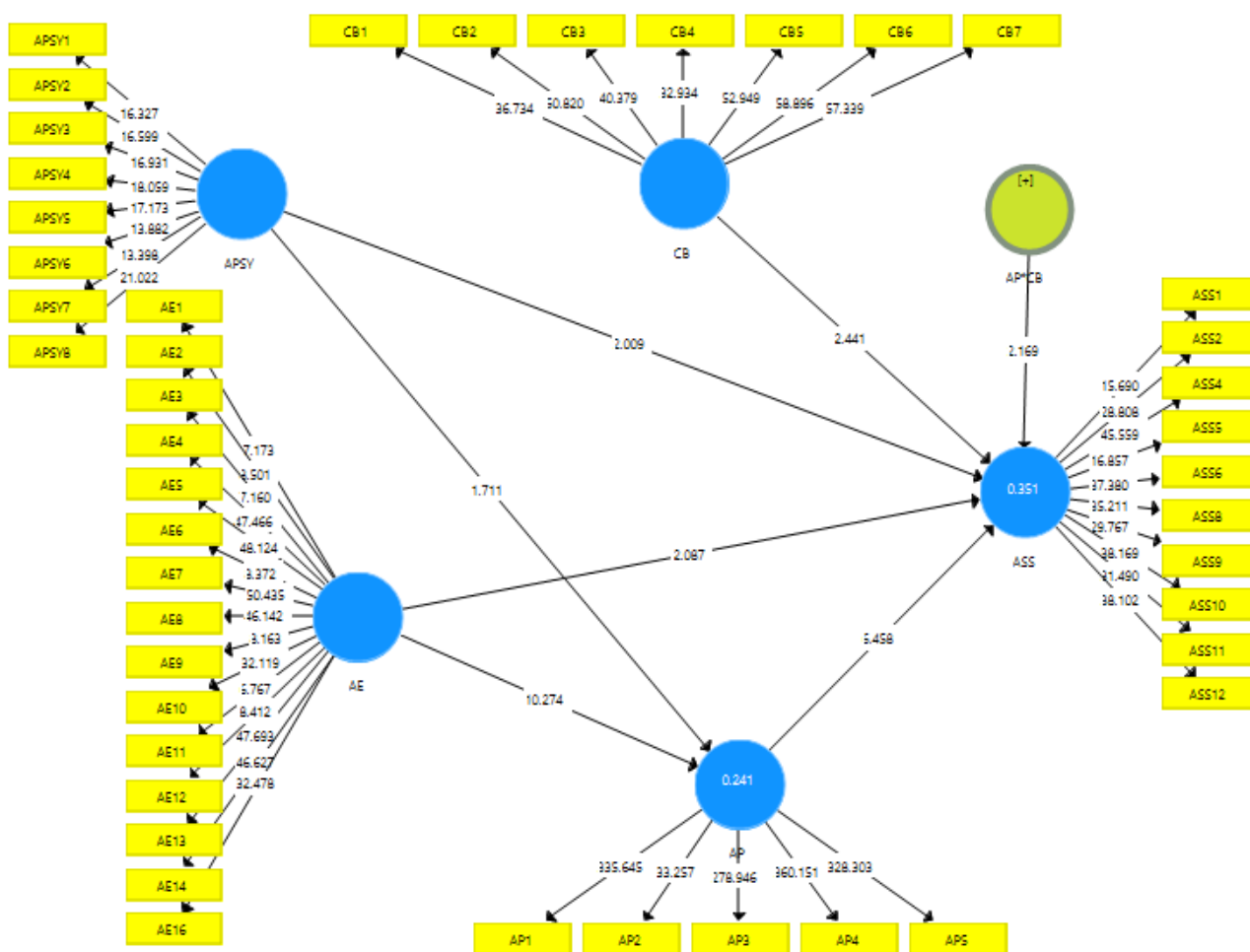


Figure 3: Structural model assessment

Discussions of the Findings

The present study investigates into the impact of athletic psychology and athlete engagement on athletic performance and athletic performance's impact on the athletes' sports success of sports centers in China. This study also examines the mediating impact of athletic performance among the nexus of athletic psychology, athlete engagement and athletes' sports success while also investigating the moderating role of coaching behavior among the nexus of athletic performance and athletes' sports success. The study results indicate that

athletic psychology has a positive association with athletic performance. The study implies that a positive athletic psychology on the part of players, coach or professional psychologist improves the athletes' knowledge, choices, and activities. Thus, positive psychology brings about an improvement in the athletes' performance. These results are in line with the previous study of Wood, Barker, Turner, and Sheffield (2018), which indicates that when the athletes have positive sufficient knowledge and awareness of sports and the skills to use that knowledge and awareness to improve the developmental and social aspects of

sports, they are steered towards progress as a positive athletic psychology improves the athletes' performance. These results are also in line with the past study of Rice et al. (2020), which elaborates that sports psychology determines the athletes' thinking, decisions, and activities; thus, positive athletic psychology can improve athletes' performance on the playground. The study results also indicate that athletic engagement has a significant positive impact on athletic performance. These results are supported by the past study of Kim, Oja, et al. (2020), which has been conducted to analyze the various factors affecting the development of the sport.

This study concludes that when the players are performing their activities while showing honesty and responsibility, it results in an improvement and acceleration in their performance. These results are also in line with the previous study of McDowell, Huang, and Caza (2018), according to which the consistent and focal engagement of players in athletic activities enhances their knowledge, experience and improves their performance. Hence, positive, and consistent athletic engagement improves athletes' performance. Moreover, the study results reveal that the athletes' performance has a significant positive impact on athletes' sports success. These results are approved by the past investigation of McElveen and Ibele (2019), on sports development in an emerging country. This study suggests that athletes who have dynamic athletic abilities show excellent performance in games at different platforms and make their performance consistent, which in turn, successfully results in sports progress. These results are also in line with the past study of P. Li, De Bosscher, Pion, Weissensteiner, and Vertonghen (2018), which states that it is through positivity and consistency in the athletes' performance that he or she can achieve a superior position among competitors during a match.

