Ecosystem Theory and Dual-career Development of College Athletes

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Abstract: *The high-quality development of student athletes is an important goal of the integration of physical education and education in the new era. Exploring the intermediary variables and realization mechanism of social support affecting the dual career development of college student athletes is a prerequisite to promote the high-quality development of student athletes. Ecosystem theory provides an effective analytical framework for this exploration. The influence of social support on the dual career development of student athletes with the help of the transmission among the subsystems in the ecosystem. On the basis of this, this paper puts forward a social and ecological model that affects the dual career development of college student athletes. In this model, the relevant factors in macro system and time system will first have an impact, and then the external system, medium system and micro system. Future research and educational practice should deeply analyze the interaction mechanism between ecosystems so as to accumulate richer empirical evidence for the dual career development of college student athletes.*

Keywords: *Ecosystem theory; Student athletes; Dual career development; Social support*

As early as 1987, the former State Sports Commission promulgated the notice on the trial recruitment of high-level athletes in Colleges and universities, encouraging colleges and universities to start trial running high-level sports teams. The Ministry of education in 2017 NO.6 document "Implementation Opinions on Further Strengthening the construction of high-level sports teams in Colleges and universities" puts forward new construction requirements such as deepening reform, overall planning and optimizing layout. It is also an important goal of the development of "combination of sports and education" in the new era to "put excellent sports teams in schools and let excellent athletes come out of the campus". However, as the main body of College Students' academic development, it is difficult to achieve the goal of "academic development". And the current situation of college student athletes' social support "is not systematic, inadequate and unbalanced", which is bound to become a key mechanism shackle for the development of high-quality sports talents. Therefore, the research on the impact of college student athletes' dual career development is a topic worthy of in-depth exploration.

The Dual Career Development of College Student Athletes

Due to the close relationship between sports performance and career development of student athletes, it is very important to implement and support the research on student athletes and their career development. In particular, the psychosocial determinants of their dual career development (i.e. the combination of elite sports and higher education) is the focus of current sociologists and psychologists (Stambulova, 2014). Alfermann

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and stambulova (2007) defined sports career as a series of stages and transitions, including childhood, adolescence, adulthood and old age. This is particularly important when athletes enter adolescence and need to participate in sports activities while receiving education in school. Compared with general college students, student athletes may face greater pressure on their career development (Burns & Fletcher, 2013). In order to ensure the development of young athletes, the European Union has adopted the European guidelines on Athletes' dual careers, and strongly encourages research at the national level to monitor and evaluate athletes' dual career development (Corrado Lupo et al, 2014). Therefore, the dual career development of student athletes should always be paid attention by researchers, education policy makers, parents, teachers and other relevant people.

To clarify the influencing factors of dual career development of student athletes is the key to improve their training quality. Generally, researchers classify the influencing factors of dual career development of student athletes into individual factors and social factors according to their sources. August RA (2018) believes that the degree of college athletes preparing to enter the workplace is composed of optimism, resilience and adaptability. Cox RH et al (2019) found we can't find the mental environment of the students without the knowledge and social environment. Interaction with parents, coaches and peers and getting support from them can enhance college athletes' confidence in dealing with career development related issues. In addition to the support of parents and other important individuals, government support through sports policies, economy and resources is also crucial, which affects the sports performance and career development of student athletes (Cheng, 2016).

There are few researches on the dual career development of student athletes in China, but the social ecosystem concept (Bronfenbrenner, 1977) provides a good theoretical analysis framework for studying the influencing factors of dual career development of college student athletes. Its core point is that the key development of social ecological model is the interaction among individual, environment, individual and environment. We always describe the interaction between human and social system based on the interaction between human and social system. The development of student athletes' dual career depends on the conduction of ecosystem (micro system, medium system, external system, macro system and time system). Different ecosystems affect the dual career development of student athletes individually or jointly.

Mediating Variables of College Student Athletes' Dual Career Development: From the Perspective of Ecosystem Theory

Individuals do not exist independently. To some extent, their psychological and behavioral states are the products of the environment. The environment here includes the natural environment and the social environment. The original meaning of the ecosystem is the overall interaction between organisms and the environment in a certain space of nature and the dynamic balance of the two in a certain period of time. Brownian Brenner put forward the "ecosystem theory" that social environment affects individual development. The core idea of this theory is: individual, including individual's physiological and psychological characteristics; social factors that have the most direct impact on individuals, such as family, friends, teachers, etc., are called microsystems; the combination and interaction of two or more microsystems are called mesosystem; the core idea of this theory is: individual, including the physiological

and psychological characteristics of an individual; close to the individual, is the social factors that have the most direct impact on the individual, such as family, friends, teachers, etc. The external system is composed of factors such as government, finance, policy, medical care, media and so on. Outside the external system are macro systems, including social values, beliefs and cultural backgrounds. Finally, social transformation and development constitute the time system, embedded in the outermost layer of the whole model (Fig. 1).

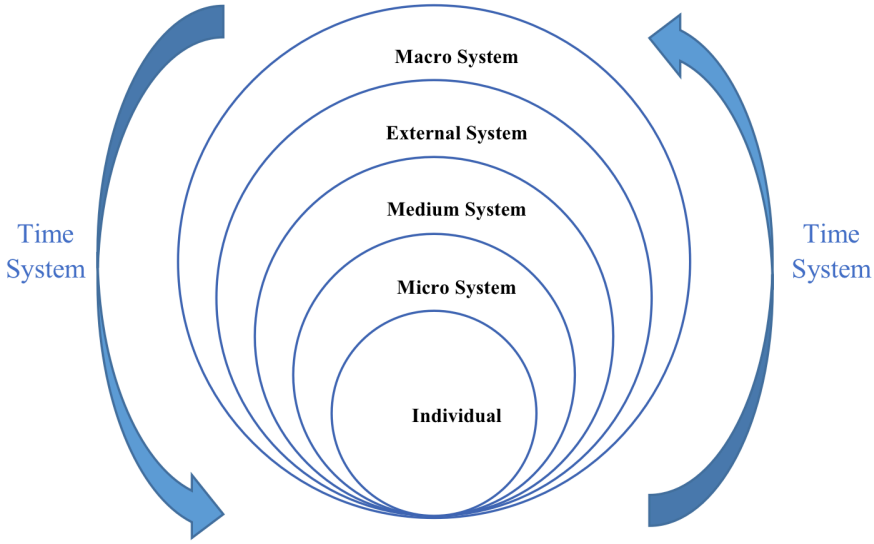

Figure 1. Social ecosystem model

There are many factors that affect the dual career development of student athletes, which generally focus on the dimension of factors, including individual physiology, psychology and external environment. Based on the analysis of previous studies and the definition of each system of ecosystem theory, this study summarizes the representative mediating variables in the dual career development of college student mobilization in the corresponding system. It is helpful to clarify the relationship between social influence and dual career development of student athletes and its internal mechanism.

Firstly, the mediating variable in the micro system. The influence of social support on the dual career development of student athletes needs the conduction of micro system, such as family influence, the relationship between teachers, coaches and teammates.

Family influence. Family influence is an important determinant of the dual career development of student athletes. Welleyman et al. (2004) based on the athlete development model, thought that parents may be the most important organization in the development process of student athletes. On the one hand, with the full support of their parents, student athletes can give full play to their greatest potential in academic and sports fields. Rogers et al. (2008) pointed out that when young people are faced with the choice of continuing their studies or starting their career after graduation, the positive support from their parents will affect their career exploration and choice; on the other hand, the influence of parents may also be negative, especially Their parents do not support their participation in sports and training, including spiritual and financial aspects (Knight et al., 2011).

Teacher student relationship. Among them, the relationship with coaches is the focus of many researches.

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Percy et al. Pointed out that the positive factors in the teacher-student relationship of student athletes include supportive teacher-student relationship, coach leadership and recognition of coaches. Sparent Me (1988) proposed to pay attention to professional goals and athlete identity from the perspective of teachers. Life style and education attitude are the important factors that affect the career development of college athletes. KOH K et al., think that the charm, ability and self-confidence of coaches have established a good foundation for providing social support strategies for student athletes. In addition, some studies also believe that teachers in physical education play an important role in supporting the dual career development of student athletes. Such as injury prevention and physical training (Sum & Ma, 2014).

Teammate relations. Throughout the career development of student athletes, the relationship with team-mates may be a major factor affecting their development. Student athletes especially rely on their teammates for emotional support. On the one hand, team-mates may be the most reliable objects, which can help them adjust their emotions and provide emotional support. On the other hand, the healthy competition among team-mates can help them adjust their emotions. Bring more positive energy effect to student athletes.

Second, intermediate variables in the system. Bronfenbrenner thinks that the medium system is composed of two or more microsystems. For student athletes, the most typical medium system variable is home school interaction. Vella and others believe that active and effective communication between coaches and parents can provide a good environment for the healthy development of student athletes (2010),The cooperation among coaches, subject teachers, parents, PE teachers, alumni and classmates can provide positive benefits in academic and sports aspects for student athletes (Simiyu, 2010).