The study results show that athletes' performance is a significant mediator between athletic psychology and athletes' sports success. These results are approved by the previous study of Houlberg, Wang, Qi, and Nelson (2018), which highlights that athletes' performance is improved by a positive athletic psychology on the part of players or coaches and this improved performance determines the level of athletes' sports success. These results are also supported by the past study of X. Liu et al. (2019), which elaborates that athletic psychology, if it is positive, improves the individual's playing skills and improves athletic performance, and a consistently high performance leads them to success. Moreover, the study results show that athletic performance is a significant mediator between athletic engagement and athletes' sports success. These results are in line with the past study of Doyle, Su, and Kunkel (2020), which has also shown the mediating influences of athletes' performance on the association between athletic engagement and athletes' sports success. The study results also indicate that coaching behavior is a

significant moderator between athletes' performance and athletes' sports success. These results are in line with the previous study of Connolly (2017), according to which positive coaching behavior improves both, athletes' performance and the athletes sport success, as well as the association between athletes' performance and athlete's sports success.

Theoretical Implications

The current study carries theoretical significance because of its remarkable contribution to existing literature on sports development. The study gives a detailed description of two significant sports-related factors i.e. athletic psychology and athletes' engagement and analyzes their impact on the athletes' performance and athletes' sports progress. In the past, many studies have studied the influences of athletic psychology and athletes' engagement on athletes' performance and athletes' sports progress. However, most of these studies have either not given such detailed attention to these factors, or they have described the influences of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress separately. However, a small number of studies have discussed the impacts of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress at the same time. Thus, with the analysis of the impact of athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress within a single research framework, the current study makes a distinctive position in the literature. The current study has introduced athletes' performance as a mediator between athletic psychology, athletes' engagement and athletes' sports progress, and coaching behavior as a moderator between the athletes' performance and athletes' sports progress at the same time. Having presented both athletes' performance and coaching behavior as mediator and moderator respectively, the study makes an outstanding contribution to the existing body of literature on the subject; hitherto, no study is available which has presented both athletes' performance and coaching behavior as mediator and moderator simultaneously.

Empirical Implications

Along with its theoretical significance, the current study also has empirical implications. Particularly so for emerging countries like China because it guides sports management and sports teams on how to enhance athletes' sports progress. The study suggests that athletes' sports progress is enhanced with improved athletic psychology. Similarly, the study implies that through improved athletes' engagement in sports activities, the athletes' sports progress can be increased. The study throws light on the mediating role of athletes' performance between athletic psychology and athletes' sports progress. Thus, the study clarifies how athletes' sports progress can be improved if the

athletic psychology and athletes' engagement can improve the athletes' performance. Moreover, the study suggests that in case the coach shows positive and supportive behavior towards team members under his or her guidance, the players' athletic performance and athletes' sports progress are improved, and in this situation, the athletes' enhanced performance can lead to a fast increase in the athletes' sports progress.

Conclusion

The purpose behind conducting this study has been to explore the contributing role of athletic psychology and athletes' engagement in improving the athletes' performance and athletes' sports progress as well as to check the mediating influences of athletes' performance on athletic psychology, athletes' engagement and athletes' sports progress and their mutual association. Moreover, the study is conducted to ensure that the coaching behavior improves athletes' performance and athletes' sports progress and the relationship between athletes' performance and athletes' sports progress. For this reason, the study examines the sports development situation in China and analyzes how much athletic psychology and athletes' engagement affects athletes' performance and athletes' sports progress. It also empirically analyzes the degree of the influence of coaching behavior on athletes' performance and their sports progress. This practical analysis provides a basis for the study results. The results suggest that if the athletic psychology of the players is improved, it effectively enhances the performance of the players in the playground, both during training or practice and final match. Results also indicate that the more effectively the players are engaged in athletic activities, the better is their athletic performance. The performance of players is improved by the improved athletic psychology or consistent engagement in athletic activities, and the improved

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performance of players enhances the speed of athletes' sports progress. Moreover, the study concludes that when the coach adopts an effective and efficient behavior towards the followers, the players' performance improved, which in turn, enhances the players' sports progress.

Limitations and Future Directions

The present study has several limitations. Future researchers are expected to remove these limitations with their academic proficiency while extending or replicating the current study design and objectives. This study analyzes the influence of only two sports-related factors i.e. athletic psychology and athletes' engagement on the athletes' performance and athletes' sports progress. Athletes' performance and athletes' sports progress can be affected by many other factors such as sports management, athletic leadership, country's circumstances, and government sanction, but these and other factors have been ignored by the author in this study. The current study explores a limited number of factors which affect athletes' performance and athletes' sports progress; therefore, the authors in future must analyze additional factors affecting athletes' performance and athletes' sports progress. Moreover, the current study has introduced athletes' performance as a mediator between athletic psychology and athletes' engagement and athletes' sports progress. Athletes' performance can improve athletic psychology and athletes' engagement and athletes' sports progress and can also strengthen their mutual association. Thus, athletes' performance can also be used as a moderator between athletic psychology and athletes' engagement and athletes' sports progress. For this reason, researchers and regulators in future can benefit from paying attention to this variable for a more accurate and valid understanding of the factors that affect athletes' sports progress.

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