Third, the intermediary variables in the external system. For student athletes, the common external system mediating variables are government, finance, policy, academic activities, medical, association and other organizations. For example, in recent years, the State Council has issued several papers to realize the "dream of football rising, sports power and national rejuvenation", same time, since 2017, the Ministry of education has started to implement the technical adjustment of high-level sports teams in Colleges and universities, requiring colleges and universities to gradually stop recruiting football and handball and encourage them to transition to football. The number of colleges and universities with high-level football enrollment qualification also increased from 77 in 2017. There will be 153 in 2018, 181 in 2019 and 188 in 2020, which will continue to increase in the future. With the encouragement and support of policies, to a certain extent, it will give students athletes a good learning and training atmosphere.

Fourth, intermediary variables in macro system. The differences between urban and rural areas, social mentality and value standards in macro system affect the dual career development of student athletes. Zhang Chunhe thinks that in traditional Chinese culture, there is a Confucian thought of "valuing literature and belittling martial arts". Under the pressure of parents' demand for talent and the demand of school entrance examination, it is difficult to carry out sports training. The social mentality and value standard of "reading high" is also one of the fetters of sports training.

Fifth, mediating variables in the time system. Through the analysis, Wylleman et al., think that with the passage of time, in order to maintain a high level of long-term career development, student athletes not only invest in physical training, social interaction and finance, but also spend energy in the intimate environment

with parents, coaches, peers and teachers. This is very different from middle school.

The Impact of Social Support on the Dual Career Development of College Student Athletes: A Social Ecosystem Model

The research on the dual career development of student athletes must be carried out in the context of society. Based on this, this study puts forward a social ecosystem model of social support affecting the dual career development of student athletes, focusing on the relationship and mechanism between social support and the development of dual career of student athletes. Although career goals, identity, role, personality, self-efficacy and motivation are individual determinants, coaches and parents play an important role at the micro and meso level. In addition, available resources such as government support, financial assistance, academic and medical services can also be found in external systems. At the macro level, how to develop their dual career depends on their institutional culture. Finally, in the time system including the relationship between the determinants at different levels, the career development in each transition stage may be different.

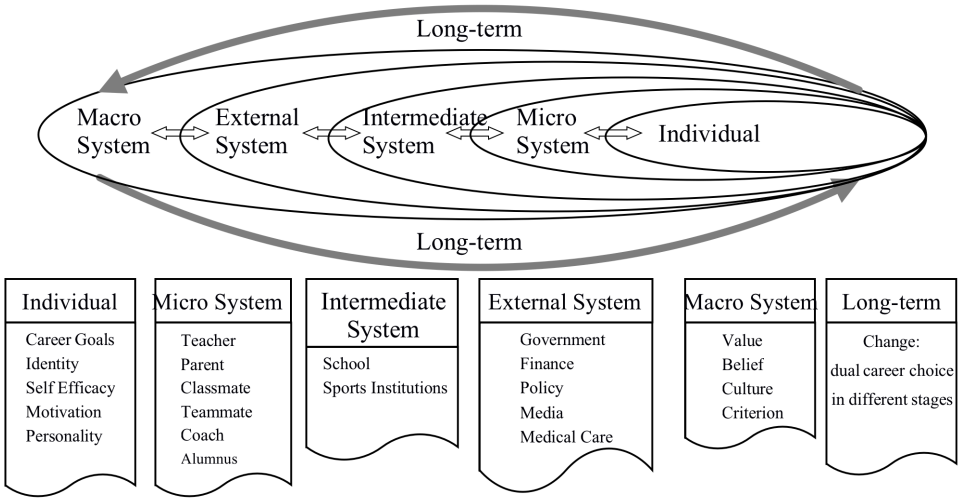

Figure 2. Social ecosystem model of dual career development of student athletes

In short, sorting out the social support factors of student athletes' dual career development is the basis for improving the training level of student athletes. Previous studies lack of empirical research on the social support of student athletes as a group, nor have they formed an effective analysis framework of mediating variables between the two, and have not clarified the social support mechanism of student athletes' dual career development. In view of this, this paper, from the perspective of ecosystem theory and based on the review of previous studies, proposes a theoretical framework to analyze the mediating variables between the dual career development and social support of student athletes. In the future, we should pay attention to the interaction and cooperation among the subsystems, so as to improve the social ecological framework of the development of student athletes.

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